

2009-2010

B.S. in Biochemistry

College of Sciences and Technology

What Is the Study of Biochemistry?

The Department of Chemistry, in addition to its core of fundamental studies in Physical, Inorganic, Organic, Analytical and Biochemistry, has added a variety of elective courses that offer diversity in training, study and research at the undergraduate level. Within the Department, faculty members are active in many research areas including Organometallic Chemistry, Organic Synthesis, Photochemistry, Protein and Nucleic Acid Biochemistry, Molecular Biology of Viruses, Electrochemistry, Molecular Spectroscopy, Reaction Kinetics, Atmospheric and Environmental Chemistry, Surface Chemistry and Catalysis, and new areas of computer applications.

Why Should I Consider This Major?

The programs of study within the Chemistry major provide many benefits to students. There are a wide variety of accredited programs designed to meet diverse career goals. There is close student-faculty contact and relatively small classes. The students have direct access to modern laboratory equipment and instrumentation, and there are opportunities for research work under the direction of a faculty advisor.

This major is part of an interdisciplinary program between the Biology and Chemistry Departments. The B.S. degree in Biochemistry places a greater emphasis on the physical chemical theory behind biological chemistry. This program is specifically designed for students who seek graduate study or employment in biochemistry or molecular biology.

How to Declare:

Students planning to major in Biochemistry are advised to consult the Department at the beginning of their first quarter on campus to arrange for proper sequence of courses.

Mid-Program Checkpoint:

Students intending to complete a Bachelor's of Arts degree in Biochemistry within four years should complete the following courses by the start of their junior year. Students are expected to follow all prerequisite requirements for courses and seek early departmental advisement.

Coursework:

Postpone non-science GUR courses until Junior and Senior years.
Calculus sequence
General Chemistry sequence
Biology sequence
Organic Chemistry sequence
Physics Sequence

Other Activities:

Meet with departmental advisor or Academic Advising Center by the time you reach 60 credits regarding choice of major.

Contact Information:

Biology Department Website:
<http://www.wwu.edu/biology/>

Chemistry Department Website:
<http://www.chem.wwu.edu/dept/wwuchem.html>

Undergraduate Advisor:
Chemistry Department
Administrative Office
CB 270
360-650-3070
chemdept@chem.wwu.edu

Chemistry Department Chair:
Steve Gammon
CB 270A
360-650-3070
gammon@chem.wwu.edu

Sample Careers:

Chemical/Pharmaceutical Sales
Physician
Crime Lab Analyst
High School Teacher
Industrial Chemist
Technical Writing
Dentist
Forensic Scientist
Quality Assurance Specialist
Research Scientist
Occupational Safety Specialist
Veterinarian
Science Lab Technician
Biochemist
Biotechnology Scientist
College Professor
Environmental Scientist/Consultant



B.S. in Biochemistry Major Requirements: 109 Credits

BIOL 204 Introduction to Evolution, Ecology & Biodiversity (5)

BIOL 205 Introduction to Cellular & Molecular Biology (5)

BIOL 321 Genetics (4)

BIOL 323 Cell and Molecular Biology (4)

BIOL 324 Methods in Molecular Biology (3)

CHEM 121 General Chemistry I (5)

CHEM 122 General Chemistry II (5)

CHEM 123 General Chemistry III (4)

CHEM 333 Analytical Chemistry (5)

or CHEM 125 General Chemistry, Honors I (5)

CHEM 126 General Chemistry, Honors II (5)

CHEM 225 General Chemistry, Honors III (5)

(replaces CHEM 121, 122, 123, and 333)

CHEM 351 Organic Chemistry (4)

CHEM 352 Organic Chemistry (4)

CHEM 353 Organic Chemistry (3)

CHEM 354 Organic Chemistry Laboratory I (2)

CHEM 461 Physical Chemistry (4)

CHEM 467 Biophysical Chemistry (3)

CHEM 468 Biophysical Chemistry (4)

CHEM 471 Biochemistry and Molecular Biology (3)

CHEM 472 Biochemistry and Molecular Biology (3)

CHEM 473 Molecular Biology (3)

CHEM 474 Biochemistry Laboratory (3)

MATH 124 Calculus and Analytic Geometry (5)

MATH 125 Calculus and Analytic Geometry (5)

Or MATH 134 Honors Calculus I (5)

And MATH 135 Honors Calculus II (5)

Or Math 138 Accelerated Calculus (5) (replaces Math 124 and 125)

MATH 224 Multivariable Calculus and Geometry (5)

PHYS 121 Physics with Calculus I/Lab (5)

PHYS 122 Physics with Calculus II/Lab (5)

PHYS 123 Electricity and Magnetism/Lab (5)

Approved electives to total 3 credits

Other Biology or Chemistry Options:

B.A. Biology (74 credits)

B.A. Chemistry (86 credits)

B.A. Anthropology/Biology (89 with 23 supporting credits)

B.S. Biology (90-95 credits)

B.S. Biochemistry/Cellular and Molecular Biology (105 credits)

B.S. Biology/Anthropology (101-104 credits)

B.S. Biology/Mathematics (104-105 credits)

B.S. Chemistry (106 credits)

B.A. Ed. Chemistry/Mathematics (106-120 credits)

B.A. Ed. Chemistry/Physics (102-115 credits)

B.A. Ed. Chemistry/Biology (103-104 credits)

These courses are offered within this major and may be used to satisfy GUR or Writing Proficiency requirements.

QSR: MATH 124, 125

LSCI: CHEM 121, 122, 123 (or 125, 126, 225);

BIO 204, 205, 206;

PHYS 121, 122, 123

WP: Three Writing Proficiency points are required for graduation (they are noted as WP1, WP2, and WP3).

Check [Classfinder](#) or [Online Timetable](#) for departmental offerings each quarter.