Bachelor of Science in Biological Chemistry

About This Program

Bachelor of Science in Biochemistry is recommended to students who plan to enter into graduate study in biochemistry and for those who anticipate professional careers as biochemists. This program is also suitable for premedical and predental students and for training in allied health sciences. This is an American Chemical Society certified program.

Competencies

1. Students will gain knowledge of an essential core of knowledge in chemistry, including organic, inorganic, physical, and biochemistry.
2. Students will communicate, both orally and in writing, chemical topics relevant to their field of interest.
3. Students will be able to read and analyze scientific papers in their area of interest.
4. Students will obtain standard laboratory skills and techniques that are relevant to the study of all areas of chemistry.
5. Students will gain fundamental knowledge of theory and operation of modern chemical instrumentation.

Curriculum

Foundations		
General Core Requirements (https://catalog.uta.edu/academicregulations/degreerequirements/generalcorerequirements/)		42
Students must complete specific courses within certain core areas.		
For Communication select:		
ENGL 1301 & ENGL 1302	RHETORIC AND COMPOSITION I and RHETORIC AND COMPOSITION II	
For Mathematics select:		
MATH 1426	CALCULUS I	
MATH 2425	CALCULUS II	
For Life and Physical Sciences select:		
PHYS 1443	GENERAL TECHNICAL PHYSICS I	
PHYS 1444	GENERAL TECHNICAL PHYSICS II	
For US History select:		
HIST 1301	HISTORY OF THE UNITED STATES TO 1865	
HIST 1302	HISTORY OF THE UNITED STATES, 1865 TO PRESENT	
Biochemistry Foundations		
Additional hours in required core courses.		4
CHEM 1101	SUCCESS IN CHEMISTRY AND BIOCHEMISTRY	1
MATH 2326	CALCULUS III	3
BIOL 1441	BIOLOGY I FOR SCIENCE MAJORS: CELL AND MOLECULAR BIOLOGY	4
BIOL 3315	GENETICS	3
BIOL 2444	GENERAL MICROBIOLOGY	4
Biochemistry Specialization		
CHEM 1341	GENERAL CHEMISTRY I	3
CHEM 1181	GENERAL CHEMISTRY I LABORATORY FOR ADVANCED CHEMICAL TECHNOLOGIES	1
CHEM 1342	GENERAL CHEMISTRY II	3
CHEM 1182	GENERAL CHEMISTRY II LABORATORY FOR ADVANCED CHEMICAL TECHNOLOGIES	1
CHEM 2321	ORGANIC CHEMISTRY I	3
CHEM 2322	ORGANIC CHEMISTRY II	3
CHEM 2335	QUANTITATIVE CHEMISTRY	3
CHEM 2283	SYNTHESIS AND ANALYSIS LABORATORY I	2
CHEM 2284	SYNTHESIS AND ANALYSIS LABORATORY II	2
CHEM 3321	PHYSICAL CHEMISTRY I	3
CHEM 3181	PHYSICAL CHEMISTRY I LABORATORY	1
CHEM 3322	PHYSICAL CHEMISTRY II	3
CHEM 3182	PHYSICAL CHEMISTRY II LABORATORY	1

CHEM 4242	LABORATORY TECHNIQUES IN BIOCHEMISTRY	2
CHEM 4311	BIOCHEMISTRY I	3
CHEM 4312	BIOCHEMISTRY II	3
CHEM 4313	METABOLISM AND REGULATION	3
or CHEM 4316	BIOCHEMICAL GENETICS	
CHEM 4314	ENZYMOLOGY	3
CHEM 3317	INORGANIC CHEMISTRY	3
or CHEM 4318	INORGANIC CHEMISTRY	
CHEM 4346	ADVANCED SYNTHETIC METHODS	3
CHEM 4461	INSTRUMENTAL ANALYSIS	4
Select 3000/4000 level electives sufficient to meet the 36 advanced hours requirement.		1
Select electives sufficient to complete 120 hours.		5
Total Hours		**120**

SUGGESTED COURSE SEQUENCE

First Year

First Semester	Hours	Second Semester	Hours
CHEM 1341	3	CHEM 1342	3
CHEM 1181	1	CHEM 1182	1
BIOL 1441	4	BIOL 1442	4
ENGL 1301	3	MATH 1426	4
MATH 1421	4	ENGL 1302	3
CHEM 1101	1		
	16		**15**

Second Year

First Semester	Hours	Second Semester	Hours
CHEM 2321	3	CHEM 2322	3
CHEM 2335	3	CHEM 2284	2
CHEM 2283	2	PHYS 1442	4
PHYS 1441	4	BIOL 3315	3
MATH 2425	4	Language, Philosophy, and Culture	3
	16		**15**

Third Year

First Semester	Hours	Second Semester	Hours
CHEM 3315	3	CHEM 4242	2
CHEM 3175	1	CHEM 4312	3
CHEM 4311	3	BIOL 3301, 3312, or 3442[1]	3
BIOL 2444	4	HIST 1302	3
HIST 1301	3	Foundational Component Area	3
Social and Behavioral Sciences	3		
	17		**14**

Fourth Year

First Semester	Hours	Second Semester	Hours
CHEM 3317 or 4318	3	CHEM 4461	4
CHEM 4313 or 4316	3	CHEM 4314	3
POLS 2311	3	POLS 2312	3
Elective	1	Creative Arts	3
		Advanced Elective	4
	10		**17**

Total Hours: 120

Advising Resources

First time in college students should plan to speak to a program advisor when starting their second year. Transfer students should be advised prior to New Maverick Orientation.

Location:

SH 303

Email:

chemugradadvisor@uta.edu

Phone:

817-272-9687

Web:

Advising Information (https://www.uta.edu/academics/schools-colleges/science/departments/chemistry/advising/)