Program Change Request

Date Submitted: 02/23/24 3:54 pm

Viewing: SC-PHD-BCB : Bioinformatics and

Computational Biology, PhD

Last approved: 04/27/22 2:51 pm

Last edit: 03/06/24 9:27 am

Changes proposed by: jbazaz

Catalog Pages Using this Program Bioinformatics and Computational Biology, PhD

Are you completing this form on someon	ne else's behalf?
No	

- Effective Catalog: 2024-2025
- Program Level: Graduate
- Program Type: Doctoral
- Degree Type: Doctor of Philosophy

Title:

Bioinformatics and Computational Biology, PhD

Banner Title: Bioinformatics & Compu Bio PhD

Registrar/OAPI Use Approved Only – SCHEV Status

Registrar's Office Use Only –

Program Start Term Registrar/OAPI Use

Only – SCHEV Letter

Registrar/OAPI Use Only – SACSCOC

In Workflow

- 1. SSB CC
- 2. SSB Program Chair
- 3. SC Curriculum Committee
- 4. SC Assistant Dean
- 5. Assoc Provost-Graduate
- 6. Registrar-Programs

Approval Path

- 1. 03/01/24 10:44 am Ramin Hakami (rhakami): Approved for SSB CC
- 2. 03/22/24 11:45 amlosif Vaisman(ivaisman):Approved for SSBProgram Chair

History

- 1. Nov 16, 2017 by clmig-jwehrheim
- 2. Feb 23, 2021 by jriemen
- 3. Feb 26, 2021 by jriemen
- 4. Apr 27, 2022 by Jennifer Bazaz Gettys (jbazaz)

22/24, 11:58 AM	SC-PHD-BCB: Bioinformatics and Computational Biology, PhD
Status	
Concentration(s):	
Registrar/IRR Use Only – Concentration CIP Code	
College/School:	College of Science
Department / Academic Unit:	School of Systems Biology
Jointly Owned Program?	No
Justification What: Referring appl Why: To make the pr	icants to central admissions language and removing extraneous wording. ogram more adaptable to changes in university policies.
What: Updating eligi	bility requirements.
Why: So the entry ali	igns with the program's current practice.

Total Credits Total credits: 72 Required:

Registrar's Office Use Only - Program Code:

SC-PHD-BCB

Registrar/IRR Use Only – Program CIP Code

Admission Requirements:

3/

Admissions

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

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

Applicants should have a bachelor's degree in biology, computer science, or a related <u>field from an institution</u> field, with a minimum GPA of <u>higher education accredited by a Mason-recognized U.S.</u> 3.25 in the last earned degree. institutional accrediting agency or international equivalent with a minimum GPA of 3.25 in the last earned degree. Applicants <u>are expected to</u> should have <u>completed coursework</u> taken courses in molecular biology, cell biology, biochemistry, genetics, calculus, physical chemistry, computer <u>programming</u>, programming and data structures, and probability and statistics. Students with deficiencies in one or more of these areas may be admitted provisionally and required to take additional courses, some of which may not be applicable to the degree's <u>credit</u> course total.

Students whose undergraduate record does not include basic biochemistry will be required to take a basic course prior to BINF 701 Systems Biology. Application Requirements

To <u>apply for this program</u>, apply, prospective students should submit the <u>George Mason University Admissions</u> <u>Application and its required supplemental documentation</u>, , a <u>goals statement</u>, copy of official transcripts from each college and <u>three letters of recommendation</u>. graduate institution attended, a current résumé, and an expanded goals statement.

Applicants should also include three letters of recommendation. TOEFL or IELTS scores are required of all international applicants. The GRE is not required for admission into this program.

Program-Specific Policies:

Policies

For policies governing all graduate programs, see <u>AP.6 Graduate Policies</u>.

Transferring Previous Graduate Credit into this Program

<u>Previously earned and relevant graduate credits may be eligible for transfer into this program; details can be found in</u> the Credit by Exam or Transfer section of this catalog.

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-recognizedU.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 director and the college's associate dean for studentaffairs.See AP.6.5.2 Reduction of Credits for moreinformation.

3

3

3

1

3 3

Degree Requirements:

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

Doctoral Coursework

Fundamental Bioscience CoursesBINF 701Systems BiologyBINF 702Biological Data AnalysisCore Bioinformatics CoursesBINF 690Numerical Methods for BioinformaticsBINF 705Research EthicsBINF 730Biological Sequence and Genome AnalysisBINF 731Protein Structure Analysishttps://workingcatalog.gmu.edu/courseleaf/approve/?role=SC Curriculum Committee

3/22/24, 11:58 AM	SC-PHD-BCB: Bioinformatics and Co	mputational Biology, PhD
<u>BINF 740</u>	Introduction to Biophysics	3
General Electi	ves	
Select 23-35 c	redits of approved general electives or independent researc	h23-35
Lab Rotation		3
<u>BINF 703</u>	Bioinformatics Lab Rotation (taken three times)	
Colloquium		3
<u>BINF 704</u>	Colloquium in Bioinformatics (taken three times)	
Total Credits		48-60

Doctoral Committee and Advancement to Candidacy

12-24

By the end of the semester when coursework is completed, the student must form a doctoral committee made up of a minimum of three graduate faculty members and take a written comprehensive exam. The exam includes written and oral components. Upon passing the comprehensive exam and submitting an acceptable dissertation proposal, the student is advanced to doctoral candidacy to begin the dissertation writing phase.

Dissertation Research

A minimum of 12 and maximum of 24 combined credits from <u>BINF 998</u> Doctoral Dissertation Proposal and <u>BINF 999</u> Doctoral Dissertation may be applied toward satisfying doctoral degree requirements. Students must take at least 3 credits of <u>BINF 999</u> Doctoral Dissertation.

Select 12-24 credits from the following: 12-24 <u>BINF 998</u>Doctoral Dissertation Proposal BINF 999Doctoral Dissertation

Total Credits

Doctoral Dissertation

After advancing to doctoral candidacy, students work on their doctoral dissertation while enrolled in <u>BINF 999</u> Doctoral Dissertation. The dissertation should represent a significant contribution that is suitable for publication in a refereed scientific journal. The dissertation must be defended in a public forum before the dissertation committee and other interested faculty.

Retroactive Requirements Updates:

Plan of Study:

Hon INTC Colle Depa 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?	Both Face-to-Face and Distance	
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 No program?

List sustainahili List sustainahility



Reviewer Comments

Additional Comments

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

%wi_required.eschtml%

Key: 419