



SMART CHOICE



**NORTHEASTERN
STATE UNIVERSITY**

Gregg Wadley College of Science & Health Professions

Chemistry – Biochemistry Option (AS Chemistry – BS Chemistry - Biochemistry)

Chemistry – Biochemistry Emphasis. Chemistry courses provide a sound background in chemical principles and challenge students to develop excellent problem-solving skills. Obtaining an undergraduate degree in chemistry prepares you for many different careers, including employment as a research chemist or a lab technician in industrial quality control, environmental assessment, forensics, patent law or education. Furthermore, the biochemistry track prepares you for pursuing advanced degrees or in entering health-related professional schools (medical, pharmacy, dental, optometry, chiropractic, etc.).

Major guidelines / regulations. The chemistry program at NSU is accredited by the American Chemical Society (ACS). Having an ACS approved program means that NSU is committed to providing you with a broadly based and intellectually challenging experience in chemistry. The Chemistry-Biochemistry degree can be certified by the ACS if the student takes Inorganic Chemistry (CHEM 3413), Physical Chemistry I (CHEM 4524), Calculus II (MATH 2624), and General Physics II (PHYS 1215) or Engineering Physics II (PHYS 2215). The certified degree is valuable to the graduate because of the personal satisfaction of completing a rigorous program and the assurance of better preparation for a career in chemistry.

What it takes to complete a B.S. in Chemistry from NSU. If you don't complete your AA or AS at TCC, you will need to meet NSU's specific general education requirements. You must complete at least 124 hours to earn a bachelor's degree. Of those hours, 60 must be from a university (4 year school; 30 hours required from NSU), 40 must be junior and senior (3000/4000) level, and half of the hours (50%) in your major must be from NSU. You must also be both English and computer proficient. This means that you must pass ENGL 1113 Composition I & ENGL Composition II with a "C" or better and pass the designated computer proficiency class if needed. Therefore, when you transfer to NSU, you will likely need around 60 more hours to earn your bachelor's degree.

Transferring to NSU is a seamless process. Although you can transfer to NSU at any time in your academic career, the smoothest transition occurs if you have earned or will earn an A.A. or A.S. from TCC. This milestone will also meet your general education requirements at NSU (unless it is a specific NSU requirement for you to graduate). We recommend you complete the following required general education courses at TCC as part of your A.S. curriculum: ENG 1113, ENG 1213, MATH 1513, plus CHEM 1315 and CHEM 1415.

How do my TCC classes transfer to NSU? Every class that you take at TCC will transfer to NSU. Every class you take at TCC will transfer to NSU. Each class counts in one of the following categories that make up a bachelor's degree: general education, major, minor, or free elective. Minors (18 hours) are a coherent set of courses in a discipline or interdisciplinary grouping other than a student's degree program. **This program option requires a minor.** Free electives can be selected from any academic area. They allow you to explore academic interests outside of your major while counting toward the 124 hours you need to graduate. If you completed a class at TCC that does not meet one of the other specific requirements, it will count as a free elective. If you complete more than 64 hours at the associate degree level, all courses will transfer to NSU, but may be counted as electives. You must have 60 hours from a four-year institution to meet state requirements for graduation with a baccalaureate degree.

When can you start taking NSU classes? You can begin taking classes at NSU while you are completing your A.A. or A.S. at TCC. This is called dual enrollment and many students do this each semester. Consult an NSU academic advisor and a financial aid counselor to see how dual enrollment can work for you.

TCC Chemistry A.S. to NSU Chemistry – Biochemistry Option, B.S.

Chemistry, AS
Freshman Year at Tulsa Community College

Fall Semester	Spring Semester
ENGL 1113 Composition I	ENGL 1213 Composition II
POLS 1113 American Federal Government	CHEM 1415 General Chemistry II
MATH 1613 Precalculus II	MATH 2114 Analytical Geometry & Calculus I
CHEM 1315 General Chemistry I	BIOL 1224 Introduction to Biology for Majors at TCC*
COMM 1113 Public Speaking	
Total Credit Hours: 17	Total Credit Hours: 16

Notes: Computer Concepts & Applications (CSCI 1203) may be required for students who do not demonstrate computer proficiency. See TCC Catalog.

MATH 1513 Precalculus I is a prerequisite for MATH 1613 Precalculus II.

*BIOL 1224 is a required course for the Chemistry – Biochemistry B.S. at NSU.

Chemistry, AS
Sophomore Year at Tulsa Community College

Fall Semester	Spring Semester
CHEM 2145 Organic Chemistry I or CHEM 3123 and CHEM 3132 Organic Chemistry I dual enrollment at NSU-BA*	CHEM 2245 Organic Chemistry II or CHEM 3223 and 3232 Organic Chemistry II dual enrollment at NSU-BA*
PHYS 2034 Engineering Physics I	PHYS 2124 Engineering Physics II
MATH 2124 Analytical Geometry & Calculus II	HIST 1483 or 1493 U.S. History to the Civil War Era or Civil War Era to present
Humanities (3 hours)	Elective (3 hrs) Psychology, Social Science, Foreign Language, or Fine Arts
	Humanities (3 hours)
Total Credit Hours: 16	Total Credit Hours: 18

Notes: MATH 2124 is recommended. MATH 2124 is not required for the Chemistry – Biochemistry degree but is a prerequisite for CHEM 4524.

*It is recommended that students take both semesters of organic chemistry at the same institution. To maximize the number of hours which transfer from TCC to NSU, we strongly recommend that students take organic chemistry at NSU.

After completion of your fourth semester courses, have the TCC Registrar send an official transcript to the NSU Admissions Office. If you have completed all requirements for an Associate degree, make sure that designation is noted on your TCC official transcript before sending to NSU. If you have not completed the requirements for an Associate degree, talk with your TCC Academic Advisor about Reverse Transfer options to use NSU coursework to complete your TCC degree.

Chemistry - Biochemistry, BS
Junior Year at Northeastern State University

Fall Semester	Spring Semester
CHEM 4524 Physical Chemistry I or CHEM 4313 Biophysical Chemistry	BIOL 3124 Cell Biology
MATH 3513 Statistical Methods	CHEM 4214 Biochemistry
Minor course work (6 hrs)	CHEM 4221 Biochemistry Lab
Electives 3000/4000 (3 hrs)	Minor course work (3 hrs)
	Electives 3000/4000 (3 hrs)
Total Credit Hours: 16	Total Credit Hours: 15

Chemistry - Biochemistry, BS
Senior Year at Northeastern State University

Fall Semester	Spring Semester
CHEM 3315 Quantitative Analysis	CHEM 4911 Chemistry Seminar
CHEM 4412 Research in Chemistry I	CHEM 3000/4000 Elective (3hrs)
CHEM 4723 Advanced Biochemistry	Minor course work (3 hrs)
Minor course work (6 hrs)	Electives 3000/4000 (9 hrs.)
Total Credit Hours: 16	Total Credit Hours: 13

Total hours transferred from Tulsa Community college: **64-67**

Total hours needed from a 4 year university to complete a Bachelor of Science in Chemistry – Biochemistry: **60**

Total Degree Plan Hours: 124

For further information, contact Dr. Jessica Martin, Department Chair, Natural Sciences, 918-444-3830, martinj@nsuok.edu

<https://academics.nsuok.edu/naturalsciences/Degrees/Undergraduate/ChemistryBS.aspx#biochemistry>