

MASTER OF SCIENCE IN CHEMISTRY (RESEARCH)

Web Site: <https://twu.edu/chemistry-biochemistry/graduate-program/>

We offer the M.S. degree in chemistry with research focuses in biochemistry, biophysical chemistry, organic chemistry, and inorganic/materials chemistry. A course of study and research will be custom-designed by a faculty committee to suit your individual research interests and career goals.

As a master's degree-seeking student, you will be required to take a minimum of four basic chemistry courses in order to establish a strong foundation in the field. You will then be encouraged to take analytical, biological, inorganic, organic, and/or physical chemistry advanced graduate courses to gain more in-depth perspectives. There are two pathways to our master's degree: a research path, or a coursework path with a science or business track emphasis.

Marketable Skills

Defined by the Texas Higher Education Coordinating Board's 60x30 Strategic Plan (<https://reportcenter.highered.texas.gov/agency-publication/miscellaneous/theccb-60x30-strategic-plan/>) as, "Those skills valued by employers that can be applied in a variety of work settings, including interpersonal, cognitive, and applied skills areas. These skills can be either primary or complementary to a major and are acquired by students through education, including curricular, co-curricular, and extracurricular activities."

- As a member of a graduate teaching lab team and research team, you will learn how to work and communicate with diverse team members.
- By writing laboratory reports, papers, and a thesis, coupled with presenting your work to your peers, at conferences, or to the general public, you will gain valuable verbal and written communication skills.
- With our departmental focus on civic engagement and laboratory safety as our first priority, you will understand social and personal responsibility.
- Finally, since earning a degree in any field of chemistry naturally requires excellent problem-solving and critical-thinking skills related to chemistry, these skills can also be used to address other issues and solve other problems.

Admissions

All students must meet the University requirements as outlined in the Admission to the TWU Graduate School (<http://catalog.twu.edu/graduate/graduate-school/admission-graduate-school/>) section of the catalog.

This academic program may have additional admission criteria that must also be completed as outlined on the program's website.

Degree Requirements

Total Semester Credit Hours Required

30 semester credit hours (SCH).

Required Courses

16-17 SCH of chemistry coursework (excluding research, seminar, professional paper, and thesis) approved by an advisory committee.

Research track students must enroll in CHEM 5101 a minimum of four times. It is recommended students enroll in CHEM 5101 each semester if taking six or more SCH.

Research Track (30 semester credit hours)

Code	Title	SCHs
Required Chemistry Courses (16 SCH)		
CHEM 5101	Seminar (take a minimum of 4 times)	4
Select 12 SCH from the following		12
CHEM 5013	Advanced Physical Chemistry	
CHEM 5213	Advanced Organic Chemistry	
CHEM 5323	Advanced Analytical Chemistry	
CHEM 5523	Advanced Inorganic Chemistry	
CHEM 5613	Advanced Biochemistry I	
CHEM 5623	Advanced Biochemistry II	
Electives		
Select 8 SCH from the following		8
CHEM 5101	Seminar (may be repeated)	
CHEM 5891	Research in Chemistry (may be repeated)	
CHEM 5893	Research in Chemistry (may be repeated)	
CHEM 5896	Research in Chemistry	
Other courses as approved by advisor.		
Completion of Track		
CHEM 5983	Thesis	3
CHEM 5993	Thesis	3
Total SCHs		30

Final Examination

All candidates for master's degrees must pass a final oral examination administered by the student's research committee.