

Bachelor of Science in Biochemistry

This professional degree is designed for students planning careers in biochemistry, medicine, clinical chemistry or other health-related areas of chemistry.

Degree Requirements

Candidates for the Bachelor of Science in Biochemistry must meet the following requirements.

- 1. Hours Required for the Degree:** Completion of a minimum of 135 total semester hours; 42 must be advanced.
- 2. General University Requirements:** See “General Degree Requirements” in the Academics section of this catalog.
- 3. College of Arts and Sciences Core Curriculum:** Minimum 61 hours (includes requirements of University Core Curriculum). See “Arts and Sciences Core Curriculum” in the College of Arts and Sciences section of this catalog for specific core requirements and list of approved courses. See degree plan for exact hours.

Students may complete either of two options to satisfy the College of Arts and Sciences foreign language requirement:

Option I: Complete two semesters of foreign language at the 2000 level or pass appropriate proficiency exam(s) as specified by the College of Arts and Sciences.

Option II: Complete four math or science classes (a minimum of 12 hours). A student who wishes to fulfill the foreign language requirement by Option II must first be counseled by an undergraduate biochemistry advisor of the Department of Biological Sciences and must obtain written approval of Option II for inclusion in the student’s degree plan. This approval must include a specific listing of each course to be taken to fulfill the option. All courses approved must contribute in a logical and significant fashion to the student’s academic preparation for a stated professional school or career goal. No course substitutions from an approved Option II plan will be allowed without prior written approval from the department.

All courses must be appropriate for majors within the department that offers them. Normal limitations for undergraduate enrollment in graduate classes will still apply. Other requirements are specified below:

- **Biochemistry:** Upper-division BIOC classes and graduate-level classes are acceptable if they are not used to complete departmental requirements for the major or minor. Up to 6 hours of Honors Research (BIOC 4940) plus Honors Thesis (BIOC 4950) or 3 hours of Special Problems classes (BIOC 4900-4910) may be used if no other honors thesis or special problems hours are used to fulfill the departmental requirements for the student’s major or minor.
- **Biology:** Biology classes must be at the 3000 level or higher and must not be used to fulfill requirements of the biology minor. Up to 3 hours of Special Problems classes (BIOL 4900-4910) or Cooperative Education in Biological Sciences (BIOL 4920) may be used. However, the total hours of biology and biochemistry honors thesis, special problems and cooperative education classes used to complete this requirement may not exceed 6 hours.
- **Chemistry:** Chemistry classes must be at the 3000 level or higher and may not be used to fulfill any of the specified chemistry requirements for the biochemistry degree.
- **Computer Science:** Classes must be above the level of CSCI 1100 and must be for CSCI majors.
- **Math:** Math classes must be above the level of MATH 1720 or be of a specialized nature and must be approved as essential or contributing in an important way to reaching the student’s career goals.
- **Physics:** Physics classes must be beyond the 1000 level.
- **Other Science Classes:** Other science classes open to majors in their respective disciplines (e.g., geology, psychology or anthropology) may be used to fulfill this requirement if approved by the appropriate Department of Biological Sciences biochemistry undergraduate advisor.

4. Major Requirements: A major of at least 40 hours in chemistry/biochemistry, of which 24 semester hours must be advanced, including CHEM 1410 or 1413/1430, 1420 or 1423/1440, 2370/3210, 2380/3220, 3450, 3510 and 3520; BIOC 2000, 4540, 4550, 4560, 4570 and 4580.

5. Minor Requirements: A minor of 20 hours in biology, including BIOL 3450 and 3510/3520, plus 4 advanced hours.

6. Electives: See four year plan.

7. Other Course Requirements: Total of 84 hours in the sciences, of which 40 must be advanced, including MATH 1710 and 1720; PHYS 1410/1430, 1420/1440, or 1710/1730, 2220/2240.

8. Other Requirements: GPA of 2.5 on all advanced courses attempted in the division of sciences.

DRED (Traffic Safety) courses may not be used to satisfy any portion of a degree in the College of Arts and Sciences.

