MASTER OF SCIENCE IN CHEMISTRY

The Master of Science in Chemistry is designed to train chemists for careers in business, industry, or academics. This degree is also appropriate for those students planning to continue their training in Ph.D. programs at other institutions.

Additional information: Reference the Program Landing Page (https://www.shsu.edu/programs/graduate/chemistry/) for additional information, such as cost, delivery format, contact information, or to schedule a visit.

Applicants seeking admission to the graduate program in chemistry must submit the following directly to the Office of Graduate Admissions (https://www.shsu.edu/dept/graduate-admissions/prospective-students.html):

1. Graduate Application (http://www.shsu.edu/admissions/apply-texas.html)
2. Application fee (http://www.shsu.edu/dept/graduate-studies/application-fee.html)
3. Official transcript(s) of all previous college work
4. Three letters of recommendation

Applicants must have a major or minor in chemistry (with at least a 2.5 GPA in their undergraduate chemistry courses typically including Analytical or Quantitative Chemistry, Instrumental Methods, one year of calculus-based Physical Chemistry, and Inorganic Chemistry) or commensurate industrial experience. While GRE scores are not required, they may be submitted with the application for consideration during application review.

For a final admissions decision, a holistic review of each student's application file will be completed on a competitive basis. Currently a 3.0 GPA is required for financial support.

The Department of Chemistry (https://www.shsu.edu/academics/chemistry/) offers classes in a wide variety of chemical subjects including analytical, forensic, inorganic, organic, physical, and polymer chemistry, toxicology, and biochemistry.

Master of Science, 31 SCH with Minor and Thesis

Code	Title	Hours
Course Area		
Chemistry		13
Research and Thesis		6
Minor field that logically supports the major (Computing Science, Mathematics, Physics, Biology, etc.)		12
Total Hours		**31**

Plan 1 - MS in Chemistry (Thesis Option)

Code	Title	Hours
Master of Science, 31 Semester Hours with Minor and Thesis		
Specified Courses		
CHEM 5100	Chemical Literature & Seminar	1
CHEM 6398	Graduate Research in Chemistry [1]	3
Restricted Electives		
Select one course from four of the of the following five areas:		12
Organic		
CHEM 5361	Physical Organic Chemistry	
CHEM 5362	Organic Reaction Mechanisms	
Analytical		
CHEM 5368	Analytical Spectroscopy	
CHEM 5367	Chemical Nano Sensing	
Biochemistry		
CHEM 5372	Advanced Biochemistry I	
CHEM 5373	Drug and Toxin Biochemistry	
Inorganic		
CHEM 5374	Chem of Coordination Compounds	
CHEM 5375	Organometallic Chemistry	
Physical		
CHEM 5381	Adv Physl Chem Thermodynamics	

CHEM 5382	Symmetry and Spectrscopy	
Secondary Field		
Select four graduate courses in a field that logically supports the major [2]		12
Thesis		
CHEM 6099	Thesis [3]	3
Total Hours		**31**

1. Receives a grade of "IP" until the final semester the research project is completed.
2. Courses should be selected in consultation with the Graduate Advisor.
3. Once enrolled in CHEM 6099, the student must enroll in this course every semester until graduation.

Master of Science, 30 SCH without Minor and with Thesis

Code	Title	Hours
Course Area		
Chemistry		24
Research and Thesis		6
Total Hours		**30**

Plan 2 - MS in Chemistry (Thesis Option)

Code	Title	Hours
Master of Science, 30 Semester Hours without Minor and with Thesis		
Specified Courses		
CHEM 5100	Chemical Literature & Seminar	1
CHEM 6398	Graduate Research in Chemistry [1]	3
Restricted Electives		
Select one course from four of the following five areas:		12
Organic		
CHEM 5361	Physical Organic Chemistry	
CHEM 5362	Organic Reaction Mechanisms	
Analytical		
CHEM 5368	Analytical Spectroscopy	
CHEM 5367	Chemical Nano Sensing	
Biochemistry		
CHEM 5372	Advanced Biochemistry I	
CHEM 5373	Drug and Toxin Biochemistry	
Inorganic		
CHEM 5374	Chem of Coordination Compounds	
CHEM 5375	Organometallic Chemistry	
Physical		
CHEM 5381	Adv Physl Chem Thermodynamics	
CHEM 5382	Symmetry and Spectrscopy	
Electives		
Select four graduate courses in CHEM [2]		11
Thesis		
CHEM 6099	Thesis [3]	3
Total Hours		**30**

