2026-27 Academic Year

WAYNE STATE COLLEGE

CHEMISTRY > CHEMICAL SCIENCES

Chemistry is the study of matter – its composition, structure, properties, and changes in state. Our faculty are dedicated to ensuring your education is one of discovery, and our program gives you an understanding of the chemical world in which we live. It's a great field to enter because it connects and helps you understand other sciences such as physics, biology, and geology. With a Chemistry degree from Wayne State College, you will be ready for graduate work or a variety of career opportunities. You can use your Chemistry degree to enter the health professions such as medicine and pharmacy. Or you could become a product developer, creating things such as perfume, makeup, or cleaning solutions.

fast facts

Credit hours: 55

Students must also take 30 credit hours of General Studies courses. A total of 120 credit hours are needed to graduate from WSC. Additional majors or minors can be added to help meet graduation requirements.

Degree options: B.A. or B.S.

Department: Physical Sciences and Mathematics

School: Science, Health, and Criminal Justice

Popular minors: Biology, Mathematics, Philosophy, Physics, Spanish

focus on results

Skills Learned

- Chemical processes and materials
- Chemical experiment and design
- Modern lab equipment usage
- Analytical, organic, and inorganic chemistry
- Biochemistry and environmental chemistry
- Probability and statistics
- University physics and experimentation
- Advanced lab techniques and management
- Critical thinking and problem-solving
- Research, observation, and analysis of data
- Communication

Possible Careers

- Pharmacologist
- Forensic chemist
- Lab technician
- Chemical engineer
- Research scientist
- Environmental scientist
- Toxicologist
- Soil scientist
- Nuclear engineer
- Chemical consultant

Types of Employers

- Hospitals and medical clinics
- Research labs
- Energy and utility companies
- Pharmaceutical companies
- Chemical companies
- Cosmetic companies
- Community programs
- Environmental agencies
- Public health organizations
- Manufacturing companies
- Government / federal agencies

outside the classroom

Visit www.wsc.edu/clubs to learn more about clubs and organizations on campus.

Activities / Opportunities

- Peer mentoring and tutoring
- Service-Learning
- Study Abroad

Clubs / Organizations

- Health Science Club

Courses and outcomes

2026-27 Academic Year

The following courses are required for the program of study described on this sheet. Every effort is made to ensure this information is current, but please be aware that some content may have changed. To develop a plan for registering and taking these courses, please consult the current academic catalog and your advisor.

Program courses

For CAT 3, take MAT 140 Calculus I. For CAT 7, take BIO 110 Biology Concepts.

Chemistry Core Courses

CHE 106 General Chemistry I	4
CHE 107 General Chemistry II	4
CHE 305 Analytical Chemistry	4

Chemical Sciences Concentration Courses

CHE 314 Organic Chemistry I	4
CHE 315 Organic Chemistry II	4
CHE 370 Introduction to Research	1
CHE 380 Instrumental Analysis	4
CHE 390 Inorganic Chemistry	3
CHE 393 Laboratory Techniques	1
CHE 456 Physical Chemistry: Thermodynamics	3
CHE 457 Physical Chemistry: Quantum Mechanics and Spectroscopy	3
CHE 470 Research Project	1
CHE 493 Laboratory Management	1
PHY 301 University Physics I	4
PHY 302 University Physics II	4
PHY 321 Physics Laboratory I	1
PHY 322 Physics Laboratory II	1
Upper-level CHE electives (up to 4 hours of CHE 490 may be counted toward CHE electives)	7
Select one of the following	1
CHE 458 Physical Chemistry Lab (1)	
CHE 480 Advanced Laboratory Methods (1)	

Student learning outcomes

1. Demonstrate mastery of the theoretical aspects of chemistry
2. Demonstrate mastery in the technical aspects of chemistry
3. Communicate effectively in a chemical manner, both verbally and in writing
4. Apply mathematical and mechanistic problem-solving skills to chemistry processes
5. Operate standard laboratory equipment and instruments and be able to interpret the data or spectra obtained

chemistry faculty

Visit www.wsc.edu/physical-sciences-mathematics-department to learn more about the Department Physical Sciences and Mathematics.

Al Mitchell, Ph.D.
Department Chair
Carhart Science 107B
402-375-7334
almitch1@wsc.edu

Darius Agoumba, Ph.D.
DJ Black, Jr., Ph.D.
Brett Cagg, Ph.D.
Rob Engel, MSE
Mary Ettel, Ph.D.
David Peitz, Ph.D.

Revised on: 5/8/26