CHEM 2311 Syllabus

Organic Chemistry I, RBT (BEST Program), and 3 Credits

SUMMER 2026

Instructor Information

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General Course Information

Description

This course aims to provide in-depth foundation of organic chemistry and the scientific method as well as how to apply it to answer questions about authentic real-world and research problems. The goals are to provide an holistic and immersive experience to:

- Build scientific and organic chemistry literacy
- Consolidate and extend prior chemical knowledge
- Challenge with in-depth inquiry, analysis and critical thinking
- Foster inter-personal interactions (peer-to-peer and instructors-to-peer) to support learning, retention and in-depth understanding.
- Prepare for success in organic chemistry 2, MCAT, experiential activities (undergraduate research, internship or co-op for example), and advanced courses.

This course is a flipped classroom designed to provide a strong foundation in organic chemistry, the scientific method, and the ability to diagnostically apply concepts to address complex, real-world and research-based problems.
Students are expected to complete assigned textbook readings, videos, and recorded lectures prior to in-person class meetings. During class, I will provide a brief overview of the topic, followed by student-led problem-solving sessions. Each lecture will involve one worksheet. Active in-class participation, both individually and in teams, is central to success in this course.

Course Learning Outcomes

Upon successful completion of this course, you will be able to:

- Master core facts and vocabulary of organic chemistry.
- Visualize, interpret, and communicate three-dimensional molecular structures using standard one-dimensional representations.
- Understand how bonds making and breaking processes (reactions) work, including:
    - molecular structure, functional groups, and bond strengths
    - predicting and explaining reactivity
    - acid–base reactions, additions, substitutions, eliminations, radical halogenations, and polymerizations
- Collaborate effectively with peers and instructors to deepen understanding and proficiency.
- Apply scientific reasoning to complex chemical problems by breaking them into manageable steps, including:
    - designing multistep syntheses (up to 5–6 steps)
    - proposing plausible reaction mechanisms
    - using NMR and IR spectroscopy to interpret molecular properties and structural changes

Required Course Materials

- You must have access to a computer with an internet connection, a camera, and functioning audio (microphone and speakers or headphones). You will have access to broadband internet access on campus and in CROUS lodgings.
- Our textbook, Organic Chemistry by David Klein 5th Edition, is a e-textbook integrated and accessible on the left-hand menu in canvas.
- Wileyplus is used for adaptive homework assignments.
- Scanning app and/or ability to save files as pdf files for upload.

Grading Policy:

The grading assignments are:

Assignment	Delivery	Type	Total
Quizzes (Q)	Canvas	Individual	100 points
Mid-term (E1)	In-class/paper	Individual	100 points
Mid-term (E2)	In-class/paper	Individual	100 points
Mid-term :Team Project (E3)	Online submission	Team of 2	100 points
Worksheet (WS)	In-class/online submission	Individual (team work encouraged)	150 points
Adaptive Homework (H)	Online submission	Individual (team work encouraged)	100 points
In-class Participation (P)	In-person	Individual	50 points
Final Exam (F)	In-class/paper	Individual	200 points

Final Exam Exemption Policy

It is possible to be exempt from the final exam and receive the highest possible course grade (A) when the following criteria are met:

1. All worksheet (WS) are submitted by the designated due dates;
2. The student earns a combined score of 100 points on the adaptive homework assignments
3. The student earns a combined average score of at least 360 points (out of 400) across:
    - all quizzes (100 points total), and
    - the two midterms (E1,E2) and Team project (E3) (300 points total).

Students who do not qualify for the final exam exemption will receive a final letter grade according to the following grading scale:

Score (out of 800) = Q (100) + E1 (100) + E2 (100) + E3 (100) + WS (150) + H (100) + P (50) + F (200) – Lowest score of E1, E2, or E3 (100).

Letter Grade	Point Range *	Percentage*
A	704 or greater	88-100%
B	560-703	70-88%
C	480-559	60-70%
D	400-479	50-60%
F	399 or below	0-49%

**Percentage grades are indicative only and are based on total possible points. The point thresholds listed in Column 2 guarantee the corresponding letter grade. No rounding is applied, and there is no curve in this course. Any percentage values displayed in Canvas do not reflect how final grades are calculated and should not be used to estimate your course grade.*

Grades will be posted on Canvas in a timely manner throughout the program. You may calculate your standing in the course at any point during the semester using the grading summative equation and information provided above. Please do not wait until the end of the semester to reach out. If you have questions or concerns about your performance, contact Dr. P. as early as possible. We are here to help you meet your personal goals in this course.

Description of Graded Components

Quizzes: The quiz component consists of 10 quizzes, each worth 10 points, for a total of 100 points toward the final course grade. Quizzes are pre-scheduled (see course outline).

Each quiz is 25 minutes in duration and includes 5 multiple-choice questions. Two attempts are permitted per quiz, with the higher score recorded. Quizzes are open book and will be administered and submitted via Canvas. Each quiz will be available within a 24-hour availability window.

Mid-term Exams: Midterm examinations are **cumulative**. Two midterm exams (E1 and E2) will be administered in person and on paper, with each exam worth 100 points.

