CHEMISTRY, M.S.

The M.S. in Chemistry gives students the opportunity to develop and demonstrate their potential for work in biochemistry and attracts individuals who have been out of an academic environment for some time or who wish to bolster their undergraduate science experience. The successful candidate will be prepared for positions of responsibility in industry or government or for further study toward a doctoral degree.

The required 30 credit hours includes courses in the four major areas of chemistry (analytical, inorganic, organic, and physical), courses in other areas, and a research thesis based on original research carried out under the direction of a faculty advisor. In addition, the student gains experience in professional speaking by preparing and presenting two public seminars.

For information regarding deadlines and requirements for admission, please see https://grs.uncg.edu/programs/.

In addition to the application materials required by the Graduate School, applicants must submit a one-page personal statement by the appropriate deadline to be considered for Fall, Spring, or Summer admission.

The reporting of GRE scores, general and subject test, is optional. GRE scores will only be taken into consideration for admission if scores are reported by the applicant.

Degree Program Requirements

Required: 30 credit hours

Code	Title	Credit Hours
Required Core Courses (12 credits)		
CHE 553	Advanced Organic Chemistry I	3
CHE 632	Advanced Analytical Chemistry	3
CHE 641	Advanced Inorganic Chemistry	3
CHE 661	Advanced Physical Chemistry I	3
Research Techniques (6-13 credits)		
CHE 691	Introduction to Graduate Research	1
CHE 680	Research Problems in Chemistry and Biochemistry	1-6
CHE 699	Thesis	1-6
Seminars (2 credits)		
CHE 601	Graduate Seminar I	1
CHE 602	Graduate Seminar II	1
Electives (6 credits minimum)		
Select at least 6 credits of elective courses		6
Total Credit Hours		**30**

Research Techniques

Students take CHE 691 before beginning research. Students must carry out a research project under the supervision of a faculty member and write a thesis on the research (CHE 699). Students may take additional research hours of CHE 680 and up to 6 credits of CHE 699 for a total of 12 credits.

Seminars

Students must present two seminars, the first on a literature topic (CHE 601) and the second on their thesis research (CHE 602), normally given during the last semester of study.

Electives

Up to 9 credits may be earned in chemistry or biochemistry or in approved (by Department Graduate Studies Committee and student's research advisor) graduate courses in biology, mathematics or physics.

Comprehensive Examination

The comprehensive examination consists of a research proposal on the student's thesis research, including a literature review. The proposal must be approved by the student's thesis committee before the student may enroll in CHE 699.

Thesis Defense

Students must defend the completed thesis before the thesis committee.

Biochemistry Concentration

Required: 30 credit hours

The concentration in Biochemistry gives M.S. Chemistry students the opportunity to demonstrate and develop specialization for work in biochemistry. The successful candidate will be prepared for positions of responsibility in industry or government or for further study toward a doctoral or other professional degree.

The required 30 credit hours for this concentration include a specialized core of introductory and advanced biochemistry courses, courses in chemistry and other areas, and a research thesis based on original research carried out under the direction of a faculty advisor. In addition, the student gains experience in professional speaking by preparing and presenting two public seminars.

Code	Title	Credit Hours
Required Courses (12 credits)		
CHE 556	Biochemistry I	3
CHE 557	Biochemistry II	3
CHE 656	Enzyme Mechanisms	3
CHE 663	Spectroscopy and Structure of Proteins and Nucleic Acids	3
Chemistry Core Elective (3 credits)		
Select one course (3 credits) from the following:		3
CHE 553	Advanced Organic Chemistry I	
CHE 632	Advanced Analytical Chemistry	
CHE 641	Advanced Inorganic Chemistry	
CHE 661	Advanced Physical Chemistry I	
Electives (3 credits minimum)		
Select 3 credits of elective courses *		3
Research Techniques (6-13 credits)		
CHE 691	Introduction to Graduate Research	1
CHE 680	Research Problems in Chemistry and Biochemistry	1-6
CHE 699	Thesis **	1-6
Seminars (2 credits)		
CHE 601	Graduate Seminar I	1

CHE 602	Graduate Seminar II	1
Total Credit Hours		**30**

* *In biochemistry or from courses approved by the Department Graduate Studies Committee in areas related to biochemistry (cell biology, genetics, microbiology, metabolism, biophysics, or other areas).*

** *Indicates Capstone Experience.*

Electives

Additional courses needed to bring the total credits up to at least 30 should be chosen from graduate-level chemistry and biochemistry courses offered by the department or from approved biochemistry-related courses.

Research Techniques

Students take CHE 691 before beginning research. Students must carry out a research project under the supervision of a faculty member and write a thesis on the research (CHE 699). Students may take additional research hours of CHE 680 and up to 6 credits of CHE 699 for a total of 12 credits.

Seminars

Students must present two seminars, the first on a literature topic (CHE 601) and the second on their thesis research (CHE 602), normally given during the last semester of study.

Comprehensive Examination

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