

Chem 110. Cutting-Edge Chemistry: Research and Career Opportunities.

1 Credit. One class per week at 4:10 PM on Thursdays in 1652 Gilman Hall
Note that some class meetings may be held in other locations
Students who are not enrolled in the course are welcome to attend (so feel free to bring a friend!).

Chem 110. Cutting-Edge Chemistry: Research and Career Opportunities. (1-0) Cr. 1. S. Overview of careers in chemistry: industrial, governmental, and academic careers; literature and compound search instruction; professional ethics; and an introduction to joining a research lab. For students majoring or minoring in chemistry or chemistry-related fields.

Course Objectives & Outcomes: Students will gain a solid understanding of current research directions in chemistry and how these relate to career options in and related to chemistry. Students will be introduced to career planning. Students will learn about the process of joining a research lab and the importance of experiential learning. Students will learn to perform chemistry literature and compound searches. Professional ethics will be integral to the discussions throughout the semester.

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Grading: This course will be graded on a Pass/Not-Pass basis. In order to obtain a P or Passing grade, each student must attend class, complete all assignments, and participate in discussions. Missed class: students are allowed one unexcused absence. For each additional class missed, students will be required to attend one additional seminar and write a short description (see "Seminars" on the next page).

Cell phones and texting during class: To show respect for speakers, classmates, and the course instructors, cell phones must be shut off during the class (not just silenced) and texting in class is forbidden; No surfing on the internet or reading newspapers.

Resume: All students in Chem 110 are required to put together a resume. The due date for the resume will be at the start of class on **September 1st**. Guidelines for resumes: <https://careers.las.iastate.edu/prepare/resumes-and-communications/>

Career Fair: All students in Chem 110 are required to attend any one of the career fairs: i) the Business, Industry, and Technology, ii) People to People, iii) the Engineering Career Fair, iv) Agriculture and Life Sciences Career Day. Students are welcome to attend any and all of the career fairs. For information on ISU Career Fairs, visit: <https://www.career.iastate.edu/career-fairs/>

Engineering Career Fair – Fairs are a mix of all engineering majors and associated STEM majors.
September 14, 2022; 12:00 – 5:00pm (in-person, Scheman Building)
September 20, 2022; 12:00 – 5:00pm (in-person, Scheman Building and Hilton Coliseum)
September 29, 2022; 10:00am – 2:00pm (virtual – short online video meetings through CyHire)

Business, Industry and Technology Career Fair – Focused on Business, Liberal Arts & Sciences, and Human Sciences majors.
September 21, 2022; 12:00 – 5:00pm (in-person, Hilton Coliseum)

People to People Career Fair – Focused on Human/Social Services, Education, Health/Wellness, Government, Hospitality, and Events – Hosted by the Colleges of Human Sciences and Liberal Arts and Sciences.
September 30, 2022; 10:00 – 3:00pm (in-person, Scheman Building)

Agriculture and Life Sciences Career Day –
October 11, 2022; 9:00am – 2:00pm (in-person, Lied Athletic Center)

Career and Professional Development Plan: This assignment is due on November 11th; the first draft of the assignment is due on **October 21st**. **The assignment MUST be submitted electronically on Canvas and must use the PDF provided.** Students are expected to work on the grid throughout the semester and are encouraged to utilize all available

resources to complete the exercise and to maximize their learning (including staff at Career Services, Chem 110 instructors, their adviser, and professionals in fields that the student is interested in).

Presentation: Pairs of students will give a short (5-minute or less) presentation on a chemical specialty or job open to graduates with a chemistry degree in class on December 8th. The presentation should give a brief overview of what chemists in such positions do and what training and/or experience do they need for the positions. Additional information is also welcome (salary ranges, perks of the position, etc.). Examples of chemical specialties include: Agriculture/food chemist, Analytical chemist, Art restoration chemistry, Astrochemistry, Catalysis, Chemical information specialist, Chemical writer, Chemistry teaching, Computational chemist, Crystallographer, Environmental or remediation chemist, Forensic chemist, Formulation chemist, Geochemist, Hazardous waste chemist, Health & Safety, Materials chemist, Oceanography, Oenology/wine chemist, Patent Law, Personal Care/Cosmetic chemist, Petrochemistry, Pharmacology, Phytochemistry, Process chemistry, Quality control chemist, Research & development chemist, Spectroscopy, Synthetic chemist, Technological communications, Theoretical chemist, Toxicology, Water chemist. There are other career opportunities for graduates with a chemistry degree - you are not limited to this list.

