

# CHEM1315 Syllabus

Survey of Organic Chemistry, 3 Credits

Tuesdays and Thursdays, 3:30 – 4:45 pm, East Architecture room 123

## Instructor Information

Instructor	Email	Office Hours & Location
M.G. Finn	mgfinn@gatech.edu	T, Th, 8-9 pm; others TBD [ <b>**Zoom link</b> ]
Teaching Assistants	Email	Office Hours & Location
to be named		office hours: <i>TBD</i>

\*\*Finn office hour zoom link: <https://gatech.zoom.us/j/95900213599>, passcode 450855

## Communication with instructors and each other:

**E-mail:** Please put “CHEM 1315” in the subject line.

**Piazza:** We will be using Piazza for class discussion. The system is designed to get you help quickly and efficiently from classmates and instructors. We encourage you to post your questions on Piazza, and answer questions from others there, too. The Piazza site will not have any information about the class (syllabus, homeworks, etc.) - for that information, go to the Canvas site.

You can access Piazza via the tab on Canvas, but the browser interface is also easy to use:

<https://piazza.com/gatech/fall2026/chem1315/home> or <https://tinyurl.com/Piazza1315>

Use the folders at the top of the Piazza screen to put your question in the right category

(examples: “logistics” = questions about the course; “classes\_before\_exam\_1” = questions

about material discussed during those classes; “hw1” = questions about homework assignment 1)

## General Information

**Pre- &/or Co-Requisites:** CHEM 1211K or CHEM 1310 or equivalent

### What You Will Not Get From This Class

- THIS COURSE DOES NOT FULFILL THE ORGANIC CHEMISTRY REQUIREMENTS OF CHEMISTRY, CHEMICAL ENGINEERING AND BIOLOGY CURRICULA AT GEORGIA TECH.
- IT DOES NOT SATISFY THE ADMISSIONS REQUIREMENTS FOR MOST MEDICAL SCHOOLS.
- PRE-MED STUDENTS, AND THOSE IN CHEM, CHBE, BIOL SHOULD TAKE THE SEQUENCE CHEM 1212K - CHEM2311 - CHEM2312 or 2313 - CHEM2380.

### What You Will Get From This Class

Our goal is to enable you to think productively about many of the molecules that impact you. Concepts build on each other, so it’s important to not get behind. Read the assigned material, view the assigned videos, and do the assigned problems when they are due.

## Course Text

### Recommended:

- “Organic Chemistry As a Second Language, First Semester Topics”, 6<sup>th</sup> Edition, by David Klein, ISBN: 978-1-119-83709-1
- “Organic Chemistry As a Second Language, Second Semester Topics”, 6<sup>th</sup> Edition, by David Klein, ISBN: 978-1-119-83705-3

These books will be available at the bookstore, or you can purchase or rent electronic copies. Readings will be assigned from this edition, but the corresponding sections in the 5<sup>th</sup> edition (or earlier editions) will cover all of the concepts that you need.

## Additional Materials/Resources

**Drawing chemical structures.** Drawing structures is an important part of understanding organic chemistry. Your instructors use (and recommend) ChemDraw, also known as ChemBioDraw. This is the industry-standard software application for drawing chemical structures and chemistry-related graphics. The software can be accessed at: <https://oit.gatech.edu/software-and-resources/>. (Click the [Online Software Portal](#) for students, then find the link for [ChemOffice](#).) Note that this will give you access to related software as well, but we will only use ChemDraw in this class.

You can also use any other chemical drawing software that you wish. A good alternative is MolView (<https://molview.org/>), which also displays three-dimensional images. MolView also has an inexpensive (\$9/year) app version (<https://app.molview.com/>) that has the very useful feature of arrow drawing.

**Molecular models:** A model kit is not required but is useful and can be shared. These are not expensive, and a variety of sets can work well. Examples can be found on Amazon.com by searching for:

- “Organic Chemistry Model Kit (239 Pieces)”
- “Duluth Labs Organic Chemistry Molecular Model Student Kit”

Molview (see above) also provides three-dimensional images. Another tool for this is <https://chemagic.com/molecules/amini.html> (click “Draw” under “Load Models” to get started)

## Course Website

Canvas can be accessed via [canvas.gatech.edu](https://canvas.gatech.edu). Included on the site will be all course information, including the schedule, homework assignments, practice exams, lecture notes, answer keys, links to videos, link to Piazza, and grades. **Students are required to check the course Canvas site for all announcements and materials: this is the official source of information for the class.**

## In-Class Questions

You will be answering questions during some class periods for credit - you can only earn these points if you attend class. This will require you to access “quizzes” in Canvas during these periods, so please be prepared to do so.

