CHEMISTRY (MS)

The Department of Chemistry offers two graduate degrees: Master of Science (M.S.) and Doctor of Philosophy (Ph.D.). Students engage in coursework and conduct chemistry-related research that prepares them for careers in fields such as academia, industry, and government. Faculty and students in the Department of Chemistry participate in active research programs encompassing modern aspects of analytical, biological, environmental, inorganic, organic, physical, and polymer chemistry.

Location

- Storrs Campus

Modality

- In Person

Requirements
Master of Science Degree

A master's degree may be earned under either of two plans (Plan A or Plan B) as determined by the Advisory Committee. Plan A requires at least 21 hours of course work (plus nine credits of GRAD 5950 Master's Thesis Research) and a written thesis describing original research in chemistry. The coursework must include at least three credit hours of independent study carrying out laboratory work or theoretical research. The Advisory Committee must approve the topic and scope of the master's thesis. For students interested in a career in chemical research, the Department strongly recommends following Plan A. Plan B requires 30 credits of course work but no thesis. The Advisory Committee determines the courses to be taken and may require more than the minimum number of credits.

Learning Objectives

1. Knowledge: Students will demonstrate a broad foundational knowledge of chemistry. Students will explain the relevance of their project within their subdiscipline and put it in the broader context of chemistry. Students will be able to search and analyze primary research literature and evaluate published data critically.
2. Research Skills: Students will show technical expertise in measuring, modeling, and constructing chemical systems. Collect, organize, and analyze chemical data using quantitative, qualitative, or computational methods appropriate to the research context.
3. Communication: Students will demonstrate competence in scientific writing by producing technical documents that meet professional standards in chemistry. Students will communicate scientific information effectively in oral form, presenting chemical data or relevance and implications of chemical research with clarity to technical and nonspecialist audiences. Students will apply appropriate principles of data representation and visualization, developing accurate and readable figures, tables, and graphical materials that support the interpretation of chemical data. Students will explain chemical principles and laboratory procedures in instructional or support contexts.
4. Professionalism: Students will demonstrate ethical and responsible conduct of research, including data integrity, safety practices, and responsible authorship, according to the best practices in the profession. Students will be able to work effectively as a part of a team and contribute to collaborations as appropriate to their chosen field.