Chemistry, MS

General requirements of the School of Graduate Studies 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.

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

Inorganic:
CH 600 ADV INORGANIC CHEMISTRY

Organic:
CH 631 SYNTHETIC ORGANIC CHEMISTRY
CH 632 PHYSICAL ORGANIC CHEMISTRY
CH 633 ORGANIC STRUCTURE DETERMINATN
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

Plan II – Master of Science without Thesis

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

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

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

Inorganic:
CH 600 ADV INORGANIC CHEMISTRY

Organic:
CH 631 SYNTHETIC ORGANIC CHEMISTRY
CH 632 PHYSICAL ORGANIC CHEMISTRY
CH 633 ORGANIC STRUCTURE DETERMINATION
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 MATERIALS
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 & CHARACTERIZATION
CH 645 POLYMER PHYSICAL CHEMISTRY

Select at least 18 semester hours in graduate coursework in chemistry or related fields 18

Total Semester Hours 33

Of the total of 33 semester hours of coursework required under Plan II, at least 18 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 register for CH 780 during at least four semesters. 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 Education Department for preliminary advisement on admission and general program requirements. See the description in the Education section for more details.