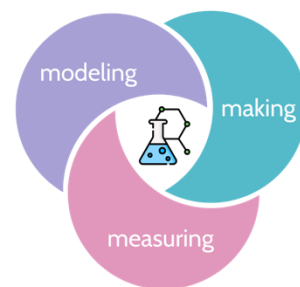




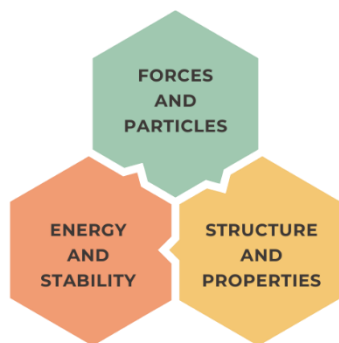
Honors Advanced General Chemistry CHEMISTRY 109H Information for Students

Chemistry 109 and Chemistry 109 Honors are one-semester courses focused on those principles of chemistry relevant to the materials and molecular sciences. Chemistry 109 will introduce you to chemistry as not just a body of facts, but an incredibly useful and interesting way of thinking about the world. First, this course will introduce you to the specific practices that define chemistry as a science. Chemistry is often referred to as the study of matter: its structure, properties, and transformations. But what do chemists actually *do*? While modern chemistry is broad in both its pursuits and applications, most chemists agree that we do some combination of *making*, *measuring*, and *modeling*. This course will also shape your understanding of the



fundamental ideas that chemists use to explain the world around them: (1) forces govern the nanoscale organization of matter particles; (2) the nanoscale structure of matter governs a substance's properties and reactivity; and (3)

whether a chemical system changes or remains stable depends on differences in energy and energy dispersal. Lastly this course will build your skills in a variety of practices related to science, including analyzing and interpreting data, constructing explanations, engaging in argument from evidence, developing and using models, and planning and carrying out investigations. **By the end of the course, your Chemistry instructors will expect you to begin “thinking like a chemist”** by generating submicroscopic models using chemistry's core ideas and using these models to explain/predict chemical phenomena, plan experiments, make correct inferences and deduce conclusions from data, and interpret whether conclusions are warranted based on given data.



Chemistry 109 Honors (109H) has the same course structure as non-honors Chemistry 109. The main goal in pursuing honors credit in this course is *not* to master material in addition to that presented in Chemistry 109. Rather, the goal of Chemistry 109H is to master a portion of the course material more deeply by engaging in a creative activity relevant to the material. **In this course, you will explore connections between chemistry and the UN Sustainable Development Goals.** Chemistry 109H students will work together to propose, construct, and peer-review creative artifacts (children's books, comic books, music videos, podcasts, interactive websites, etc.) that connect Chemistry 109 core ideas and science practices to the sustainability work. Because you will learn how current research is connected to general chemistry principles, **students planning to pursue majors in the materials and molecular sciences (biochemistry, chemistry, chemical engineering, materials science and engineering, molecular and cell biology, etc.) are especially encouraged to enroll in Chemistry 109H.**

Course requirements, information, and recommendations

- All sections of Chemistry 109 have the same math requisite, which is completion of MATH 113, 114, or 171 (algebra, trigonometry, and precalculus) or placement into MATH 221 (first-semester calculus).
- Students are expected to have taken at least one year of high school chemistry, and many Chemistry 109 students have had two years. Students who have taken AP chemistry are encouraged to enroll in Chemistry 109.
- Lectures 001, 002, and 004 of Chemistry 109 are non-honors sections. **Students seeking Honors credit should enroll in Lecture 003, which meets MWF 8:50–9:40 a.m.**
- Chemistry 109H students must attend supplemental 50-min sessions (Monday evenings from 7:00–7:50 p.m.), during which a portion of the work toward Honors credit will be planned and executed.
- There are no additional requisites for Chemistry 109H. However, students must obtain permission to enroll by contacting the Chemistry consultant at SOAR or emailing undergrad@chem.wisc.edu.