

BIOCHEMISTRY - BS

Program Requirements

First Year

Fall		Semester Credit Hours
BICH 101/ GENE 101	Perspectives in Biochemistry and Genetics	1
CHEM 119	Fundamentals of Chemistry I	4
ENGL 104	Composition and Rhetoric	3
MATH 151 or MATH 171	Engineering Mathematics I or Calculus I	4
Free elective ¹		3
Semester Credit Hours		15

Spring

BIOL 111	Introductory Biology I	4
CHEM 120	Fundamentals of Chemistry II	4
MATH 152 or MATH 172	Engineering Mathematics II or Calculus II	4
University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ²		3
Semester Credit Hours		15

Second Year

Fall		Semester Credit Hours
BIOL 112	Introductory Biology II	4
CHEM 227	Organic Chemistry I	3
CHEM 237	Organic Chemistry Laboratory	1
ENGL 210	Technical and Professional Writing	3
MATH 251	Engineering Mathematics III ²	3
Free elective ¹		1
Semester Credit Hours		15

Spring

CHEM 228	Organic Chemistry II	3
CHEM 238	Organic Chemistry Laboratory	1
GENE 302	Principles of Genetics	3
GENE 312	Comprehensive Genetics Laboratory	1
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences	4
University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ²		3
Semester Credit Hours		15

Third Year

Fall		Semester Credit Hours
BICH 404	Biochemical Calculations	2
BICH 440	Biochemistry I ³	3
BICH 491	Research	1

PHYS 207 & PHYS 227	Electricity and Magnetism for Engineering and Science and Electricity and Magnetism Laboratory for the Sciences	4
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University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ²		3
Free Electives ¹		2
Semester Credit Hours		15

Spring

BICH 441	Biochemistry II	3
BICH 414 or BICH 432/ GENE 432	Biochemical Techniques I or Laboratory in Molecular Genetics	2
BICH 491	Research	1
CHEM 327	Physical Chemistry I	3
University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ²		3
Free elective ¹		3
Semester Credit Hours		15

Fourth Year

Fall		Semester Credit Hours
BICH 431/ GENE 431	Molecular Genetics	3
BICH 491	Research	1
BIOL 351	Fundamentals of Microbiology	4
CHEM 328	Physical Chemistry II	3
University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ²		3
Semester Credit Hours		14

Spring

BICH 491	Research ⁴	1
Biochemistry elective (http://catalog.tamu.edu/undergraduate/course-descriptions/bich/) ⁵		6
University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ²		6
Free electives ¹		3
Semester Credit Hours		16
Total Semester Credit Hours		120

¹ Often used for a minor degree. Students intending to pursue and advance degree in biochemistry are strongly encouraged to use some free electives for additional upper division courses in BICH (<http://catalog.tamu.edu/undergraduate/course-descriptions/bich/>), GENE (<http://catalog.tamu.edu/undergraduate/course-descriptions/gene/>), BIOL (<http://catalog.tamu.edu/undergraduate/course-descriptions/biol/>), CHEM (<http://catalog.tamu.edu/undergraduate/course-descriptions/chem/>), MATH (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>) or STAT (<http://catalog.tamu.edu/undergraduate/course-descriptions/stat/>). Except: BICH 303, BICH 410-412 (<http://catalog.tamu.edu/undergraduate/course-descriptions/bich/>); MATH 100-104, 131-148 (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>).

2 Biochemistry - BS

- ² To be selected from the University Core Curriculum (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/>). Of the 21 hours shown as University Core Curriculum (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/>) electives, 3 must be from language, philosophy and culture, 3 from creative arts, 3 from social and behavioral sciences, 6 from American history, 6 from POLS 206 and POLS 207. The Graduation requirements include a requirement for 3 hours of International and Cultural Diversity (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>) courses and 3 hours of Cultural Discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) courses which may be met by courses satisfying the language, philosophy and culture, creative arts, social and behavioral sciences, government/political science and American history requirements if they are also on the approved list of international and cultural diversity courses.
- ³ Before registration in BICH 440, students must have attained a grade of C or better in each of these courses: CHEM 227, CHEM 228, CHEM 237, CHEM 238.
- ⁴ The fourth registered hour of research must be taken as writing intensive.
- ⁵ Hours to be selected from any 400-level course in BICH with approval of student's academic advisor. BICH 404, BICH 414, BICH 431/GENE 431, BICH 432/GENE 432, BICH 440, BICH 441, or BICH 491 may not be used to satisfy this requirement.

Students must make a grade of C or better in all major coursework used to satisfy degree plan.