

CHEMISTRY DEPARTMENT and AUGSBURG COLLEGE MISSION STATEMENT

To nurture future leaders in service to the world by providing high quality educational opportunities, which are based in the liberal arts and shaped by the faith and values of the Christian church, by the context of a vital metropolitan setting, and by intentionally diverse campus community.

Augsburg College's Chemistry Department embodies this mission by providing a high quality educational opportunity in chemistry for future scientists and related fields, and in service to the general education of all students as participants in our civil society; by providing and promoting a research rich environment for students and faculty; and by engaging students in their faith-lives and community.

High quality educational opportunities are provided to students at several levels. For chemistry majors, the department offers "Introduction to the Properties of Polymers" and "Principles of Medicinal Chemistry", both of which are unique offerings in the ACTC and of interest and utility to our students headed for chemistry graduate programs or for industry. The chemistry department offers an American Chemical Society accredited major (continuously accredited since 1963); ACS provides rigorous oversight of chemistry instructional programs, faculty, and facilities. Course work in the chemistry major meet the ACS criteria and chemistry alumni (both BA and BS) have fared well in their post-Augsburg careers. Approximately two thirds of chemistry majors have gone on from Augsburg to graduate, medical and other professional programs; the other third has entered the industrial work force at local and national technical companies. Approximately one fourth of Augsburg's distinguished alumni are chemistry alums. Chemistry alums serve on the faculties of medical and graduate schools across the nation. Other science majors who require chemistry courses, such as biology and physics, also benefit from the rigor of course work in chemistry. Non science majors have benefited from departmental development of novel approaches to science education in the form of interdisciplinary courses such as SCI 110 and HON 240, and in the form of on-line learning such as CHM 100/102.

Chemistry is a liberal art in its promotion of the experimental method and critical thinking based on knowledge of the physical world. Our students learn to think based on reasoned analysis of data; they learn to communicate their thoughts and results in both written and oral formats. The philosophy of science, including its limitations and its rationality, are the foundation of each chemistry course. Students are also encouraged to pursue original research in chemistry, both on and off campus. With new hires with a research emphasis to the chemistry faculty, and with assistance from URGO and the Sunquist Summer Research program, more research opportunities become available on campus. This research rich environment provides Augsburg Experience opportunities; it also allows students to publish original papers in high profile chemical journals, in the MN Academy of Science and others; to receive patents; and to make contacts with industrial partners, such as Sartec, General Mills, 3M, Land O Lakes, and Ecolabs. The chemistry department has also participated in various science outreach opportunities to the Twin Cities community, such as volunteers in the schools in the Cedar riverside

neighborhood, 3M's Super Saturday for K-12 teachers and families, and the GEMS program.

Via the curriculum, service and research opportunities, Augsburg's chemistry students are well prepared to become leaders in their chosen fields after graduation, as PhDs, MDs, DOs, Pharmacists, and many others. Many are community leaders with direct service to constituent populations, such as doctors. Others, such as researchers in chemistry, provide service to the world in more indirect ways, by developing new materials, methods or products for a variety of uses, or by contributing to the body of public science knowledge in the sciences that can be brought to bear on solving environmental problems. Chemistry alumni bring their faith and values to their workplace in pursuing lives of service in such careers. The faith and values of the Christian church are further reflected in the chemistry curriculum and faculty as they guide students in their selection of graduate schools, professional programs, and work. Students find a profound sense of our common humanity and connectedness to our shared physical environment in the learning of chemistry itself, and in this particular faculties' shared understanding of our interdependence and moral agency in the world—in what we say, how we behave toward our students, and in what we do. In our understanding of our interconnectedness with all creation, we can communicate our “meeting God in the test tube” to our students. The chemistry department continues to recycle as much as possible, to reduce amounts of hazardous waste, and use more “green” chemistry as modeling good stewardship and environmental responsibility to our students. Proper chemical disposal is one example of ethics-in-action in the workplace.

The urban setting of the College has been used to promote service learning and community contacts in courses, such as water and air quality measurements in the campus environs; student internships and cooperative educational opportunities at 3M, HCMC, MN BCA, and EcoLab and others; research opportunities on campus through NSF federal grants, URGO, and the Sunquist Summer Research program. Students also have numerous enrichment opportunities available by virtue of our place in the city such as convocations, ACS meetings, seminars at UM and other institutions, and field trips to local museums, etc... Diversity in chemistry is encouraged and promoted but limited by the general culture that does not promote science to students of color. The chemistry department has had some students of color, first generation college students, STEP-UP program students, adult learners via the 3M partnership, international students, and women succeed in the major and go on to rewarding careers in chemistry, medicine and pharmacy, as well as others. Age and gender diversity in the chemistry faculty allows us to model acceptance of each other and value the individual. It also assists us with living out our own vocations as chemistry professors, and informs our efforts to assist students with understanding their own gifts and talents, how vocation helps tie together their personal and professional lives.