Program Change Request

Date Submitted: 03/05/24 12:24 pm

Viewing: SC-MS-CHEM : Chemistry, MS

Last approved: 03/04/21 3:09 pm

Last edit: 03/05/24 12:24 pm

Changes proposed by: jbazaz

Catalog Pages Using this Program

Chemistry, MS

Are you completing this form on someone else's behalf?

No

Effective Catalog:	2024-2025
Program Level:	Graduate
Program Type:	Master's
Degree Type:	Master of Science
Title:	Chemistry, MS
Banner Title:	Chemistry, MS
Registrar/OAPI Use Only – SCHEV Status	Approved
Registrar's Office Use Only – Program Start Term	
Registrar/OAPI Use Only – SCHEV Letter	
Registrar/OAPI Use Only – SACSCOC Status	
Concentration(s):	

In Workflow

1. **CHEM Assoc Chair**
2. **CHEM Chair**
3. **SC Curriculum Committee**
4. SC Assistant Dean
5. Assoc Provost-Graduate
6. Registrar-Programs

Approval Path

1. 03/06/24 10:36 am Megan Erb (msikowit): Approved for CHEM Assoc Chair
2. 03/06/24 10:39 am Andre Clayborne (aclaybo): Approved for CHEM Chair

History

1. Oct 23, 2017 by clmig-jwehrheim
2. Feb 14, 2018 by rzachari
3. Feb 11, 2019 by Tory Sarro (vsarro)
4. Mar 4, 2021 by Jennifer Bazaz Gettys (jbazaz)

	Associated Concentrations	Registrar's Office Use Only: Concentration Code
1	Biochemistry	BC

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Chemistry & Biochemistry

Jointly Owned Program? No

Justification

What: Referring applicants to central admissions language and removing extraneous wording.

Why: To make the program more adaptable to changes in university policies.

Total Credits Required: Total credits: 30

Registrar's Office Use Only - Program Code: SC-MS-CHEM

Registrar/IRR Use Only – Program CIP Code

Admission Requirements:

Admissions

University-wide admissions policies can be found in the Graduate Admissions Policies section of this catalog. International students and students having earned international degrees should also refer to Admission of International Students for additional requirements.

~~To apply for this program, please complete the George Mason University Admissions Application.~~Eligibility

To be considered for admission to degree status, students must have a bachelor's degree in chemistry, biochemistry, or a related field from an institution ~~and must meet general admission requirements for graduate study as specified in Graduate Admission Policies. Applicants with a bachelor's degree in other fields~~ of higher education accredited by a Mason-recognized U.S. ~~study who have at least three years of chemistry or biochemistry coursework may be accepted into the program.~~ institutional accrediting agency or international equivalent.

Applicants with a bachelor's degree in other fields of study who have at least three years of chemistry or biochemistry coursework may be accepted into the program. In some cases, students may be accepted provisionally and will be required to successfully complete the selected remedial courses, some of which may not be applicable toward the master's requirements.

Application Requirements

To apply for this program, prospective students should submit the George Mason University Admissions Application and its required supplemental documentation, and letters of recommendation.
~~Admission is based upon a departmental evaluation of the applicant's background as evidenced by transcripts, résumés, and letters of recommendation.~~ GRE scores are not required for admission into this program.

Program-Specific Policies:

Policies

For policies governing all graduate programs, see AP.6 Graduate Policies ~~Policies~~.
CHEM 500 Selected Topics in Modern Chemistry ~~PoliciesCHEM 500 Selected Topics in Modern Chemistry~~ may not be applied toward the MS degree.

CHEM courses numbered 502 through 510 may be applied toward the degree only with prior written approval of the department.

Transferring Previous Graduate Credit into this Program

Previously earned and relevant graduate credits may be eligible for transfer into this program; details can be found in the Credit by Exam or Transfer section of this catalog.
~~For policies governing all graduate programs, see AP.6 Graduate Policies.~~

Degree Requirements:

Students should refer to the Admissions & Policies tab for specific policies related to this program.

Core Courses

Select three of the following core courses. Courses must be selected from three different core areas shown below: 19

Analytical:	
CHEM 624	Principles of Chemical Separation
Biochemistry:	
CHEM 660	Protein Biochemistry
CHEM 662	Modern Methods of Drug Discovery
Environmental:	
CHEM 651	Environmental Chemistry of Organic Substances
Inorganic:	
CHEM 641	Solid State Chemistry

CHEM 646	Bioinorganic Chemistry	
Organic:		
CHEM 613	Modern Polymer Chemistry	
CHEM 614	Physical Organic Chemistry	
Total Credits		9

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These listed courses may also be taken as electives beyond the stated credit requirement for each option.

MS without Concentration

General chemistry students who do not wish to pursue a concentration complete the core courses above, the following requirements, and choose either the Thesis Option or the Non Thesis Option:

Additional Core Course		3
CHEM 633	Chemical Thermodynamics and Kinetics	
Chemistry Electives		9
Select 3 credits of CHEM designated courses		
Select 6 credits of courses in chemistry or related fields, approved by the graduate committee prior to registration		
Seminar		3
CHEM 790	Graduate Seminar	
Thesis or Non Thesis		6
Select the Thesis Option or the Non Thesis Option		
Total Credits		21

Thesis Option

The Thesis Option is designed for students planning to pursue a doctoral degree or a career involving research in the chemical, biochemical, environmental, or pharmaceutical industries.

