

Program Change Request

Date Submitted: 03/25/22 1:30 pm

Viewing: **SC-PHD-CBCM : Chemistry and Biochemistry, PhD**

Last approved: 03/04/21 3:11 pm

Last edit: 03/25/22 1:29 pm

Changes proposed by: jbazaz

Catalog Pages

Using this Program

[Chemistry and Biochemistry, PhD](#)

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

Yes

Requestor:

In Workflow

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

Approval Path

1. 03/25/22 1:49 pm
Megan Erb
(msikowit):
Approved for CHEM
Assoc Chair

History

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

Name	Extension	Email
Benoit Van Aken	1091	bvanaken@GMU.EDU

Effective Catalog: 2022-2023

Program Level: Graduate

Program Type: Doctoral

Degree Type: Doctor of Philosophy

Title: Chemistry and Biochemistry, PhD

Banner Title: Chemistry & Biochemistry PhD

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):

Registrar/IRR Use Only – Concentration CIP Code

College/School: College of Science

Department / Academic Unit: Chemistry & Biochemistry

Jointly Owned Program? No

Justification

What: Requiring that students have at least one refereed publication accepted prior to the dissertation defense.

Why: To help ensure doctoral student preparation.

Total Credits Required: Total credits: 72

Registrar's Office Use Only - Program Code:

SC-PHD-CBCM

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.

To apply for this program, please complete the [George Mason University Admissions Application](#).

To be considered for admission to degree status, students must have a bachelor's and/or master's degree in chemistry, biochemistry, or a related field 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 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 doctoral requirements.

Admission is based upon a departmental evaluation of the applicant's background as evidenced by transcripts, résumés, and letters of recommendation.

The GRE requirement for the PhD program is waived for students with a master's degree in chemistry, biochemistry, or a related field from an institution of higher education accredited by a Mason-recognized U.S. institutional accrediting agency or international equivalent degree.

Program-Specific Policies:

Policies

For policies governing all graduate programs, see [AP.6 Graduate Policies](#).

Academic Advising

Upon acceptance into the Chemistry and Biochemistry, PhD, a student will be assigned an academic advisor. Prior to registering for classes, students are required to meet with their academic advisor who will provide guidance in selecting courses that are consistent with the student's area of interest. Once a student has selected a research/dissertation advisor, that person then assumes the role of providing academic advisement to the student.

Reduction of Credits

For students entering the doctoral program with a master's degree in a related field from an institution of higher education accredited by a Mason-recognized U.S. institutional accrediting agency or international equivalent, the number of required credits may be reduced up to 30 credits, subject to approval of the program faculty and the associate dean for student affairs. See [AP.6.5.2 Reduction of Credits](#) for more information.

Degree Requirements:

Students should refer to the [Admissions & Policies](#) tab for specific policies related to this program.

Doctoral Coursework

Core Courses

CHEM 817	Organic Structural Spectroscopy	3
CHEM 833	Physical Chemistry and Biochemistry	3
Seminar		
CHEM 790	Graduate Seminar	3
Electives		
Select 39 credits of approved elective courses in consultation with the student's advisor.		39
Total Credits		48

Dissertation Committee and Supervisor

By the end of the first year, a student in the program is expected to have selected a dissertation/research supervisor and to have formed the dissertation committee. This committee will consist of at least four graduate faculty members (including the dissertation supervisor), with at least two members from the Department of Chemistry and Biochemistry. At least one member must be from outside the department. Qualified individuals who are not members of the graduate faculty, including faculty at other universities or government laboratories, may serve on the committee with the approval of the department chair and the college's associate dean.

Candidacy Examinations

The student must successfully complete separate written and oral candidacy examinations prepared and administered by the Dissertation Committee. The written exam consists of questions submitted by the Dissertation Committee. Successful completion of the written exam should be followed by the oral portion within one month. The oral exam consists of questions submitted by each member of the Dissertation Committee. Either or both portions of the qualifying exam may be repeated once at the discretion of the Dissertation Committee. A student must satisfactorily pass the two portions of the exam by the end of the third year from the date of enrollment in the PhD program.

Dissertation Proposal and Advancement to Candidacy

Prior to completing the sixth semester in the program, a student is expected to have advanced to candidacy. The student's committee will determine whether a candidate is ready to begin preparation of the research proposal and approve enrollment in [CHEM 998](#) Doctoral Dissertation Proposal based upon their familiarity with the student's progress.

In order to advance to candidacy in a given semester, a student is required to fulfill the following requirements:

- The student will prepare and submit a research proposal (based on the thesis research) for approval by the dissertation committee.
- The student must pass a written qualifying exam prepared by the dissertation committee. The exam can be based on the student's research and/or completed coursework, with the composition of the exam being determined by the student's dissertation committee.
- The final stage is an oral defense of the student's research proposal. Questions at the proposal defense may also be drawn from material covered in the written qualifying exam.

In order to advance to candidacy in a given semester and register for CHEM 999 in the following semester, students must submit the requested documentation to the Department Graduate Coordinator by the following

deadlines:

- To advance in the fall and register for [CHEM 999](#) Doctoral Dissertation Research in the spring, November 8.
- To advance in the spring and register for [CHEM 999](#) Doctoral Dissertation Research in the summer, March 8.
- To advance in the summer and register for [CHEM 999](#) Doctoral Dissertation Research in the fall, May 25.

Dissertation Research

No more than 24 combined credits from [CHEM 998](#) Doctoral Dissertation Proposal and [CHEM 999](#) Doctoral Dissertation Research may be applied toward satisfying doctoral degree requirements, with no more than 12 credits of [CHEM 998](#) Doctoral Dissertation Proposal.

Select 24 credits from the following:

24

[CHEM 998](#) Doctoral Dissertation Proposal (maximum of 12 credits)

[CHEM 999](#) Doctoral Dissertation Research

Total Credits

24

Exit Seminar

Each PhD candidate presents his or her research in a seminar in the Department of Chemistry and Biochemistry (a departmental seminar), which takes place in the same semester as the final defense of the dissertation (below).

Dissertation Research and Defense

With the approval of the dissertation committee, the student will enroll in [CHEM 998](#) Doctoral Dissertation Proposal and [CHEM 999](#) Doctoral Dissertation Research. The dissertation research should represent a significant contribution to the appropriate scientific field(s), and it should be deemed to represent a body of work that is publishable in a refereed scientific journal. **The student is required to have at least one refereed publication accepted prior to the dissertation defense.** The dissertation must be presented and defended in a public forum consisting of the dissertation committee and other interested members of the George Mason University community.

**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 instructional 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.eshtml%