



# Program Approval Form

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

Registrar.

**Action Requested:**

Create New (SCHEV approval required except for concentration, minors, and certificates)  
 Delete Existing  
 Modify Existing (check all that apply)  
 Title (SCHEV approval required except for concentration, minors, certificates)  
 Degree Requirements  Admission Standards  
 Application Requirements  
 Other Changes: \_\_\_\_\_

**Type (Check one):**

B.A.  B.S.  Minor  
 Undergraduate Certificate  
 M.A.  M.S.  M.Ed.  
 Ph.D.  Graduate Certificate  
 Concentration  
 Other: \_\_\_\_\_

**College/School:**  **Department:**   
**Submitted by:**  **Ext:**  **Email:**

**Effective Term:** Fall  **Please note:** For students to start 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)

This reflects the new biology core courses and the new graduation requirements in the BA program.

**Program Title:** (Required)  
Use title to identify subject matter. Do not include name of college/school or department.

**Concentration Title(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 BA	Biology BA
<b>▲ BA Concentration in Biology Education (with Licensure) (BIED)</b>	<b>▲ BA Concentration in Biology Education (with Licensure) (BIED)</b>
See attached	See attached

## Approval Signatures

Department \_\_\_\_\_ Date \_\_\_\_\_ College/School \_\_\_\_\_ Date \_\_\_\_\_ Provost's Office \_\_\_\_\_ Date \_\_\_\_\_  
*Required for Undergraduate Programs Only*

If this program may impact another unit or is in collaboration with another unit at Mason, the originating department must circulate this proposal for review by those 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 Graduate Programs Only

Graduate Council Member \_\_\_\_\_ Provost Office \_\_\_\_\_ Graduate Council Approval Date \_\_\_\_\_

## Concentration

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### ▲ BA Concentration in Biology Education (with Licensure) (BIED)

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Students may choose to complete the requirements of the Education with Licensure concentration described below. Course work must be completed with a minimum GPA of 2.00 in the BIOL courses presented for the major and a minimum GPA of 2.00 in the supporting requirements presented for the major. In addition, students must earn a grade of C or better in all core courses and must have a C or better in BIOL 213 to advance to other major requirements. 100-level BIOL courses (103-104) may not be applied toward the 33 credits of required BIOL courses in this concentration.

The education concentration consists of a selection of courses that provide essential skills to students who wish to pursue a career teaching high school biology. The concentration allows students to receive a license to teach biology in Virginia secondary schools within 120 credits. Students must fulfill all [requirements for a bachelor's degree](#). In addition to satisfying the [university-wide general education requirements](#) and the [requirements for a BA degree in COS](#), students majoring in biology with a concentration in education with licensure must complete the following. Through the course work below, they satisfy the university-wide general education requirements in natural science, quantitative reasoning, and information technology proficiency.

#### 22 credits of biology core courses:

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- BIOL 213 - Cell Structure and Function Credits: 4
- BIOL 214 - Introduction to Biostatistics Credits: 4
- BIOL 311 - General Genetics Credits: 4
- BIOL 308 - Foundations of Ecology and Evolution Credits: 5
- BIOL 310 - Biodiversity Credits: 5

8 credits of additional coursework for the concentration

- BIOL 430 and 431 - Advanced Human Anatomy and Physiology I and II Credits: 8

#### 3 additional credits of Biology

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- One additional Upper Division biology course

#### 8 credits of chemistry:

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- [CHEM 211 - General Chemistry](#) Credits: 4
- [CHEM 212 - General Chemistry](#) Credits: 4

**3-4 credits of Mathematics chosen from:**

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- [MATH 111 - Linear Mathematical Modeling](#) Credits: 3
- [MATH 113 - Analytic Geometry and Calculus I](#) Credits: 4
- [MATH 114 - Analytic Geometry and Calculus II](#) Credits: 4  
equivalent of MATH 108 accepted

**3 credits of computer science chosen from one of the following:**

- CDS 130 – Computing for Scientists Credits: 3
  - [IT 103 - Introduction to Computing](#) Credits: 3
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**6-7 credits chosen from:**

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- [ASTR 103 - Astronomy](#) Credits: 3
- [ASTR 111 - Introductory Astronomy: The Solar System](#) Credits: 3
- [ASTR 113 - Introductory Astronomy: Stars, Galaxies, and the Universe](#) Credits: 3
- [GEOL 101 - Introductory Geology I](#) Credits: 4
- [GEOL 102 - Introductory Geology II](#) Credits: 4
- [PHYS 243 - College Physics](#) Credits: 3
- [PHYS 245 - College Physics](#) Credits: 3

**Teacher Licensure Requirement (21 credits):**

**Admission to teacher licensure required**

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- [EDCI 473 - Teaching Science in the Secondary School](#) Credits: 3
  - [EDCI 483 - Advanced Methods of Teaching Science in Secondary School](#) Credits: 3
  - [EDUC 372 - Human Development, Learning, and Teaching](#) Credits: 3 (Fulfills University General Education Social & Behavioral Science Requirement)
  - [EDUC 422 - Foundations of Secondary Education](#) Credits: 3
  - [EDCI 490 - Student Teaching in Education](#) Credits: 6 (Fulfills University General Education Synthesis Requirement)
  - [EDRD 419 - Literacy in the Content Areas](#) Credits: 3
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