Students must choose a research laboratory advisor during their first semester in the program and begin working on their thesis project no later than the second semester. The thesis is based on research that must be preapproved by the thesis or advisory committee, which is appointed prior to the first semester of registration in CHEM 799 Master's Thesis. Students must complete CHEM 799 Master's Thesis and present a seminar, followed by an oral defense.

Thesis Option		6
CHEM 799	Master's Thesis	
Total Credits		6

Non Thesis Option

The Non Thesis Option is designed for those seeking to go on to professional school, teach chemistry in secondary schools, or pursue other careers in which advanced work in chemistry is necessary or advantageous.

Students selecting this option are not required to complete a laboratory-based thesis. Instead, they must complete a research project or gain teaching experience in undergraduate chemistry labs, as described below.

Any combination of CHEM 670 Teaching Practicum and CHEM 796 Master Directed Reading and Research may be used to fulfill this requirement. However, CHEM 796 Master Directed Reading and Research may only be used to fulfill this requirement with prior written approval of the department and must be used to complete a laboratory or library-based research project, or must otherwise enhance the student's teaching skills.

Non Thesis Option	
Select 3 credits of the following:	3
CHEM 670 Teaching Practicum	
CHEM 796 Master Directed Reading and Research	
Additional Chemistry Electives	3
Select 3 credits of CHEM designated courses	
Total Credits	6

MS with Concentration in Biochemistry (BC)

Students who wish to pursue an optional concentration in biochemistry complete the core courses above, the following requirements, and choose either Thesis Option or the Non Thesis Option:

Additional Core Course	3
CHEM 633 Chemical Thermodynamics and Kinetics	
Chemistry Electives	3
Select 3 credits of CHEM designated courses	
Seminar	3
CHEM 790 Graduate Seminar	
Thesis or Non Thesis	12
Select the Thesis Option or the Non Thesis Option	
Total Credits	21

Thesis Option

The Thesis Option is designed for students planning to pursue a doctoral degree or a career involving research in the chemical, biochemical, environmental, or pharmaceutical industries.

Students must choose a research laboratory advisor during their first semester in the program and begin working on their thesis project no later than the second semester. The thesis is based on research that must be preapproved by the thesis or advisory committee, which is appointed prior to the first semester of registration in CHEM 799 Master's Thesis. Students must complete CHEM 799 Master's Thesis and present a seminar, followed by an oral defense.

Biochemistry Electives		6
Select 6 credits of electives in biochemistry or related fields with approval from the department		
Thesis		6
CHEM 799	Master's Thesis	
Total Credits		12

Non Thesis Option

The Non Thesis Option is designed for those seeking to go on to professional school, teach chemistry in secondary schools, or pursue other careers in which advanced work in chemistry is necessary or advantageous.

Students selecting this option are not required to complete a laboratory-based thesis. Instead, they must complete a research project or gain teaching experience in undergraduate chemistry labs, as described below.

Any combination of CHEM 670 Teaching Practicum and CHEM 796 Master Directed Reading and Research may be used to fulfill this requirement. However, CHEM 796 Master Directed Reading and Research may only be used to fulfill this requirement with prior written approval of the department and must be used to complete a laboratory or library-based research project, or must otherwise enhance the student's teaching skills.

Non Thesis Option		
Select 3 credits of the following:		3
CHEM 670	Teaching Practicum	
CHEM 796	Master Directed Reading and Research 1	
Biochemistry Electives		9
Electives in biochemistry or related fields with approval from department		
Total Credits		12

Retroactive Requirements Updates:

Plan of Study:

Program Outcomes

Additional Program Information

This information is required by the Office of Accreditation and Program Integrity.

Courses offered via distance (if applicable):

What is the primary delivery format for the program? Face-to-Face Only

Does any portion of this program occur off-campus?

No

Are you working with a vendor / other collaborators to offer your program?

No

Related Departments

Could this program prepare students for any type of professional licensure, in Virginia or elsewhere?

No

Are you adding or removing a licensure component?

No

Additional SCHEV & SACSCOC Information

Is this change a simple retitling of an existing program, with no other changes, to any existing program content, curriculum requirements, etc?

No

Does this change represent a repackaging of content in an existing approved degree/certificate program at the same instructional level (i.e., baccalaureate, master's, or doctoral)?

No

Percentage of total credits containing new course content. ("New course content" is defined by SACSCOC as content that is not currently included in an existing approved degree/certificate program at the same instructiona level. Do not exclude gen ed credits in calculations for undergraduate programs.)

0%-24%

Does this change include the addition of a distance education or face-to-face method of delivery for this program

No

Does this change include the addition of a course/credit-based competency-based education delivery option?

No

Will any additional equipment/facilities be needed?

No

Will any additional faculty be required?

No

Will any additional financial resources be needed?

No

Additional library/learning resources needed?

No

OAPI Use Only – Determination of SACSCOC Impact

Comments or Notes

Green Leaf Program Designation

Is this a Green Leaf program? No

Does this program cover material which crosses into another department?

No

Additional Attachments

SCHEV Proposal

Executive Summary

Reviewer Comments

Additional Comments

Is this course required of all students in this degree program?

%wi_required.eschtml%

Key: 37