1. Receives a grade of "IP" until the final semester the research project is completed.
2. Courses should be selected in consultation with the Graduate Advisor. The student may take CHEM 5100 two additional times for a total of three credit hours.
3. Once enrolled in CHEM 6099, the student must enroll in this course every semester until graduation.

Master of Science, 36 SCH with Minor, Non-Thesis

Code	Title	Hours
Course Area		
Chemistry		24
Minor field that logically supports the major (Computing Science, Mathematics, Physics, Biology, etc.)		12
Total Hours		**36**

Plan 3 - MS in Chemistry (Non-Thesis Option)

Code	Title	Hours
Master of Science, 36 Semester Hours with Minor, Non-Thesis		
Specified Courses		
CHEM 5100	Chemical Literature & Seminar [1]	3
CHEM 6398	Graduate Research in Chemistry	3
Restricted Electives		
Select one course from four of the following five areas:		12
Organic		
CHEM 5361	Physical Organic Chemistry	
CHEM 5362	Organic Reaction Mechanisms	
Analytical		
CHEM 5368	Analytical Spectroscopy	
CHEM 5367	Chemical Nano Sensing	
Biochemistry		
CHEM 5372	Advanced Biochemistry I	
CHEM 5373	Drug and Toxin Biochemistry	
Inorganic		
CHEM 5374	Chem of Coordination Compounds	
CHEM 5375	Organometallic Chemistry	
Physical		
CHEM 5381	Adv Physl Chem Thermodynamics	
CHEM 5382	Symmetry and Spectrscopy	
Electives		
Select two graduate courses in CHEM		6
Secondary Field		
Select four graduate courses in PHYS, BIOL, or MATH [2]		12
Total Hours		**36**

1. CHEM 5100 must be taken three times for a total of three credit hours.
2. Courses should be selected in consultation with the Graduate Advisor.

Master of Science, 36 SCH without Minor, Non-Thesis

Code	Title	Hours
Course Area		
Chemistry		36
Total Hours		**36**

Plan 4 - MS in Chemistry (Non-Thesis Option)

Code	Title	Hours
Master of Science, 36 Semester Hours without Minor, Non-Thesis		
Specified Courses		
CHEM 5100	Chemical Literature & Seminar [1]	3
CHEM 6398	Graduate Research in Chemistry	3
Restricted Electives		

Select four of the following:		12
CHEM 5361	Physical Organic Chemistry	
CHEM 5362	Organic Reaction Mechanisms	
CHEM 5368	Analytical Spectroscopy	
CHEM 5372	Advanced Biochemistry I	
CHEM 5374	Chem of Coordination Compounds	
CHEM 5381	Adv Physl Chem Thermodynamics	
CHEM 5385	Selected Topics in Adv Chem	
Electives		
Select six graduate courses in CHEM		18
Total Hours		**36**

[1] CHEM 5100 must be taken three times for a total of three credit hours.

The Texas Higher Education Coordinating Board (THECB) marketable skills initiative is part of the state's **60x30TX plan** and was designed to help students articulate their skills to employers. Marketable skills are those skills valued by employers and/or graduate programs that can be applied in a variety of work or education settings and may include interpersonal, cognitive, and applied skill areas.

The MS in Chemistry is designed to provide graduates with the following marketable skills:

- Work safely with standard chemicals in a chemistry laboratory.
- Keep thorough and accurate records of chemistry experiments.
- Write final research reports and orally present results of experiments.
- Analyze and interpret experimental data, including spectrophotometric data.
- Understand the use of the major methods of purification of chemical compounds, including chromatographic techniques.