BS in Biochemistry

*Following is **one** suggested four-year degree plan. Students are encouraged to see their adviser each semester for help with program decisions and enrollment.*

BS in Biochemistry

FRESHMAN YEAR

FALL	HOURS
BIOC 2000, Vistas in Biochemistry	1
BIOL 1710, Principles of Biology I ²⁵	3
BIOL 1730, Principles of Biology I Laboratory	1
CHEM 1410, General Chemistry, or CHEM 1423, Honors General Chemistry ¹⁰	3
CHEM 1430, General Chemistry Laboratory	1
ENGL 1310, College Writing I	3
MATH 1710, Calculus I ⁴	<u>4</u>
Total	16

FRESHMAN YEAR

SPRING	HOURS
BIOL 2040, Biology of Microorganisms, or BIOL 1720, Principles of Biology II (3), and BIOL 1740, Principles of Biology II Laboratory (1) ²⁵	4
CHEM 1420, General Chemistry, or CHEM 1423, Honors General Chemistry ¹⁰	3
CHEM 1440, General Chemistry Laboratory	1
ENGL 1320, College Writing II ⁶	3
MATH 1720, Calculus II	3
CSCI ¹	<u>3</u>
Total	17

SOPHOMORE YEAR

FALL	HOURS
BIOC 2000, Vistas in Biochemistry	1
CHEM 2370, Organic Chemistry	3
CHEM 3210, Organic Chemistry Laboratory ²⁰	1
ENGL 2210, World Literature I	3
PHYS 1410, General Physics I, or PHYS 1710, Mechanics	3
PHYS 1430, General Physics Laboratory I, or PHYS 1730, Laboratory in Mechanics	1
PSCI 1040, American Government I	3
Oral Communication ²	<u>3</u>
Total	18

SOPHOMORE YEAR

SPRING	HOURS
BIOL 3450, Genetics	4
CHEM 2380, Organic Chemistry	3
CHEM 3220, Organic Chemistry Laboratory	1
ENGL 2220, World Literature II	3
PHYS 1420, General Physics II, or PHYS 2220, Electricity and Magnetism	3
PHYS 1440, General Physics Laboratory II, or PHYS 2240, Laboratory in Wave Motion, Electricity, Magnetism and Optics	1
PSCI 1050, American Government II	<u>3</u>
Total	18

JUNIOR YEAR

FALL	HOURS
BIOC 4540, Biochemistry I	3
BIOC 4560, Biochemistry Laboratory	2
BIOL 3510, Cell Biology	3
BIOL 3520, Cell Biology Laboratory	1
CHEM 3450, Quantitative Analysis	4
LANG 2040, Foreign Language (intermediate) ²³	<u>3</u>
Total	16

JUNIOR YEAR

SPRING	HOURS
BIOC 4550, Biochemistry II	3
BIOC 4570, Biochemistry and Molecular Biology of the Gene	3
BIOC 4580, Biochemistry and Molecular Biology of the Gene Laboratory	1
HIST 2620, United States History Since 1865 ¹²	3
LANG 2050, Foreign Language (intermediate) ²³	3
Science Option (advanced) ¹⁶	2
Wellness ¹¹	<u>2-3</u>
Total	17-18

SENIOR YEAR

FALL	HOURS
CHEM 3510, Physical Chemistry I	3
ECON 1110, Principles of Macroeconomics	3
HIST 2610, United States History to 1865 ¹²	3
BIOL (advanced) ²⁷	4
Visual and Performing Arts ⁷	<u>3</u>
Total	16

SENIOR YEAR

SPRING	HOURS
CHEM 3520, Physical Chemistry II	3
Elective (advanced) ¹⁶	4
Science (advanced) ²⁹	4
Understanding of Ideas and Values ⁸	3
Understanding of Ideas and Values ⁸	<u>3</u>
Total	17

Actual degree plans may vary depending on availability of courses in a given semester.

Some courses may require prerequisites not listed.

See Arts and Sciences folding key (#2) for footnotes.

Summary of Degree Requirements:

Biochemistry/Chemistry (24 advanced):	40
Biology Minor (12 advanced):	20
Mathematics:	7
Physics:	8
Computer Science:	0-3
Division of Science Electives (4 advanced):	6
Core:	
English	12
History	6
Political Science	6
Wellness	2-3
Economics	3
Understanding of Ideas and Values	6
Visual and Performing Arts	3
Philosophy	3
Foreign Language:	6
Electives:	0-9
Oral Communication Skills Competency:	0-3

Note:

42 hours must be advanced;

24 advanced hours must be taken at UNT.

24 of the last 30 hours must be completed at UNT.

A total of 84 hours in science, of which 40 must be advanced.\
