

# MAJOR IN CHEMISTRY, SUSTAINABLE CHEMISTRY CONCENTRATION

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The sustainable chemistry concentration is recommended for students who wish to pursue a career in the interdisciplinary field of sustainability, including renewable energy, green materials, pollution control, and waste remediation. Because sustainability requires that chemists be well rounded, students will take courses that develop an understanding of the social, economic, and environmental pillars of sustainability as well as the intrinsic interconnectedness of these areas.

Chemistry majors in the sustainability track are encouraged to participate in undergraduate research. Ample opportunities exist for undergraduate students to become involved in ground-breaking research in the laboratories of individual faculty members. Students have access to state-of-the-art equipment in faculty laboratories and the Analytical Resources Core facility, including NMR, FTIR, UV/Vis, fluorescence, and mass spectrometers, vacuum lines, x-ray diffractometers, and many more. Undergraduate research is strongly encouraged for any student considering a career in chemistry, and many students complete supervised research for academic credit. Development of skills in all of the aforementioned analytical techniques will enable graduates to pursue a consultant, educator, or researcher career.

## Learning Objectives

Upon successful completion, students will be able to:

1. Describe the unintended consequences associated with the synthesis of compounds ranging from life-enhancing medicines to the materials of modern society.
2. Articulate the thought process used to develop safer, more energy and material efficient processes, including the recovery and conversion of waste to raw material—the principles of Green chemistry.
3. Effectively communicate the results of the collection and analysis of data used in policy decisions for questions involving the air, food, soil, and water.