

CHEMISTRY, M.S.

Program Description

The Master's Degree in Chemistry is a two-year program intended primarily for individuals interested in advanced training in chemistry and related disciplines in preparation for doctoral programs or for careers in industry, government, or postsecondary school education. Students are expected to be well grounded in one or more of the program's five areas of specialization: Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. The Department of Chemistry currently offers both a thesis and non-thesis option for the Chemistry M.S. degree.

Admission Requirements

Applicants should follow the admissions process described in this catalog or at the Graduate Admissions website at www.marshall.edu/graduate/admissions/how-to-apply-for-admission (<http://www.marshall.edu/graduate/admissions/how-to-apply-for-admission/>).

In addition, applicants must:

- hold an undergraduate degree in Chemistry, or an equivalent degree approved by the Chemistry department;
- have GRE (Graduate Record Exam) scores sent to Graduate Admissions.

Program Requirements

General Requirements

Students are required to complete 32 and 36 hours of graduate credit (see below) for the thesis and non-thesis options, respectively. No more than six hours of Special Topics courses may be counted in the minimum hours required by either route; any exceptions require specific departmental approval.

Students following the thesis option will receive up to 12 hours credit for CHM 682 Research and one hour each for CHM 631 Seminar and CHM 632 Seminar. The remaining 18 hours of graduate credit will come from courses in the various areas of chemistry, chosen in consultation with one's advisor. It is required that at least three of the five areas be represented in the Plan of Study (see below), and it is recommended that all courses pertaining to the area of one's research be included.

Plan of Study

A newly admitted student will take placement examinations the week before the beginning of the first term of study and then should meet with his or her advisor before registering for classes. The student and advisor will develop a Plan of Study or blueprint for graduation requirements. The Plan of Study must be on file in the Graduate College office before the student registers for the 12th semester hour. Programs will be adjusted to reflect major interests and prior training of the student.

Non-Thesis Option

The non-thesis option is a seldom-utilized alternative route available for students currently employed full-time and requires department authorization. Basic requirements are the same as the thesis option; however, it requires 36 hours of graduate credit and a problem report followed by a public lecture. This program organization ensures that all

students develop research, writing and public speaking skills regardless of their area of concentration. Due to limitations in course offerings, this option may require more than two years to complete.

Thesis Option

The preferred route requires a thesis with 32 hours of graduate credit, two public lectures, and an oral thesis defense. The Master of Science thesis demonstrates that you are capable of pursuing a program of original and independent research, that you can formulate and carry out a research project, and that you can report on the project in a proper scientific manner. The thesis option prepares students for technical careers in industry, or for further study toward a more advanced degree. This option requires advanced coursework in chemistry, biochemistry, or environmental chemistry and research, with the latter culminating in an M.S. thesis.

Shortly after entering the program students select a faculty advisor based on their research interests and agree on a research problem. Under the guidance of their faculty advisor students carry out the research program, select a graduate research committee and write and defend the thesis in a final oral examination.

The defense of the thesis will take place when the student, the research advisor, and the graduate research committee agree that a defensible copy of the thesis is complete. The thesis examination is graded on a pass/ provisional pass/fail basis. To pass the examination, there can be no more than one unsatisfactory grade from the committee members. A student who fails may submit another thesis or a revised version upon approval of the student's committee. A student may only be re-examined once. A student earning a provisional pass will generally be required to make minor revisions or corrections to the thesis.