

## CHEMISTRY M.S.

All students must meet the Requirements for the Master's Degree (<http://catalogue.uvm.edu/graduate/degreerequirements/requirementsforthemastersdegree/>)

### OVERVIEW

An M.S. degree in chemistry prepares students for careers in chemical sciences, biomedical sciences, catalysis, energy, environment, or materials science as well as other professional fields that apply strong research skills or basic chemical understanding. For a description of research by chemical subdivision, please refer to the Chemistry Ph.D. topic in this catalogue.

### SPECIFIC REQUIREMENTS

#### Requirements for Admission to Graduate Studies for the Degree of Master of Science

An undergraduate major in an appropriate field, minimally with course work in the four classic subdisciplines of chemistry (analytical, inorganic, organic, and physical). This is most commonly satisfied with a B.A., B.S., or equivalent degree in chemistry. Applicants with prior research experience are preferred.

#### Minimum Degree Requirements

The above prerequisites for admission to candidacy must be supplemented in either of the following two ways:

OPTION A (THESIS)	
Completion of 12 credits of CHEM 391 and submission of a satisfactory thesis; and completion of at least 30 credits of graduate work (courses and Master's Thesis Research).	
OPTION B (NON-THESIS)	
Completion of 6 credits of CHEM 395; and completion of at least 30 credits of graduate work (courses and Literature Research Project).	

M.S. students should decide at the beginning of their program whether they will pursue Option A or Option B and inform the Department of Chemistry and the Graduate College of their decisions.

#### Comprehensive Examination

In the Chemistry Department, the Comprehensive Examination for the Master's degree consists of completion of the following three parts:

(1) Passing of the (entrance) qualifying-examinations requirement within the first year, and successful completion of the coursework requirement. The qualifying examinations establish a broad knowledge base in all major areas of chemistry, while the latter requirement is constructed to add breadth to the students' knowledge base in specific areas of chemistry not directly related to their research area.

(2) Successful completion of the Advancement to Candidacy exam (CHEM 380). This course consists of the preparation of a 5-page dossier of research accomplishments, and an oral examination on its contents, which serves as a comprehensive review of the student's fundamental understanding of chemistry.

(3) Completion of a total of 2 credits of Current Topics (CHEM 318). This course consists of a review of 1 major article from the current literature (and supporting supplementary articles).

The oral presentation is followed by an examination of the student's understanding of the crucial information in that paper by faculty in the student's major area.

#### Requirements for Advancement to Candidacy for the Degree of Master of Science

Proficiency in 3 areas of chemistry evidenced by the qualifying examinations or completion of designated courses at this university		
1 semester of residence		
CHEM 318	Current Topics in Chemistry (Must be taken twice)	1
CHEM 379	Intro to Graduate Research	1
CHEM 380	Chemical Investigations	1
CHEM 381	Grad Seminar	1
At least 15 credits of formal graded course work including:		15
6 credits of graduate level courses in the chemical field of specialization		
9 credits of graduate-level chemistry courses not in the area of specialization		
Maintenance of an overall GPA of 3.00		