CHEMISTRY

Two post-graduate degree programs are offered by the Department of Chemistry and Biochemistry at Rose-Hulman Institute of Technology: the Master of Science in Chemistry (MSCHEM) degree, that requires a thesis and a publication, and the Master of Chemistry (MCHEM) degree, that does not require a thesis or a publication, but instead requires 12 credit hours of additional course work.

A MCHEM student's plan of study is arranged on an individual basis through a joint agreement between the student and their academic advisor, who must be a member of the RHIT CHEM faculty.

Similarly, an MSCHEM degree student's plan of study is arranged by agreement between the student, the student's advisory committee chairperson, and the student's advisory committee.

The MSCHEM student's advisory committee must consist of at least

1. an RHIT CHEM faculty member serving as the major advisor who guides the student's thesis research,
2. a second RHIT CHEM faculty member, and
3. an RHIT faculty member from outside of the CHEM department.

Both degree programs seek to build upon the basic foundations established by the student's undergraduate course of study

The objective of both programs, the Master of Chemistry and Master of Science in Chemistry, is to prepare graduates for early career advancement in the field of Chemistry by building upon their undergraduate training with advanced coursework and concentrated study of problems and topics relevant to the field.

Requirements

Master of Chemistry (p. 1)
Master of Science Chemistry (p. 1)

Master of Chemistry Degree Requirements

- 48 credit hours of course work as approved by the student's academic advisor.
- At least 32 credit hours must be upper-level CHEM courses (CHEM4xx or CHEM5xx).
- At least 36 credit hours must be graduate-level courses (5xx from any department, or 4xx-level Mathematics which have been approved by the student's advisory committee.) Thus no more than 12 credit hours may be 4xx level.

CHEM Graduate Course Offerings

Code	Title	Hours
CHEM 530	Advanced Biochemistry	4
CHEM 531	Biochemical Instrumentation	4
CHEM 532	Biochemical Pharmacology	4
CHEM 545	Organometallic Chemistry	4
CHEM 552	Synthetic Organic Chemistry	4
CHEM 554	Theoretical Organic Chemistry	4
CHEM 555	Natural Products	4
CHEM 561	Advanced Physical Chemistry	4
CHEM 599	Thesis Research	1-12

Master of Science in Chemistry Requirements

1. 48 credit hours, 36 credit hours of course work as approved by the student's advisory committee.
2. At least 24 credit hours must be upper-level CHEM courses (CHEM4xx or CHEM5xx)
3. At least 24 credit hours must be at the 5xx level, thus, no more than 12 credit hours of 400-level classes can count toward the MSCHEM degree.
4. 12 credit hours of thesis work (the Institute's non-thesis option is not permitted for the MSCHEM degree).
5. Successful defense of thesis.
6. Acceptance of a technical article for publication and/or for conference presentation with the major professor included as a named author.

CHEM Graduate Course Offerings

Code	Title	Hours
CHEM 530	Advanced Biochemistry	4
CHEM 531	Biochemical Instrumentation	4
CHEM 532	Biochemical Pharmacology	4
CHEM 545	Organometallic Chemistry	4
CHEM 552	Synthetic Organic Chemistry	4
CHEM 554	Theoretical Organic Chemistry	4
CHEM 555	Natural Products	4
CHEM 561	Advanced Physical Chemistry	4
CHEM 599	Thesis Research	1-12

Learning Outcomes

Student Outcomes

Student Outcomes are statements that describe what students are expected to have by the time of graduation.

1. Students will demonstrate the ability to carry out and discuss an independent research project or write a technical review of a specialized topic in their field.
2. Students will demonstrate the ability to clearly and effectively communicate and critically evaluate information on advanced topics in their field to both technical and non-specialized audiences.