Date Submitted: 01/20/21 3:20 pm

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

Last approved: 02/11/19 4:12 pm

Last edit: 01/20/21 3:20 pm

Changes proposed by: jbazaz

Catalog Pages Using this Program

Chemistry and Biochemistry, PhD

In Workflow

1. **CHEM Assoc Chair**
2. CHEM Chair
3. SC Curriculum Committee
4. SC Associate Dean
5. SC CAT Editor
6. Assoc Provost-Graduate
7. Registrar-Programs: Duration
8. Registrar-Programs

History

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

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

Yes

Requestor:

Name	Extension	Email
Benoit Van Aken	1091	bvanaken@gmu.edu

Effective Catalog: 2021-2022

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

Removing the need for a 3.00 GPA in their bachelor's program: The text was modified with the purpose to be more consistent with the wording of the MS admission.

Updates to the Candidacy Examinations: The Chemistry Graduate Committee has decided to give more flexibility to the Thesis Advisory Committee for choosing the format of the Qualifying Exam, while respecting University Policies. The prior model is too restrictive was considered outdated. This change is also more aligned with the policies of several other departments of the COS, such as the School of System Biology, Environmental Science and Policy, and Mathematics.

Clarifying Dissertation Proposal timeline: Students often submit their advancement packet at the very end of the semester, after the deadline of the COS, which prevent them to enroll in CHEM 999 on time. The Chemistry Graduate Committee considered that it would be helpful to explicitly state the deadlines for submission to the packet in the catalog.

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 ~~The program is intended~~ for **admission to degree status,** students **must** ~~who~~ have ~~completed an undergraduate program of study in chemistry, biochemistry, or~~ 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.** ~~field. Applicants are expected to have a BS degree with a minimum GPA of 3.00, and acceptable GRE and TOEFL scores (ifapplicable).The GRE requirement is waived for students with a master's degree from a regionally accredited USinstitution.~~Applicants with a **bachelor's** ~~BS~~ degree in other fields of study who have at least three years of chemistry or biochemistry coursework may be accepted **into** ~~provisionally and may be required to successfully complete selected remedial courses, some of which may not be applicable toward~~ the **program.** ~~PhD requirements.~~ **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 ~~is waived~~ **for the PhD program is waived for students with a US-equivalent master's degree in chemistry, biochemistry, or** ~~from~~ **a related field.** ~~**regionally accredited US institution.**~~
~~Interested students should submit a completed application, three letters of reference, official reports of GRE and TOEFL scores, and a personal/goals statement outlining their general research interests and career plans.~~

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 a regionally accredited institution, 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		3
CHEM 790	Graduate Seminar (taken three times)	
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.** ~~dissertation committee. All six sections (analytical, biochemistry, environmental, inorganic, organic, and physical chemistry) of the written candidacy examinations will be offered twice a year, typically during the week prior to the start of the fall and spring semesters. A student, in consultation with the approval of the research director, will schedule exams at least 30 days prior to the examination date. Grades of "High Pass", "Pass," or "Unsatisfactory" will be awarded for each of the exams. If a student receives a grade of "Unsatisfactory" in a given section of the exam, he/she will be allowed to retake that section of the exam during the next exam cycle. A student must satisfactorily pass all sections of the exam by the end of the third year from the date of enrollment in the PhD program.~~ **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** ~~candidacy,~~ 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 the 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 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

Are you changing the total number of credits required for this program?

No

Are you changing the delivery format in any way (e.g adding an online option)?

No

Are you adding/removing a licensure option which was approved by SCHEV?

No

Will any portion of this program be offered at an off-campus location?

No

Will this program change affect any specialized accreditation?

No

Is the content of the new program closely related to that of an existing approved program?

No

Is this new program considered to be "advancing the degree level of a currently approved program" (i.e. existing content is at lower degree level, new content is at the higher degree level)?

No

Is this new program considered to be "lowering the degree level of a currently approved program" (i.e. existing content is at higher degree level, new content is at the lower degree level)?

No

Does this change represent a repackaging of content in an existing approved degree/certificate program?

No

Percentage of total credits containing new course content, excluding gen ed courses for undergraduate programs ("New content" means content that is not currently included in an existing approved degree/certificate program.) Please choose a percentage (i.e. 0%-100%)

less than 25%

Are the total credits for the program increasing or decreasing by more than 3 credits?

No

Will any additional equipment/facilites be needed?

No

Will any additional faculty be required?

No

Will any additional financial resources be needed?

No

Will any 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: 38