

CHEM 2216 Syllabus

Quantitative Analysis CHEM 2216, Section AB, 2 Credits

Fall 2026

Instructor Information

Instructor: Dr. Jessica Deutsch

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General Course Information

Description

Welcome to Quantitative Analysis Lecture! Quantitative Analysis provides a background in analytical chemistry techniques and foundational theories. We are particularly focused on teaching principles that will aid you in determining how to detect, identify, and quantify chemical substances. This course serves as the foundation of further analytical chemistry courses such as CHEM 3216.

Course Learning Outcomes

- Explain theory behind fundamental analytical techniques and concepts
- Evaluate analytical chemistry techniques and identify their strengths and limitations.
- Apply techniques of sampling, statistics, separation, and analysis to determine the composition of chemical mixtures
- Understand problem solving techniques and strategies that are transferable and applicable to course content

Required Course Materials

1. *Quantitative Chemical Analysis*, 10th or 11th edition by Daniel C. Harris (older versions are entirely acceptable, but students will need to identify correct figure numbers, table numbers, and page numbers corresponding to the content on the lecture slides).
2. Access to Achieve (Please note that unlike Sapling, Achieve does not provide e-book access along with homework)

Materials available at Georgia Tech Barnes and Noble Bookstore. eBook available.

Grading Policy:

The overall course grade consists of:

Assignment	Number of Points
Electronic homework (via Achieve, 13 Assignments)	150 points
Participation	50 points
Midterm Exam 1	100 points
Midterm Exam 2	100 points
Midterm Exam 3	100 points
Bonus points: <ul style="list-style-type: none"> • Course survey and syllabus quiz (5 points) • Midterm surveys (3 x 2 points) • Final Exam review participation (5 points) 	16 points
Final Exam (cumulative)	200 points
Total	700 (+16) points

<u>Grading Scale</u>	$\geq 89.9\%$ = A	$\geq 79.9\%$ = B	$\geq 69.9\%$ = C	$\geq 59.9\%$ = D	Less than 59.9% = F
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Once the course grade has been determined and assigned, there will be no change or negotiation. It is within the discretion of Dr. Deutsch at the end of the semester to determine if the cutoff for a grade decreases- for example, an 89.5 or higher might constitute an "A". You can be assured that if you earn a 90% or higher, you will receive an "A".

Description of Graded Components

a) *Homework Assignments*

- These are accessed through Achieve. Achieve should be accessed directly via Canvas from the Macmillan Learning link on the main course menu
- Due dates are clearly stated in the Assignments section in Canvas. Each assignment is due at 11:59 pm (Eastern Standard Time) on the date of the "absolute deadline". You have been provided with a suggested deadline for each assignment.
- I recommend that you start working on each assignment as soon as possible (generally one day after the first class the chapter is covered).
- Some homework problems are algorithmic- each student has a different set of numbers for each problem

b) *Homework Policy:*

- Assignments are submitted automatically at the time when they are due
- Once you submit an assignment, you will not be able to get it back. You have only one submission attempt for each assignment
- You can check your answers up to 5 times with no associated penalty
- The assignments (with correct answers) will become available immediately after the submission.
- Homework deadlines are fixed.

c) *Examinations*

- Midterm and final exams will be closed-book, in-class examinations. No crib/cheat sheet is allowed.
 - The instructor will provide you with a sheet of equations and tables that you will need for the exam
- No devices with messaging capabilities (e.g., cell phones, iPads, and Apple Watches) may be used or even visible during the exams.
 - Anyone holding a messaging device during an exam will be required to surrender his/her exam immediately.
- **Any form of cheating** will be reported to the Dean of Students and will result in failure in the course and possible suspension from the College. See the formal statements below.
- Three midterm examinations will be given on the dates listed in the lecture schedule below. These exams will be given in the regular class period and will be 50 minutes in length.
- Examinations will consist of short answers, long answers, and calculation questions.
- The date for the final examination can be found on the Canvas course page. **You must pass the final to pass the course.**
- Students may request – only in writing – that their exam be reviewed for specific errors in grading. Regrade requests should be submitted to the instructor within 48 hours of receiving the graded exam. After the 48 hours period, there will be no re-grading requests accepted.
- After each midterm exam there will be a midterm exam workshop. You will be allowed to rework any and all of the exam using any Institute-approved resources including your notes, class lectures, TAs, LAs, and your instructor. You must work by yourself; collaboration will not be permitted.
 - If you have missed points on the midterm exam and do the question correctly in the midterm exam workshop, you may earn up to half of the points back that you missed. Further clarification will be provided in class
 - You are not required to attend class on the midterm exam workshop- you must only attend if you intend to redo exam questions.

d) *Exam Grade Improvement Plan*

There will be three in-class midterm exams. You may replace your lowest midterm exam score with the score of the corresponding section of the final exam. You must

have attempted all the midterm exams or have an excused absence communicated to Dr. Deutsch to be eligible for the Grade Improvement Plan.

e) *Exam Absences*

There are no scheduled makeup exams. Planned absences for exam dates that coincide with an Institute Approved activity must be cleared with the instructor. Comprehensive guidelines regarding class attendance and excused absences can be found in the Georgia Tech catalog. Please read through the policies in their entirety. [Catalog Absence Rules](#) and [Student Absence Regulations](#).

If you are not feeling well in the morning of the exam, please inform the course instructor and rest at home. If this is the first time that you fell ill in the semester, an email to the instructor is sufficient to be excused. For any additional absences, you should also submit medical documentation to the Office of the Dean of Students and ask them to contact the course instructor. If you are ordered to quarantine or isolate by a public health official, please inform the course instructor AND ask the Dean of Students to contact the course instructor. Students may miss exams due to personal emergencies. Documentation of some sort should be provided to the Office of the Dean of Students who will communicate with the course instructor. Please also email the course instructor as soon as you know you will miss or have missed an exam due to personal emergency.

