

Career Opportunities & Graduate School

Our graduating seniors are going to universities such as the University of Maryland Baltimore County, Ohio State, Duke, University of Pennsylvania, Michigan State, and the University of Virginia, University of Arizona, and Princeton. All of our secondary education majors have teaching positions. Those of our graduates who choose to go into industry are working in Research and Development at companies like Glaxo-Smith Kline, Merck, Lancaster labs and Cephalon to name a few.

Our Students

Our chemistry majors are students with good oral and written communication skills who also possess strong math skills.



Our students are committed to the discipline and in their choosing of Millersville University have realized an outstanding educational value which

gives them the training they need to pursue their career in the field of science.

Student Activities

The Millersville student affiliate ACS chapter is an active group of students interested in chemistry. The chapter is regularly recognized annually by the ACS for its activities and services which include sponsoring seminar speakers, arranging field trips to local industries and laboratories, sponsoring trips to attend scientific meetings, acting as peer advisors to incoming freshmen, and sponsoring student-faculty social activities.

Chemistry at Millersville

The Department of Chemistry at Millersville University is approved by the Committee on Professional Training of the American Chemical Society (ACS) and is authorized to grant ACS certified degrees in chemistry.

Our American Chemical Society approved programs of study offer students the opportunity for a basic and comprehensive study in the field of chemistry. Students benefit from a common core of courses that provide basic theory and skills vital for all degree programs leading to the bachelor's degree in chemistry. The recommended course sequence during the first year is identical for all three programs and differs only slightly through the junior year; thus any change in career emphasis

in chemistry need not delay graduation. All chemistry lectures, recitations and laboratories are taught by eleven experienced faculty, all of whom hold Ph.D. degrees. Chemistry majors are each assigned an advisor within the department who advises them on course work, research projects, graduate school selection and careers. The department's well-equipped laboratories give our students 'hands-on' training in the application and use of our equipment.



Millersville University
SEIZE THE OPPORTUNITY
SCHOOL OF SCIENCE & MATHEMATICS



Want to learn more?

Come to campus for an open house or guided tour. Contact the Admissions Office for information.

1-800-MU-ADMIT
www.millersville.edu/~admit
admissions@millersville.edu

1207-2506B

Millersville University is an Equal Opportunity/Affirmative Action institution. A member of Pennsylvania's State System of Higher Education.

Millersville University

SEIZE THE OPPORTUNITY

SCHOOL OF SCIENCE & MATHEMATICS

CHEMISTRY



The School of Science and Mathematics at Millersville University

Millersville has long been recognized for its flagship programs in the sciences, computer science, mathematics, and nursing.

Why is the strength of all our science and mathematics programs important? When you select a major in one of the school departments, your program will include a variety of required courses in other disciplines within the school.

The excellent academic reputation of all of our programs gives you added flexibility should you select a second major or a minor or decide to change your declared major.

SCHOOL STRENGTHS

- Challenging, one-on-one research opportunities with a faculty mentor.
- Strong record of student success including many regional and national awards.
- Supportive learning community – student clubs, field trips, tutoring, guest presenters.
- Up-to-date facilities. School buildings are new or recently renovated.
- Our faculty are committed to undergraduate education and 97% have doctoral degrees.
- Co-ops and internships that give practical experience.





Chemistry Degree Programs

Bachelor of Science Degree in Chemistry is designed for students who wish to pursue a career in chemistry. The intensive training in chemistry and mathematics is excellent preparation for immediate employment in technical positions or for entrance to graduate and professional schools.

Bachelor of Science Degree in Chemistry with a Biochemistry Option provides an interdisciplinary course of study in the rapidly expanding area of the chemistry of life processes. This program offers the best preparation for acceptance to medical schools, pharmacy schools and forensic chemistry programs.

Bachelor of Science Degree in Chemistry with an Environmental Option provides an interdisciplinary program of study that includes all areas of science as well as issues of social, economic, and political importance.

Bachelor of Science Degree in Chemistry with a Nanotechnology Option will provide students with specific skills and knowledge in the area of nanotechnology which is the design and assembly of structures on the atomic scale.

Bachelor of Science Degree in Chemistry with a Polymer Option trains students in an important area of the chemical industry where it is estimated that 50% of all chemists will work in some capacity during their careers.

Bachelor of Science Degree in Chemistry Secondary Education provides curricula in teacher education leading to the B.S. in Education degree with certification in chemistry.