A third midterm exam (E3) will be administered as a team assignment. Teams will be asked to indicate their top three assignment preferences from a provided list, with the final assignment determined during the first two weeks of the semester. E3 will be completed by teams of two and is expected to be developed over the course of the program, with in-class checkpoints. Students are expected to seek clarifications and proactively ask questions during class. No late extensions will be permitted for the Team midterm exam.

Worksheets: The course includes 15 worksheets, each valued at 10 points, for a total of 150 points toward the final course grade. Worksheets are open book, available for multiple days, and will be used as a basis for in-class practice. They must be submitted via Canvas as an uploaded file. Grading will be based on completion, with one randomly selected problem evaluated for accuracy.

WileyPLUS Adaptive Homework Assignments: The course includes 13 adaptive homework assignments, each worth 10 points. Although this totals 130 possible points, only 100 points count toward the final course grade. Thus, you may not need to complete all assignments. The additional assignments are provided to give you flexibility in topic selection and to allow room for partial or missed credit on earlier submisisons. This structure is intended to support learning rather than penalize occasional difficulties.

These assignments are designed to provide individualized and targeted practice, with an emphasis on progress rather than attainment of a fixed completion or performance threshold. Achieving 50% progress results in full completion credit (10 points) for each assignment. The adaptive structure of the assignments determines both the sequence and difficulty level of questions based on student responses. Correct responses prompt progression to more advanced questions, whereas incorrect responses lead to questions that reinforce the specific skills needing development.

In-class participation: is graded out of 50 points. Lectures are structured with a brief overview, followed by extensive active-learning activities, including working through problems individually and in teams, as well as board work. This instructional model has been shown to promote deeper learning and improved long-term retention. Students are therefore expected to be present and actively engaged with the material during class.

Final Exam: The final exam is worth 200 points toward the final course grade and will be administered in person and on paper. The final exam is **cumulative** and will combine elements of the quizzes (multiple-choice questions) and the midterm exams. All the final exam problems will be similar in format and difficulty to those found in the textbook, practice exercises, quizzes, and worksheet sets. The problem-solving processes required will be the same.

Course Policies

Attendance and/or Participation

Attendance at lectures is expected due to the nature of this abroad, accelerated program. In addition, in-class participation is a graded component of the course. If a student is unable to attend class, they are expected to notify the instructor as soon as they are aware of the situation or can communicate.

Students are responsible for all course content, including material presented in lectures, assigned videos, textbook chapters, and official course announcements. Assigned videos (available on Canvas under *Modules*) and textbook readings must be reviewed prior to the corresponding lecture. Responsibility also extends to announcements made during class, posted on course web pages, or distributed via email. Students are expected to monitor the course website and their gt-email account regularly.

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. Review Georgia Tech's Honor Code and the student Code of Conduct.

Any student suspected of cheating or plagiarism 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 (404-894-2563) 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.

Student-Faculty Expectations Agreement

At Georgia Tech, we believe that it is important to strive for an atmosphere of mutual respect, acknowledgement, and responsibility between faculty members and the student body. The Student-Faculty Expectations articulate some basic expectations that you can have of me and

that I have of you. In the end, simple respect for knowledge, hard work, and cordial interactions will help build the environment we seek. Therefore, I encourage you to remain committed to the ideals of Georgia Tech while in this class.

Pre- &/or Co-Requisites

The pre-requisite for this course is CHEM 1212K.

Collaboration, Group Work, and Use of Generative AI

AI may be used as a collaborative tool to brainstorm ideas, to gather background research, and information, or to improve language. However, the final and submitted work must be your work and cannot be generated and copy and pasted from an AI model without review, editing and intellectual input from you.

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

Due to the accelerated nature of this program, deadline extensions and exam rescheduling are not available. Examination dates have been deliberately scheduled mid-week to minimize the likelihood of travel-related disruptions. If exceptional circumstances arise, please communicate with the instructor or program director as soon as you are aware of the issue or able to do so. I will work with you to identify equitable and reasonable options, where possible.

Regrade Policies

Quizzes and homeworks: Regrades are not available.

Midterm Exams: Midterm exams are graded using Gradescope and are eligible for regrade requests submitted through Gradescope. Regrade requests must be submitted within the designated regrade window after grades are released. All regrade requests must include a 1–2 sentence justification, grounded in course concepts and grading criteria. The entire exam is eligible for regrade upon receipt of a regrade request. Regrade requests submitted after the regrade period will not be considered, regardless of their validity.

Final exam: The final exams are not released and are not eligible for regrade.

Campus Resources for Students

Academic Support While Abroad

Given the typically small class sizes associated with study abroad programs, students are encouraged to seek academic assistance from their instructors or teaching assistants during scheduled office hours or by arranging individual appointments, as needed. In addition, students may access free tutoring services through Georgia Tech Knack (see success.gatech.edu/tutoring for more information). Students are also expected to notify the

instructor and/or program director promptly if circumstances arise that may adversely affect their academic performance.

Student Well-Being:

At Georgia Tech, we are concerned about your overall physical, social, and mental well-being. A comprehensive list of wellness related resources has been compiled and maintained by the Office of the Vice President for Student Engagement and Well-being (student-resource-guide (gatech.edu)