## Course Goals

CHEM 1315 is intended to introduce you to the major concepts in organic chemistry, prepare you for biochemistry, polymer and materials science and engineering, and other classes you will enjoy in coming semesters, help prepare you for research of a molecular nature, and help you to reason in an informed manner when faced with a wide variety of molecule-based situations.

You will need to remember at least some of what you learned in General Chemistry (CHEM 1310) or Chemical Principles (CHEM 1211K). Of particular relevance are:

- 1) Lewis dot structures and the octet rule will be reviewed but not discussed in detail. Students should be able to draw Lewis dot structures of molecules with one or more central atoms.
- 2) Bronsted acid-base equilibria and calculations with  $pK_a$  should be familiar.
- 3) The concepts of reaction free energy ( $\Delta G$ ), enthalpy ( $\Delta H$ ), and entropy ( $\Delta S$ ), as well as the relationship  $\Delta G = -RT \ln K_{eq}$  should all be familiar.

**Please remember:** organic chemistry is a logical connection of concepts and patterns. You will often be presented with unfamiliar molecules or questions. *Every time*, such molecules or concepts will be analogous to something that you have seen before. If you recognize the correct analogy or pattern, you will be well equipped to reason your way to the answer.

## Course Requirements & Grading

- There will be three exams during the semester. Each will focus primarily on the material presented since the previous exam, but earlier material is also eligible: consider all exams to be cumulative regarding subject matter.
- You will have the option to drop one exam. If you use all three of your exam scores, the cumulative homework grades will be scaled to a maximum of 150 points. If you drop one exam, your homework total will be scaled to a maximum of 150 plus that dropped exam point total (230 total if you drop exam 1, 250 if you drop exam 2, 270 if you drop exam 3). You will automatically be given the best overall grade from among these options.
- During the semester, the total number of points shown on homework assignments will be around 650. Your final total will be scaled to the values listed above (150, 230, 250, or 270, depending on your exam drop) to input into the calculation of final grades.
- In-class polling questions will be used to promote participation, direct discussion, and assess understanding. These questions will count for maximum total of 50 points. Some credit will be given for participation even if you don't get the correct answer.
- A team project, due near the end of the semester, will provide you with the opportunity for 40 extra credit points added to your semester total. This project is described on the next page.

Grade calculations will be as follows:

Item	exam drop	no exam drop	
Exam 1	80 points	80 points	A grade: 85% (425-500 points) B grade: 70% (350-424 points) C grade: 56% (280-349 points) D grade: 45% (225-279 points)
Exam 2	100 points	100 points	
Exam 3 (Final Exam)	120 points	120 points	
drop lowest exam	-dropped points	no drop	
Homework	150 + dropped points	150 points	
In-class questions	50 points	50 points	
Extra credit project	(40 points)	(40 points)	
Course total	<b>500 points</b>	<b>500 points</b>	

**Important - Re-grading:** While we will make every effort to eliminate grading errors, they will occasionally occur. Because we want to be focused on teaching rather than grade negotiations, and because ample opportunities will be provided for earning extra points, we will accept re-grade requests *only when published answers are found to be incorrect or when the grading error is obvious and substantial*. We will always answer questions that help you understand the material. But if you are thinking of arguing for a few points using other arguments, please don't. We will always listen respectfully, but will not entertain such requests.

### Extra Credit Project: The CHEM 1315 Film Festival

At the beginning of the semester, you will group yourselves in teams of 5-7 students per team. Each team will submit a suggestion for a subject that attracts their interest and that has a significant component of organic chemistry (examples: drugs that treat a particular disease or condition of interest; bullet-proof plastics; light absorbing molecules in nature; what organic reactions happen in the upper atmosphere?). The instructors will suggest modifications if necessary, and work with the team to arrive at an approved topic. Each team will then have approximately six weeks to research the topic and put together a 4-6 minute (or longer) video describing the *organic chemistry* of the subject or a consistent and complete format from which you took information presented. The videos will be screened for the entire class and invited guests during the last two class sessions or in an evening show (we'll figure that out later). Videos will be judged equally on the information conveyed (accuracy, clarity, and sophistication) and the creativity of its presentation. The instructors will be glad to help with the former, but you're on your own with the latter. **Please note that the use of generative AI to create any content presented in this**

**project will result in a forfeiture of credit for it.** This exercise is meant to build insight in organic chemistry, not in the writing of prompts.

Your selection of topics is due by October 1, 2026. Enter them on [this Google sheet: https://tinyurl.com/CHEM1315Videos](https://tinyurl.com/CHEM1315Videos)

Duplication of topics will not be allowed; please don't change anyone else's entry. Wait for a "yes" to appear in the "topics approved?" column before you start working on your project.

The project is due on or before December 1, 2026.

