

Chemistry

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Degree: Master of Science
Major: Chemistry
Emphases: Chemistry (Analytical, Biochemistry, Inorganic, Organic, Physical)

The degree of Master of Science with a major in Chemistry offers advanced study in the classical subdisciplines of chemistry (Analytical, Biochemistry, Inorganic, Organic and Physical). The program of study is designed to prepare students for the job market and for further study in Ph.D. programs. To begin the Master of Science program in chemistry, a student must:

1. Meet Graduate School admission requirements.
2. Have earned a bachelor's degree.
3. Have completed basic courses in general (one year), organic (one year), and analytical (one semester) chemistry together with calculus (one year) and physics (one year).
4. Submit a personal statement including career goals to the department.
5. Submit at least two letters of recommendation to the department.
6. Be approved by the department graduate faculty.

Students lacking sufficient background in chemistry may be admitted with the stipulation that appropriate leveling courses will be completed in addition to graduate degree requirements. A first-semester graduate student must take field examinations in analytical, inorganic, organic and physical chemistry on the first available dates prior to initial graduate enrollment. Students who fail any of these examinations must take an appropriate undergraduate-level course and obtain at least a "B" grade in the course before being allowed to enroll in graduate-level courses in that area. Students who fail to take these examinations will not be allowed to enroll in graduate-level courses.

Specific requirements for the degree of Master of Science with a major in Chemistry:

Thesis Plan

1. Preliminary examinations: to assess writing skills and overall knowledge of chemistry (to be taken prior to the first semester of enrollment). American Chemical Society placement examinations will be used to assess chemistry proficiency.
2. Required courses:
 - a. 24 graduate credit hours in coursework which includes nine credit hours chosen from the following list of core courses, plus 15 credits in graduate-level electives in chemistry or other related areas (e.g., Mathematics, Computer Science, Biology) planned by the student and his or her graduate advisory committee:
 - CHEM 510 Advanced Analytical Chemistry
 - CHEM 513 Advanced Physical Chemistry
 - CHEM 522 Advanced Inorganic Chemistry
 - CHEM 541 Physical Organic Chemistry
 - CHEM 552 Biochemistry
 A maximum of four credit hours from areas other than chemistry can be applied to graduation requirements. Courses taken for audit cannot be applied to graduation requirements.
 - b. two credit hours of Graduate Seminar CHEM 591 (Students are expected to attend all departmental seminars in addition to enrolling in the seminar course).
 - c. six credit hours Master's Thesis, CHEM 599.

3. M.S. Thesis: refer to Graduate School for specific thesis guidelines and timetables.
4. Oral final comprehensive examination: a verbal assessment of the student's knowledge of chemistry and related emphasis areas during the final semester of enrollment (includes oral defense of thesis).
5. Written final comprehensive examination: to assess knowledge of chemistry and related emphasis areas as appropriate during the final semester of enrollment.
4. Written final comprehensive examination: to assess knowledge of chemistry and related emphasis areas as appropriate during the final semester of enrollment.
5. This plan is primarily for continuing education of professional students (e.g., teachers). Students may not change from thesis to non-thesis plans without permission from the graduate faculty in chemistry. Permission will only be granted for extenuating circumstances.

Non-Thesis Plan

1. Preliminary examinations: to assess writing skills and overall knowledge of chemistry and the physical sciences (to be taken prior to first semester of enrollment). American Chemical Society placement examinations will be used to assess chemistry proficiency.
2. Required courses:
 - a. thirty graduate credit hours in coursework which includes four credit hours chosen from the following list of core courses, plus 21 credits in graduate-level electives in chemistry or other related areas (e.g., Mathematics, Computer Science, Biology) planned by the student and his or her graduate advisory committee. A maximum of four credit hours from areas other than chemistry can be applied to graduation requirements. Courses taken for audit cannot be applied to graduation requirements:

CHEM	510	Advanced Analytical Chemistry
CHEM	513	Advanced Physical Chemistry
CHEM	522	Advanced Inorganic Chemistry
CHEM	541	Physical Organic Chemistry
CHEM	552	Biochemistry
 - b. two credit hours of Graduate Seminar, CHEM 591 (Students are expected to attend all departmental seminars in addition to enrolling in the seminar course.)
3. Oral final comprehensive examination: A verbal assessment of the student's knowledge of chemistry and related emphasis areas during the final semester of enrollment.

BS/MS Plan

Qualified students entering the ENMU chemistry program at the undergraduate level will be allowed to apply to the Graduate School during the last semester of the junior year to take a limited number of graduate courses for credit at the 500 level. These courses will be above, and in addition to, the required coursework for the bachelor's degree. Admission to the BS/MS plan will be based on a review of academic performance through the junior year. Upon receipt of the bachelor's degree and admission to the graduate program, those 500 level courses will be counted toward the graduate degree program thereby allowing students to complete both the B.S. and M.S. degrees in five to five and a half years instead of the normal six to seven years.