Seminars: Each student in the class is required to attend at least **two** chemistry or science-related seminars during the semester; for the seminar, each student must complete the "Windows to..." worksheet and submit a short (1 page or less) typed discussion/overview of the seminar. This seminar summary should be in the student's words and briefly describe the highlights of the talk and any impact upon the student and is due within 1 week of the seminar. The "Windows to..." worksheet will be a useful tool for the summary. From time to time the instructors will suggest some seminars that would be of general interest and given by excellent speakers. Chemistry department seminars are often held the following times: Fridays at 1:10 PM and 3:20 PM; Wednesdays at 4:10 PM. Some chemistry seminars are held at different times.

Chemistry seminars: <http://www.chem.iastate.edu/seminars/>

Biochemistry, biophysics, and molecular biology seminars: <https://www.bbmb.iastate.edu/>

Undergraduate research at ISU: <http://www.undergradresearch.iastate.edu>

Career and Graduate School Resources from the American Chemical Society (ACS):

Careers: <http://www.acs.org/content/acs/en/careers.html> (Includes resume-writing tips and guidelines)

Internships, Graduate School: <http://www.acs.org/content/acs/en/education/students/college.html>

SYLLABUS STATEMENTS ON SAFETY, BEHAVIOR, RESPECT, AND UNIVERSITY POLICIES

Public Health: **If you are not feeling well, you should stay home and focus on your health.** Should you miss class due to illness, it is your responsibility to work with your instructor to arrange for accommodations and to make up coursework, as consistent with the instructor's attendance policy. **You may choose to wear a face mask and/or receive the COVID-19 vaccine and boosters, as well as other vaccines such as influenza,** but those options are not required. Thielen Student Health Center will continue to provide COVID-19 vaccinations free-of-charge to students. The university will continue to offer free masks and COVID-19 test kits during the fall 2022 semester. ISU COVID-19 information: <https://health.iastate.edu/covid-19-information/>

Other wellbeing resources for students are available at: <https://www.cyclonehealth.iastate.edu/wellbeing-resources/>

Public health information for the campus community continues to be available on Iowa State's public health website. All public health questions should be directed to publichealthteam@iastate.edu.

Right to Privacy: The Federal Right-to-Privacy Act (FERPA) prohibits the instructor from public disclosure of exam scores. You may obtain your exam scores in person from your TAs or the course instructor or using the online grade book. The instructor and the TAs are prohibited from giving grades over the phone or e-mail. Instructors and TAs are not permitted to discuss a student's academic performance with anyone other than the student, their academic adviser, or ISU staff or faculty who have need of this information; Faculty, including TAs, may not discuss academic performance with a student's relatives, friends, or potential employers.

Academic Dishonesty: The class will follow Iowa State University's policy on academic dishonesty. Anyone suspected of academic dishonesty will be reported to the Dean of Students Office (<https://www.studentconduct.dso.iastate.edu/academic-misconduct>).

Accessibility Statement: Iowa State University is committed to assuring that all educational activities are free from discrimination and harassment based on disability status. Students requesting accommodations for a documented disability are required to work directly with staff in Student Accessibility Services (SAS) to establish eligibility and learn about related processes before accommodations will be identified. After eligibility is established, SAS staff will create and issue a Notification Letter for each course listing approved

reasonable accommodations. This document will be made available to the student and instructor either electronically or in hard-copy every semester. Students and instructors are encouraged to review contents of the Notification Letters as early in the semester as possible to identify a specific, timely plan to deliver/receive the indicated accommodations. Reasonable accommodations are not retroactive in nature and are not intended to be an unfair advantage. Additional information or assistance is available online at www.sas.dso.iastate.edu, by contacting SAS staff by email at accessibility@iastate.edu, or by calling 515-294-7220. Student Accessibility Services is a unit in the Dean of Students Office located at 1076 Student Services Building.