Bachelor of Arts Degree in Chemistry combines a solid foundation in chemistry with ample opportunity for breadth of study. In addition to preparing for careers or graduate study in chemistry, this program provides students with an excellent background to develop careers in areas related to chemistry such as oceanography, environmental sciences and geochemistry.

Bachelor of Arts Degree in Engineering is available under the 3/2 Cooperative Engineering Program. Upon satisfactory completion of three years of study at Millersville and two years at a cooperating engineering school, the student is awarded the B.A. degree in Chemistry (MU) and the B.S. degree in Engineering.



Students, Faculty & Facilities

All full-time faculty have earned Ph.D. degrees and reflect a diversity of expertise that covers the various subdisciplines of the chemical sciences.

Faculty members teach all courses, including laboratories and recitations. Upon admission to the program, each student is assigned a faculty advisor to help in planning individual programs of study. The 15/1 student-to-faculty ratio in the department enables us to offer students a program which involves direct supervision by faculty members. Thus, throughout the course of study, students maintain a close working relationship with faculty members.

The facilities of the Department of Chemistry are housed in Caputo Hall.

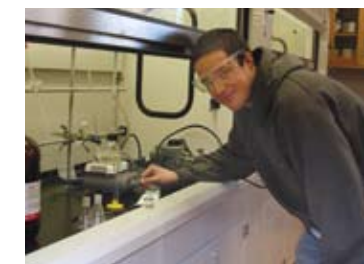
Our eight instructional laboratories are well equipped with a variety of research-grade instruments including two infrared spectrometers (FT-IR), UV-VIS spectrophotometers, including an OceanOptics unit equipped with a variety of detectors such as an oxygen electrode, a 400MHz nuclear magnetic resonance (FT-NMR) spectrometer, several gas chromatographs equipped with different detectors, two high performance liquid chromatograph units, an electrochemical analysis system, two atomic absorption spectrometers, a Raman spectrometer, and an atomic force microscope. All of our equipment and instrumentation is provided exclusively for use by undergraduates. In addition, a number of departmental computers are available for student use.

Undergraduate Research

The Chemistry Department faculty are actively engaged in research projects covering all the subdisciplines of chemistry.

It is the Department's philosophy that participation in research is an integral and essential part of a student's undergraduate education in chemistry. Under the guidance of a faculty mentor, a student can participate in the process of scientific inquiry and discovery of new knowledge. Undergraduate research incorporates the skills and knowledge learned in previous courses and requires creative and original contributions to the solving of a scientific problem. Participation in a capstone research project develops independence and intellectual maturity.

Student research projects can be pure basic chemical research, development of in-house laboratory experiments or research in chemical education. Students are welcome to work with faculty on their specific projects or topics of the student's choice within the expertise of the faculty. Undergraduate research can be part of the student's normal course load during the academic year or full-time during the summer. Interested students of all academic standings, class standings and majors are encouraged to participate in undergraduate research.



Students are encouraged to present the results of their research at Millersville's Undergraduate Research Symposium or at scientific meetings of the American Chemical Society or other scientific meetings.

Co-ops & Internships

Cooperative Education is an academic program which allows students to gain practical work experience in a job related to their major.

Students may work full- or part-time while they earn credit toward graduation and "test drive" their chosen careers. Most positions are paid, although unpaid internships can provide valuable experience and open doors to jobs after graduation. The co-op experience is a learning approach that interweaves college studies with alternating cycles of working experience in business, industry, or government.

Through the co-op office and the department co-op coordinator students are placed in a variety of chemistry-related jobs in industry, locally, and throughout the southeastern Pennsylvania region. As a result of the co-op

experience students acquire invaluable practical experience in chemistry prior to obtaining a degree so that upon graduation, the student is more knowledgeable about his/her chosen career and is more employable because of the experience gained. Salary is earned during the co-op, which defrays a large percentage of the cost of the college education.

Students learn how to prepare a resume and to interview for a job, two more important advantages of the co-op program. The student is evaluated during the co-op experience both by the employment supervisor and by the faculty coordinator. The chemistry department awards academic credit (up to 6 credits) for the experience, which can be counted toward normal graduation requirements.



The programs offered by the Chemistry Department provide the basic information and the depth of experience which enable graduates to pursue a number of educational and career options. Those who major in chemistry at Millersville can select from the following degree programs.