

Chemistry

Bachelor of Science (B.S.),

Bachelor of Science in Education (B.S.Ed.)



Form Your Bond With Chemistry

Make a permanent bond as you delve into the expanding world of chemistry at Black Hills State University. The foundation of knowledge built through BHSU's chemistry curriculum is valuable to all disciplines, giving students the ability to adjust to ever-changing job possibilities.

Prepare For Your Future

Students have the opportunity to work one-on-one with faculty utilizing state-of-the-art equipment and research methods. Chemistry is the central science, and the concepts that you learn in the chemistry program can be applied to virtually every area of science. This makes chemistry a great degree choice if you plan to seek immediate employment after graduation, pursue graduate studies in science, or seek a graduate degree.

Learn From The Best

Students receive hands-on training using cutting-edge instrumentation in state-of-the-art laboratories. Classes at BHSU feature a student-centered learning environment, highlighted by a low student-to-faculty ratio. You'll be given an opportunity to participate in undergraduate research and collaborate with faculty and other students on a number of diverse research projects. BHSU Chemistry faculty members have ongoing research in the high-impact areas of nanomaterial synthesis, materials for renewable energy, medicinal Chemistry, natural products, antibiotics, and biochemistry. Participation in undergraduate research will set you apart in the competitive job market or in applying for graduate degree programs.

Enjoy The Experience

Whether you choose a career in Chemistry or move on to a graduate degree, success is at your fingertips when you start with degree in Chemistry. Let BHSU lead the way to your future!

find your career:

Many employment opportunities in a variety of sectors as a:

- Laboratory Technician
- Pharmaceutical Research Scientist
- Environmental Chemist
- Analytical Chemist
- Formulation Chemist
- Organic Spectroscopist
- Quality Control Analyst
- Teacher
- Instrument Technician
- Research Assistant
- Forensic Analyst

Or, use your chemistry degree as a springboard for graduate degree opportunities in medicine, dentistry, pharmacy, patent or environmental law, chemical engineering, or an advanced degree in chemistry!

connect with us



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Chemistry



- 4 CHEM 112 General Chemistry I AND 112L Lab **
- 4 CHEM 114 General Chemistry II AND 114L Lab **
- 4 CHEM 326 Organic Chemistry I AND 326L Lab
- 4 CHEM 328 Organic Chemistry II AND 328L Lab

- 4 CHEM 332 Analytical Chemistry AND 332L Lab
- 3 CHEM 342 Physical Chemistry I
- 1 CHEM 490 Senior Seminar
- 4 CHEM 464 Biochemistry I AND 464L Lab

Chemistry Emphasis.....

- 4 MATH 123 Calculus I
- 4 MATH 125 Calculus II
- 5 PHYS 211 University Physics I AND 211 Lab
- 5 PHYS 213 University Physics II AND 213 Lab
- 4 CHEM 452 Inorganic chemistry AND 452L Lab
- 4 CHEM 464 Biochemistry I AND 464L Lab
- 9-12- Choose 3 courses and lab *if applicable*:
 - BIOL 343 Cell & Molecular Biology AND 343L Lab
 - CHEM 344 Physical Chemistry II & Lab
 - CHEM 355 Field Environmental Chemistry AND 355L Lab
 - CHEM 434 Instrumental Analysis AND 434L Lab
 - CHEM 465 Biochemistry II AND 465L Lab
 - GEOL 360 Geochemistry
 - MATH 225 Calculus III
 - MATH 281 Introduction to Statistics
 - MATH 321 Differential Equations
 - PHYS 331 Modern Physics
 - RESR 498 Research
 - CHEM 492 Topics

Biochemistry Emphasis.....

- 4 BIOL 151 General Biology I AND 151 Lab
- 4 BIOL 153 General Biology II AND 153 Lab
- 4 CHEM 465 Biochemistry II AND 465 Lab
- Take one of the following groups:.....
 - PHYS 111 Introduction to Physics I AND 111 Lab
 - PHYS 113 Introduction to Physics II AND 113 Lab
 - OR PHYS 211 University Physics I AND 211 Lab
 - PHYS 213 University Physics II AND 213 Lab
- 6-8- Choose 2 courses and lab *if applicable*:.....
 - BIOL 317 Electron Microscopy AND 317 Lab
 - BIOL 325 Physiology AND 325 Lab
 - BIOL 331 Microbiology AND 331 Lab
 - BIOL 343 Cell & Molecular Biology AND 343 Lab
 - BIOL 371 Genetics AND 371 Lab
 - BIOL 381 Vertebrate Anatomy AND 381 Lab
 - CHEM 344 Physical Chemistry II AND 344 Lab
 - CHEM 434 Instrumental Analysis AND 434 Lab
 - CHEM 452 Inorganic Chemistry AND 452 Lab
 - CHEM 492 Topics
 - RESR 498 Research

Major in Chemistry - Teaching.....

Additional Requirements:

- CHEM 464 Biochemistry I AND 464L Lab
- MATH 121 Survey of Calculus
 - OR MATH 123 Calculus
- SEED 413 7-12 Science Methods

3- Choose 1 course and lab from the following:

- CHEM 355 Field Environmental Chemistry AND 355L Lab
- CHEM 434 Instrumental Analysis AND 434L Lab
- CHEM 452 Inorganic Chemistry
- CHEM 465 Biochemistry II AND 465L Lab
- GEOL 360 Geochemistry
- RESR 498 Research

Pre-Professional Teaching Core

- 1 EDFN 295 Practicum: Pre-Admission Teaching
- 2 EDFN 338 Foundations of American Education
- 3 EPSY 302 Educational Psychology
- 3 ESPY 428 Child & Adolescent Development
- 3 INED 411 South Dakota Indian Studies
- 3 PSYC 101 General Psychology**
- 3 SPED 405 Educating Secondary Students with Disabilities
 - OR
 - 3 SPED 300 Students with Exceptionalities

Professional Secondary Ed Teaching Core

- 3 EDFN 365 Computer-Based Technology & Learning
- 2 MLED 480 Middle Level Methods
- 3 SEED 408 Plan, Manage & Assess the 7-12 Diverse Classroom
- 3 SEED 450 7-12 Reading & Content Literacy
- 1 SEED 495 Practicum: Pre-Student Teaching
- 3 EDFN 475 Human Relations
- 9 SEED 488 7-12 Student Teaching

General Education Requirements

- Gen Ed - Social Science 6-9 semester hours
- Gen Ed - Arts & Humanities 12 semester hours
- ENGL 101 - Composition I
- ENGL 201 - Composition II
- SPCM 101, OR SPCM 215, OR SPCM 222 Speech
- WEL 100 - Wellness for Life AND WEL 100L

**Completes one general education requirement.

A minor is NOT required with either major but electives to total 120 hours, of which 36 hours must be 300/400 level courses.

Students are encouraged to pursue a minor, but to be certified to teach, a content praxis exam must be passed in both the major & minor areas of study.