

Chemistry, MS

General requirements of the Graduate School under Plan I or Plan II must be satisfied.

Plan I – Master of Science with Thesis

Up to 12 semester hours of the course requirements may be accepted as transfer credits from graduate work done in other Chemistry programs.

Code	Title	Semester Hours
Fields		
Select one course from each of the following fields:		12
Analytical:		
CH 521	CHEMICAL INSTRUMENTATION	
CH 549	SPECTROSCOPY & MOLEC STR	
CH 621	METHODS OF CHEMICAL ANALYSIS	
CH 633	ORGANIC STRUCTURE DETERMINAT'N ¹	
Inorganic:		
CH 600	ADV INORGANIC CHEMISTRY	
Organic:		
CH 631	SYNTHETIC ORGANIC CHEMISTRY	
CH 632	PHYSICAL ORGANIC CHEMISTRY	
CH 633	ORGANIC STRUCTURE DETERMINAT'N ¹	
CH 634	MOLECULAR MODELING	
Physical Chemistry:		
CH 640	ADV CHEMICAL THERMODYNAMICS	
CH 641	STATIST THERMODYNAMICS	
CH 642	ADV CHEMICAL DYNAMICS	
CH 643	QUANTUM CHEMISTRY	
CH 646	THERMODYNAMICS OF MATRLS	
CH 647	ADV BIOPHYSICAL CHEMISTRY I	
CH 648	ADV BIOPHYSICAL CHEMISTRY II	
Select one course from one of the following fields:		3
Biochemistry:		
CH 561	BIOCHEMISTRY I	
CH 562	BIOCHEMISTRY II	
Polymer:		
CH 540	POLYMER SYNTHESIS & CHARACTERI	
CH 645	POLYMER PHYSICAL CHEMISTRY	
Select one course from your field of study		3
Select two additional courses of choice		6
Total Semester Hours		24

¹ CH 633 can only be applied to one area: Organic or Analytical Chemistry

Plan II – Master of Science without Thesis

Graduate students entering Plan II must qualify by meeting one of the following preliminary examination requirements:

- Passing ACS exams in biochemistry, inorganic chemistry, organic chemistry or physical chemistry.
- Having previously passed at least two sections of the Materials Science Program Exam I.
- Having previously passed the Biotechnology Science and Engineering Preliminary Exam.

Code	Title	Semester Hours
Fields		
Select one course from each of the following fields:		12
Analytical:		
CH 521	CHEMICAL INSTRUMENTATION	
CH 549	SPECTROSCOPY & MOLEC STR	
CH 621	METHODS OF CHEMICAL ANALYSIS	
CH 633	ORGANIC STRUCTURE DETERMINAT'N ¹	
Inorganic:		
CH 600	ADV INORGANIC CHEMISTRY	
Organic:		
CH 631	SYNTHETIC ORGANIC CHEMISTRY	
CH 632	PHYSICAL ORGANIC CHEMISTRY	
CH 633	ORGANIC STRUCTURE DETERMINAT'N ¹	
CH 634	MOLECULAR MODELING	
Physical Chemistry:		
CH 640	ADV CHEMICAL THERMODYNAMICS	
CH 641	STATIST THERMODYNAMICS	
CH 642	ADV CHEMICAL DYNAMICS	
CH 643	QUANTUM CHEMISTRY	
CH 646	THERMODYNAMICS OF MATRLS	
CH 647	ADV BIOPHYSICAL CHEMISTRY I	
CH 648	ADV BIOPHYSICAL CHEMISTRY II	
Select one course from one of the following fields:		3
Biochemistry:		
CH 561	BIOCHEMISTRY I	
CH 562	BIOCHEMISTRY II	
Polymer:		
CH 540	POLYMER SYNTHESIS & CHARACTERI	
CH 645	POLYMER PHYSICAL CHEMISTRY	
Select at least 18 semester hours in graduate coursework in chemistry or related fields		18
Total Semester Hours		33

¹ CH 633 can only be applied to one area: Organic or Analytical Chemistry

At least 18 semester hours out of the 33 total semester hours must be in Chemistry.

Plan II requires a program of study drawn up by the student and the Chemistry M.S. degree program advisor. Students must also complete two credit hours of CH 780. Plan II is not recommended for students seeking employment as industrial laboratory chemists because it does not require any experimental work.

Non-Traditional Fifth-Year Program Leading to the M.S. in Chemistry Plus a Class A Alabama High School Teacher's Certificate

Those who have a B.A. or B.S. degree with a major or its equivalent in Chemistry as determined by the Department of Chemistry, who have not taken more than twelve semester hours in teacher education (graduate or undergraduate), and who are interested in obtaining Class A (master's level) certification for secondary school teaching, should consider the Non-Traditional Fifth-Year Program. Contact the College of Education for preliminary advisement on admission and general program requirements. See the description in the Education section for more details.