

# Chemistry

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The Department of Chemistry provides a flexible and dynamic environment in which to pursue a Master of Science or Doctor of Philosophy degree in Chemistry. Students have the opportunity to work with faculty that have interests in the traditionally defined areas of Analytical, Biological, Inorganic, Organic, and Physical Chemistry. Additionally, active research in the interdisciplinary areas of Chemistry Education and Polymer and Materials Science are also available. For more information write to the Graduate Coordinator or visit the Department of Chemistry's website.

Students wishing to pursue a program leading to a Master of Science degree in Chemistry are required to complete a thesis or non-thesis option outlined below. The thesis concentration requires M.S. students to engage in research with a member of the Graduate Faculty. This unique experience gives students hands-on knowledge in research and develops practical skills associated with regular laboratory practices. The non-thesis concentration requires additional coursework broadening M.S. students' educational experiences and technical knowledge. Both concentrations, however, will refine the student's knowledge in chemistry and serve as preparation for challenges in academic settings and industrial careers.

The thesis option requires a minimum of 6 hours of chemistry research (CH 8000) under the supervision of a Graduate Faculty member (research advisor) in the Department of Chemistry. Students choosing the thesis option must generate and defend an original thesis as part of a final examination for the M.S. degree program. All thesis-track students are required to complete at least 12 hours of 8000-level courses, exclusive of research hours, and 1 hour of chemistry seminar (CH 8711).

The non-thesis option requires additional coursework to generate a minimum of 30 hours. Students choosing the coursework-only option will pass a comprehensive chemistry examination directed by a Graduate Faculty member (academic advisor) in the Department of Chemistry with Graduate Coordinator approval. All non-thesis track students are required to complete at least 15 hours of 8000-level coursework, to which research credits do not apply, and 1 hour of chemistry seminar (CH 8711).

## Admission Criteria

All students who have earned a B.S. in chemistry, biochemistry, or other closely related field will be given full consideration for admission and the award of an assistantship. All applicants should report their scores for the GRE general exam as part of their required application materials. International students may be admitted with a TOEFL (Test of English as a Foreign Language) score of 500 PBT (78 iBT) or an IELTS (International English Language Testing Systems) score of 6.0, but generally a TOEFL score of at least 550 PBT (79 iBT) or an IELTS score of 6.5 is required for a student to be considered for financial aid.

## Provisional Admission

An applicant who has not fully met the GPA requirement stipulated by the University may be admitted on a provisional basis. The provisionally-admitted student is eligible for a change to regular status after receiving a 3.00 GPA on the first 9 hours of graduate courses at Mississippi State University (with no grade lower than a C). The first 9 hours of graduate courses must be within the student's program of study. The specific courses used to overcome these deficiencies are chosen by the Department's Graduate Affairs committee on a case-by-case basis. Courses with an S grade, transfer credits, or credits earned while in Unclassified status cannot be used to satisfy this requirement. If a 3.00 is not attained, the provisional student will be dismissed from the graduate program. A student cannot remain on provisional status for more than two semesters. **While in the provisional status, a student is not eligible to hold a graduate assistantship.**

## Academic Performance

An overall GPA of 3.00 on a 4.00 scale is required for all graduate courses taken after admission to the program is required by the University to remain in good standing. The Department of Chemistry requires grades of B or better on all chemistry courses in the student's program of study. If a student fails to meet either criterion, they are placed on probation. If the student does not correct the deficiency within one semester, the student may be dismissed from the program.

## Master of Science in Chemistry - Thesis

CH 8000		6
CH 8711	Seminar	1
6000-level or above courses chosen in consultation with the research advisor/committee <sup>1</sup>		11

8000-level CH courses chosen in consultation with the research advisor/committee	12
<b>Total Hours</b>	<b>30</b>

<sup>1</sup> A minimum of 12 hours at the 8000 level is required. Coursework outside the department at the 6000 level may be deemed acceptable by a student's graduate committee but cannot constitute more than 50% of the total program. Students are allowed to earn up to 6 hours of CH 7000 Directed Individual Study as part of the thesis option.

Each graduate student must complete a research project, write a thesis, and defend their results before a graduate committee.

## Master of Science in Chemistry - Non-Thesis

CH 8711	Seminar	1
6000-level or above courses chosen in consultation with the academic advisor/committee <sup>1</sup>		14
8000-level CH courses chosen in consultation with the academic advisor/committee		15
<b>Total Hours</b>		<b>30</b>

<sup>1</sup> Coursework outside the department at the 6000 level may be deemed acceptable by a student's graduate committee but cannot constitute more than 50% of the total program. Students are allowed to earn up to 6 hours of CH 7000 Directed Individual Student as part of the non-thesis option.

Each non-thesis M.S. student must pass three comprehensive exams from the five traditional areas of chemistry, which include Analytical, Biological, Inorganic, Physical, and Organic chemistry. Student must also pass an oral exam given by their graduate committee.

## Doctor of Philosophy in Chemistry

CH 8111	Professional Chemistry	1
Coursework at 8000-level or higher <sup>1</sup>		18
3 seminars		3
CH 9000	Research in Chemistry	20
<b>Total Hours</b>		<b>42</b>

<sup>1</sup> Coursework outside the department at the 6000 level may be deemed acceptable by a student's graduate committee but cannot constitute more than 50% of the total program.

In addition, each Ph.D. student must pass a series of cumulative exams and an oral proposal examination.

Each Ph.D. student must complete a research project, write a dissertation, and defend their results before a graduate committee.