



Program Approval Form

For approval of new programs and deletions or modifications to an existing program.

Action Requested:

Create New (SCHEV approval required except for minors)

Inactivate Existing

Modify Existing (check **ALL** that apply)

Title (SCHEV approval required except for minors)

Concentration (Choose one): Add Delete Modify

Degree Requirements

Admission Standards/ Application Requirements

Other Changes: _____

Type (Check one):

B.A. B.S. Minor

Master's

Ph.D.

Undergraduate Certificate*

Graduate Certificate*

Bachelor's/Accelerated Master's Other: _____

College/School: College of Science **Department:** Biology

Submitted by: Deborah Polayes **Ext:** 3-4543 **Email:** dpolayes@gmu.edu

Effective Term: Fall **Please note:** For students to be admitted to a new degree, minor, certificate or concentration, the program must be fully approved, entered into Banner, and published in the University Catalog.

Justification: (attach separate document if necessary)

See attached

Program Title: (Required)
Title must identify subject matter. Do not include name of college/school/dept.

Concentration(s):

Admissions Standards / Application Requirements: (Required only if different from those listed in the University Catalog)

Degree Requirements:
Consult University Catalog for models, attach separate document if necessary using track changes for modifications

Courses offered via distance: (if applicable)

TOTAL CREDITS REQUIRED:

| Existing | New/Modified |
|------------|--------------|
| Biology BS | |
| | Microbiology |
| | NA |
| | See attached |
| | NA |
| | 22 27 (JL) |

*For Certificates Only: Indicate whether students are able to pursue on a Full-time basis Part-time basis

College/School _____ Date _____

in collaboration with another unit at Mason, the originating department must circulate this proposal for review by all units and obtain the necessary signatures prior to submission. Failure to do so will delay action on this proposal.

| Unit Name | Unit Approval Name | Unit Approver's Signature | Date |
|-----------|--------------------|---------------------------|------|
| | | | |
| | | | |

For Undergraduate Programs only

Undergraduate Council Member _____ Provost Office _____ Undergraduate Council Approval Date _____

For Graduate Programs Only

For Registrar Office's Use Only: Received _____ Banner _____ Catalog _____ revised 9/2/2016

Program Proposal Submitted to the College of Science Curriculum Committee (COSCC)

The form above is processed by the Office of the University Registrar. This second page is for the COSCC's reference. Please complete the applicable portions of this page to clearly communicate what the form above is requesting.

FOR ALL PROGRAMS (required)

Program Title: Concentration in Microbiology

Date of Departmental Approval:

FOR INACTIVATED PROGRAMS (required if inactivating a program)

- Reason for Inactivation:

FOR MODIFIED PROGRAMS (required if modifying a program)

- Summary of the Modification:
Deleting the required course BIOL406
- Text before Modification (title, degree requirements, etc.):

Microbiology Courses (16 credits)

- BIOL 305 - Biology of Microorganisms Credits: 3 - 3
- BIOL 306 - Biology of Microorganisms Laboratory Credits: 1 - 1
- BIOL 405 - Microbial Genetics Credits: 4 - 4
- BIOL 406 - Microbial Physiology and Metabolism Credits: 4 - 4
- BIOL 407 - Microbial Diversity Credits: 4 - 4

Biology Electives (6 credits)

Choose from:

- BIOL 314 - Introduction to Research Design and Analysis Credits: 4 - 4
- BIOL 382 - Introduction to Virology Credits: 3 - 3
- BIOL 385 - Biotechnology and Genetic Engineering Credits: 3 - 3
- BIOL 402 - Applied and Industrial Microbiology Credits: 3 - 3
- BIOL 403 - Techniques in Applied and Industrial Microbiology Credits: 1 - 1
- BIOL 404 - Medical Microbiology Credits: 3 - 3
- BIOL 418 - Current Topics in Microbiology Credits: 3 - 3
- BIOL 420 - Vaccines Credits: 3 - 3
- BIOL 452 - Immunology Credits: 3 - 3
- BIOL 453 - Immunology Laboratory Credits: 1 - 1
- BIOL 459 - Fungi and Ecosystems Credits: 3 - 3
- BIOL 483 - General Biochemistry Credits: 4 - 4

Additional Chemistry Courses (5 credits)

- CHEM 314 - Organic Chemistry II Credits: 3 - 3
- CHEM 318 - Organic Chemistry Lab II Credits: 2 - 2

- Text after Modification (title, degree requirements, etc.):

Microbiology Courses (12 credits) ✓

- BIOL 305 - Biology of Microorganisms Credits: 3 -3
- BIOL 306 - Biology of Microorganisms Laboratory Credits: 1 -1
- BIOL 405 - Microbial Genetics Credits: 4 -4
- BIOL 407 - Microbial Diversity Credits: 4 -4

Biology Electives (10 credits) ✓

Choose from:

- BIOL 314 - Introduction to Research Design and Analysis Credits: 4 -4
- BIOL 382 - Introduction to Virology Credits: 3 -3
- BIOL 385 - Biotechnology and Genetic Engineering Credits: 3 -3
- BIOL 402 - Applied and Industrial Microbiology Credits: 3 -3
- BIOL 403 - Techniques in Applied and Industrial Microbiology Credits: 1 -1
- BIOL 404 - Medical Microbiology Credits: 3 -3
- BIOL 418 - Current Topics in Microbiology Credits: 3 -3
- BIOL 420 - Vaccines Credits: 3 -3
- BIOL 452 - Immunology Credits: 3 -3
- BIOL 453 - Immunology Laboratory Credits: 1 -1
- BIOL 459 - Fungi and Ecosystems Credits: 3 -3
- BIOL 483 - General Biochemistry Credits: 4 -4

Additional Chemistry Courses (5 credits) ✓

- CHEM 314 - Organic Chemistry II Credits: 3 -3
- CHEM 318 - Organic Chemistry Lab II Credits: 2 -2

- Reason for the Modification:

The course is redundant. The other two 400 level courses essentially cover the same material. We also do have have the faculty to offer this course.

FOR NEW PROGRAMS (required if creating a new program)

- Reason for the New Program: The highly interdisciplinary field of bioinformatics has emerged as a powerful modern science. There is a great demand for undergraduate and graduate level trained individuals with a background in bioinformatics in industry as well as in academia. To address this need undergraduate programs across the United States are moving to integrate bioinformatics into their curriculum. The Department of Biology therefore proposes this new concentration.
- Relationship to Existing Programs:
NA
- Relationship to Existing Courses:
NA
- Semester of Initial Offering:
Fall 2017
- Insert Tentative SCHEV Proposal Below