University of the Incarnate Word®

Bachelor of Science in Biochemistry

School of Mathematics, Science and Engineering

Biochemistry (B.S.)

PROGRAM OVERVIEW

The Bachelor of Science (B.S.) in Biochemistry degree at the School of Mathematics, Science and Engineering prepares students for careers of discovery in biotechnology, medical research, pharmaceutical chemistry or the health professions.

The B.S. in Biochemistry is a 120-hour degree program designed to give students a strong foundation in the chemical and biological sciences. Students can expect an exciting and challenging program with courses that span a broad array of studies, including organic and physical chemistry, research methods, cell biology, enzymology and molecular biochemistry, among others. As part of their studies, students will have the opportunity to work with high-tech instruments and in the Nuclear Magnetic Resonance (NMR) facility.

Biochemistry and chemistry majors are also encouraged to enrich their studies by participating in research under the direction of faculty as part of their courses, independently or via the Welch Summer Research Series.

They may also pursue advanced work as part of the Cardinal Chemistry Scholars, a National Science Foundation-funded scholarship program that offers professional development and support for research endeavors.

QUICK FACTS

- Students wishing to pursue medical school or advanced study in fields such as pharmacy or other health fields will be well-prepared to move on to such professional programs.
- Students may also advance directly to the workforce as a clinical research assistant, lab technician, forensic scientist or other positions in biotechnology, product development, higher education, private labs, government, hospitals and medical centers, to name a few.

ADMISSION REQUIREMENTS

The requirements for admission to the B.S. in Biochemistry program are the same as the requirements for admission to the University of the Incarnate Word.

CONTACT

UIW Admissions
(210) 829-6005
admission@uiwtx.edu

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DEGREE PLAN

B.S. in Biochemistry

FRESHMAN YEAR

Fall

CHEM 1301: Chemical Principles I (3 hours)
CHEM 1101: Chemical Principles I Lab (1 hour)
BIOL 1402: General Biology I for Majors (3 hours)
BIOL 1402L: General Biology Lab (1 hour)
ENGL 1311: Composition I* (3 hours)
FYES 1211: First Year Experience Seminar (2 hours)

Total Hours: 13

Spring

CHEM 1302: Chemical Principles II (3 hours)
CHEM 1102: Chemical Principles II Lab (1 hour)
MATH 1311: Pre-Calculus* (3 hours)
ENGL 1312: Composition II* (3 hours)
History Core (3 hours)
PEHP Physical Activity Course* (1 hour)

Total Hours: 14

SOPHOMORE YEAR

Fall

CHEM 2311: Organic Chemistry I (3 hours)
CHEM 2111: Organic Chemistry I Lab (1 hour)
MATH 2312: Calculus I (3 hours)
ENGL 2310: World Literature Studies* (3 hours)
Modern Language I* (3 hours)
PHIL 1381: Intro to Philosophy* (3 hours)

Total Hours: 16

Spring

CHEM 2312: Organic Chemistry II (3 hours)
CHEM 2112: Organic Chemistry II Lab (1 hour)
MATH 2313: Calculus II (3 hours)
BIOL 3471: General Microbiology (4 hours)
Modern Language II* (3 hours)

Total Hours: 14

Summer

Research Experience for Undergraduate

JUNIOR YEAR

Fall

CHEM 4351: Biochemistry I (3 hours)
CHEM 4251: Biochemistry I Lab (2 hours)
CHEM 3160: Introduction to Research [$] (1 hour)
BIOL 3311: Cell Biology (3 hours)
PHYS 2305: Physics I (3 hours)
PHYS 2105: Physics I Lab (1 hour)
RELS 13XX* (3 hours)

Total Hours: 16

Spring

CHEM 3321: Quantitative Analysis (3 hours)
CHEM 3221: Quantitative Analysis Lab (2 hours)
CHEM 4352: Biochemistry II [#] (3 hours)
CHEM 4252: Biochemistry II Lab [#] (2 hours)
CHEM 4260: Advanced Chemical Research (2 hours)
PHYS 2306: Physics II (3 hours)
PHYS 2106: Physics II Lab (1 hour)

Total Hours: 16

Summer

Research Experience for Undergraduate

SENIOR YEAR

Fall

CHEM 4331: Physical Chemistry: Thermodynamics [$] (3 hours)
CHEM 4231: Physical Chemistry: Thermodynamics Lab [$] (2 hours)
Chemistry Elective (2 hours)
BIOL 3361: Genetics (3 hours)
Social/Behavioral Science* (3 hours)
Elective (3 hours)

Total Hours: 16

Spring

CHEM 4353: Molecular Biochemistry or CHEM 4354: Enzymology (3 hours)
Upper Division Elective (3 hours)
Upper Division Elective (3 hours)
Fine Arts* (3 hours)
Advanced Religion or Philosophy* (3 hours)

Total Hours: 15

***Core curriculum** **[#]Spring ONLY Course** **[$]Fall ONLY Course**

A minimum of 120 hours are needed to complete the B.S. in Biochemistry.

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