### **“What’s on the exam?”**

*Exam questions will be of the same type assigned for homework or discussed in class and will be only about the subject matter assigned for reading or discussed in class. All of that material is fair game for exams, and all exams will be cumulative, especially concerning core concepts. Practice questions (and answers) will be available on the Canvas site, which will help you get used to the style of exam and homework questions.*

### **“What about AI?”**

*We're going to try to teach you how to think about molecules, and getting answers from AI will not help in this regard. Do not use generative AI (such as ChatGPT, Gemini, etc.) for anything in this course except for definitions of terms. Any other use of generative AI in the preparation of assignments – whether for drafting, editing, or generating content – will be treated as a violation of Georgia Tech's Honor Code and may result in disciplinary action.*

### **Academic Integrity**

Georgia Tech aims to cultivate a community based on trust, academic integrity, and honor. Students are expected to act according to the highest ethical standards. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>. Any student suspected of cheating or plagiarizing on a quiz, exam, or assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations.

### **Accommodations for Students with Disabilities**

If you are a student with learning needs that require special accommodation, contact the Office of Disability Services at (404)894-2563 or <https://disabilityservices.gatech.edu/>, as soon as possible, to make an appointment to discuss your special needs and to obtain an accommodations letter. Please also e-mail me as soon as possible in order to set up a time to discuss your learning needs.

### **Attendance and/or Participation**

We will not take attendance, but this is a class that teaches you how to reason through molecular problems. Such a skill cannot be gleaned only from the out-of-class materials; we therefore *strongly* recommend that you attend class all the time. Note that a portion of the class grade will be based on in-class questions, for which there are no make-up opportunities.

### **Collaboration & Group Work**

Students are encouraged to work problems together - this often fosters discussion and understanding. You can also work collaboratively on graded homework, but you are solely responsible for the content of the material you hand in.

### **Extensions, Late Assignments, & Re-Scheduled/Missed Exams**

**Late and missed exams.** The only valid reasons for missing an exam are illness, official Tech business and out-of-town job interviews. Students unable for one of these reasons to attend a scheduled examination must inform the instructor as far in advance as possible. Make-up exams will only be scheduled by prior arrangement with official documentation of exceptional circumstances (if possible from the Dean of Students office). Any make-up exams must be administered before the graded exams are returned to the class. Exams not made-up by this time, for any reason, will receive a score of zero and will be the drop grade for the class.

**Regrades.** Regrade requests for homework and exams must be submitted within one week after the graded assignment is returned. *Please note that we will accept re-grade requests only when published answers are found to be incorrect or when the grading error is obvious and substantial.* To request such a regrade, please write a summary of what you want regraded (question number) and an explanation of why your answer is correct and the assigned grade is not. Attach this page to the front of the assignment and turn the request in to the instructor or TA's; e-mail is preferred. Please note that when you submit something for a regrade the entire assignment is subject to regrading.

## Resources for Students

In your time at Georgia Tech, you may find yourself in need of support. Below you will find some resources to support you both as a student and as a person.

### Academic support

- Center for Academic Success: <http://success.gatech.edu/>
  - Peer-Led Undergraduate Study (PLUS): <http://success.gatech.edu/tutoring/plus>
- Communication Center: <http://www.communicationcenter.gatech.edu/>
  - Individualized help with writing and multimedia projects
- Academic advisors for your major, including academic coaching: <http://advising.gatech.edu/>

### Personal Support

#### Georgia Tech Resources

- Student Engagement and Well-Being - Belonging & Student Support (for all students, including resources and activities previously hosted by the Women's Resource Center and the LGBTQIA Resource Center): <https://support.belonging.gatech.edu/>
- Counseling Center: <http://counseling.gatech.edu/>; 404-894-2575; Smithgall Student Services Building 2<sup>nd</sup> floor
  - Services include short-term individual counseling, group counseling, couples counseling, testing and assessment, referral services, and crisis intervention. Their website also includes links to state and national resources.
  - *Students in crisis may walk in during business hours (8am-5pm, Monday through Friday) or contact the counselor on call after hours at 404-894-2204.*
- The Office of the Dean of Students: <https://studentlife.gatech.edu/request-assistance>  
Smithgall Student Services Building 2<sup>nd</sup> floor
- Stamps Health Services: <https://health.gatech.edu/>; 404-894-1420
  - Primary care, pharmacy, women's health, psychiatry, immunization and allergy, health promotion, and nutrition
- Veteran's Resource Center: <http://veterans.gatech.edu/>; 404-385-2067
- Georgia Tech Police: 404-894-2500

### Inclusivity

As a member of the Georgia Tech community, I am committed to creating a learning environment in which all of my students feel safe and included. Because we are individuals with varying needs, I rely on your feedback to achieve this goal. To that end, I invite you to tell me about the things I can stop, start, and continue doing to make our classroom an environment in which every student feels valued and can engage actively in our learning community.

See also some of our standard student-faculty expectations, here:

<http://www.catalog.gatech.edu/rules/22/>