Prep Week

This class follows the Iowa State University Prep Week policy as noted in section 10.6.4 of the Faculty Handbook, (<https://www.provost.iastate.edu/faculty-and-staff-resources/faculty-handbook>).

Discrimination and Harassment: Iowa State University does not discriminate on the basis of race, color, age, ethnicity, religion, national origin, pregnancy, sexual orientation, gender identity, genetic information, sex, marital status, disability, or status as a U.S. Veteran. Inquiries regarding non-discrimination policies may be directed to Office of Equal Opportunity, 3410 Beardshear Hall, 515 Morrill Road, Ames, Iowa 50011, Tel. 515-294-7612, Hotline 515-294-1222, email eooffice@iastate.edu.

Mutual respect and professionalism: You are expected to treat your instructor and all other participants in the course with courtesy and respect. Your comments to others should be factual, constructive, and free from harassing statements. You are encouraged to disagree with other students, but such disagreements need to be based upon facts and documentation (rather than prejudices and personalities). It is the instructor's goal to promote an atmosphere of mutual respect in the classroom. Please contact the instructor if you have suggestions for improving the classroom environment. It is preferable if students discuss issues directly with the instructor, however, students may also leave a note in the instructor's mailbox.

Name, gender identity and/or gender expression:

Class rosters are provided to the instructor with the student's legal name. I will gladly honor your request to address you by an alternate name or gender pronoun. Please advise me accordingly early in the semester so that I may make appropriate changes to my records.

Religious Accommodation: Iowa State University welcomes diversity of religious beliefs and practices, recognizing the contributions differing experiences and viewpoints can bring to the community. There may be times when an academic requirement conflicts with religious observances and practices. If that happens, students may request the reasonable accommodation for religious practices. In all cases, you must put your request in writing. The instructor will review the situation in an effort to provide a reasonable accommodation when possible to do so without fundamentally altering a course. For students, you should first discuss the conflict and your requested accommodation with your professor at the earliest possible time. You or your instructor may also seek assistance from the Dean of Students Office (<https://www.studentassistance.dso.iastate.edu/>) at 515-294-1020 or the Office of Equal Opportunity, (<https://www.eoc.iastate.edu/>) at 515-294-7612.

Free Expression: Iowa State University supports and upholds the First Amendment protection of freedom of speech and the principle of academic freedom in order to foster a learning environment where open inquiry and the vigorous debate of a diversity of ideas are encouraged. Students will not be penalized for the content or viewpoints of their speech as long as student expression in a class context is germane to the subject matter of the class and conveyed in an appropriate manner.

Promoting student health and wellness:

- Iowa State University is committed to proactively facilitating the well-being of all students. We welcome and encourage students to contact the following on-campus services for assistance regarding their physical, intellectual, occupational, spiritual, environmental, financial, social, and/or emotional needs:
- Student Wellness call (515) 294-1099 or via the website (<http://studentwellness.iastate.edu>);
- Thielen Student Health Center call (515) 294-5801 (24/7 Medical Advice) or via the website (<http://www.cyclonehealth.org>);
- Student Counseling Services call (515) 294-5056 or via the website (<https://counseling.iastate.edu>);
- Recreation Services call (515) 294-4980 or via the website (<http://recservices.iastate.edu>).
- Students dealing with heightened feelings of sadness or hopelessness, thoughts of harm or suicide, or increased anxiety may contact the ISU Crisis Text Line (Text ISU to 741-741) or contact the ISU Police Department (515) 294-4428.

Contact Information for Academic Issues

If you are experiencing, or have experienced, a problem with any of the above issues, email academicissues@iastate.edu
(This email address for contact information is monitored and answered through the Office of the Senior Vice President and Provost.)