Students who are absent because of participation in religious observances, career advancement events, and athletic/performance activities will be permitted to make up the exam. Students must inform the course instructor *at least* two weeks before the planned events. If there is uncertainty about the time/date of the event, students should inform the course instructor of the fluid nature of the event ahead of time and communicate with the instructor as soon as the time/date is decided.

You must contact Dr. Deutsch (Jessica.Deutsch@chemistry.gatech.edu) immediately if you miss an exam without an excused absence (as outlined above), and you may not be permitted a make-up or replaced grade.

Additional Course Policies

Attendance and/or Participation

Attendance is essential to pass, succeed, and excel in this course. You will earn participation points for completing in class activities and taking attendance quizzes. Watching the pre-class videos is essential for performing well on the attendance quizzes. If you have any reason to believe it would be unsafe for you to attend an in-person session (for example, due to illness), you are encouraged to STAY HOME and inform the instructor of any issues.

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.

Core IMPACTS

[Core IMPACTS](#) is the University System of Georgia's General Education curriculum. This course does not count towards the Core IMPACTS.

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 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

Pre-Requisite: CHEM 1212K

Co-Requisite: CHEM 2216L

Collaboration, Group Work, and Use of Generative AI

You will be expected to collaborate with peers during class on the in-class activities. For the first module, you will be assigned groups and roles within that group. These assignments will change each module. A comprehensive explanation of these roles will be given in class. You will be expected to work respectfully, collaboratively, and professionally with your group members and can be expected to receive the same consideration from your group members. If you have any concerns or questions, please speak to Dr. Deutsch.

You are permitted to use AI-based assistance, such as Chat GPT and Copilot, the same way you collaborate with other people meaning:

- You are welcome to talk about your ideas and work with other people, both inside and outside the class, as well as with AI-based assistants. However, all work you submit must be your own.
- You should never include in your assignment anything that was not written directly by you without proper citation (including quotation marks and in-line citation for direct quotes).
 - Including anything you did not write in your assignment without proper citation will be treated as an academic misconduct case.
- You are not permitted to copy your conversation with an AI assistant. You can copy your own work into your conversation, but do not copy anything from the conversation back into your assignment.
 - Instead, use your interaction with the AI assistant as a learning experience, then let your assignment reflect your improved understanding.
 - Do not have your assignment and the AI agent open at the same time.
 - Best Practice: use your conversation with the AI as a learning experience, then close the interaction down, open your assignment, and let your assignment reflect your revised knowledge
- If you use GenAI, you must include the prompt you gave the AI and a screenshot of the entire conversation so that the instructor can see how you modified your response
- The USG Student Guide to GenAI is available on this course's Canvas page

Classroom Communication

f) Canvas:

The course will be run through Canvas. You are responsible for all information posted in Canvas announcements. We encourage you to check Canvas daily for announcements.

- You can log in to Canvas to access the course using your GT credentials at <https://gatech.instructure.com/>.
- Once you log in, you will see the course listed on the main dashboard.
- You may also access Canvas on your phone; simply download the “Canvas” app in the Google Play or iOS App Store.
- If you have problems accessing Canvas, you can get 24/7 help by clicking the “Help” button in Canvas.
- Learn more at <https://canvas.gatech.edu/247-canvas-help-desk>.
- For general information about Canvas, visit <http://canvas.gatech.edu>
- I will post lecture slides and other reading material not requiring copyrights on the Canvas site

g) ED Discussion:

We will utilize ED Discussion as our online class discussion board. You may access the discussion board through Canvas.

General ED Discussion (and online) etiquette:

- If the question is from an assignment, then please summarize or copy it into the question rather than just referencing the problem number. This makes it much easier for people to quickly respond rather than having to dig up the question.
- Provide some insight into what you’ve done to try to solve the problem or answer the question so that more targeted assistance can be provided.
- Read through recent posts before asking your question to see if it already has been addressed.
- Contribute answers when you can

h) Email Etiquette

- Please e-mail me using your Georgia Tech account. I cannot verify the identity of the sender as one of my students if the account is not through Georgia Tech.
- Subject of email should begin with CHEM2216; followed by <Your_Last_Name>, <Your_First_Name>; followed by <subject matter>.
 - For example, CHEM2216; Doe, Jane; Question on Midterm Exam 2.
- Do not use the e-mail list on Canvas for any purpose unrelated to this course.
- E-mails in CHEM 2216 are a form of professional communication. Please compose your e-mails with the same attention to correct grammar and syntax, politeness, and professional tone that apply to all forms of professional correspondence
- I typically respond within 24 hours. If you don’t receive my reply within 48 hours, I encourage you to resend your email
- We do not e-mail or phone students to discuss an exam score or the course grade. Questions relating to student-specific concerns should be raised in the professor’s office

Campus Resources for Students

Undergraduate Student Academic Success Resources:

Academic Support: Academic Success and Advising (a unit in the Office of Undergraduate Education & Student Success) provides free support for your courses. Students can attend scheduled supplemental review (PLUS) sessions, stop by Drop-In Tutoring, or schedule a one-on-one appointment through Knack. To explore what options work best for you, please visit us online at success.gatech.edu/tutoring, email us at tutoring@gatech.edu, or come see us at Clough Undergraduate Learning Commons, Suite 283.

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 \(gatech.edu\)](#))