

# A&E BIO-MS: BIOLOGICAL SCIENCE MS

## History

1. Apr 28, 2014 by Katie Shannon (shannonk)
2. Oct 15, 2014 by Katie Shannon (shannonk)
3. Jul 22, 2015 by pantaleoa
4. Feb 25, 2022 by Katie Shannon (shannonk)
5. Dec 5, 2024 by Katie Shannon (shannonk)

## Viewing: A&E BIO-MS : Biological Science MS

Last approved: Thu, 05 Dec 2024 22:08:56 GMT

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Effective Catalog Edition

FS2025-SP2026

### Start Term

8/18/2025

### Program Type

Master of Science

### Academic Level

Graduate

### Program Code

A&E BIO-MS

### Department

Biological Sciences

### Discipline

Biological Sciences

### Title

Biological Science MS

### CIP Code

26.0101 - Biology/Biological Sciences, General.

## Program Requirements and Description

### Degree Requirements M.S. - with thesis

BIO SCI 6202	Problems In Applied And Environmental Biology
BIO SCI 5010	Graduate Seminar
or BIO SCI 5020	Data Analysis and Presentation
BIO SCI 5099	Graduate Research
BIO SCI 6223	Research Proposal Writing

### Degree Requirements M.S. - without thesis

BIO SCI 6202	Problems In Applied And Environmental Biology
BIO SCI 5010	Graduate Seminar

Elective courses are chosen with guidance from the advisor and advisory committee. A minimum of 30 credit hours is required for a M.S. degree. Up to 6 credit hours may be taken at the 3000-level in courses offered by other departments. Candidates for the M.S. degree with thesis conduct original research that is defended in a final oral examination. Non-thesis M.S. degree candidates take a comprehensive written final examination.

### Degree Requirements M.S. with Emphasis in STEM Education without thesis

BIO SCI 6100	Biology Citizen Science	3
BIO SCI 6223	Research Proposal Writing	3
or TCH COM 4550	Proposal Writing	
or TCH COM 5550	Advanced Proposal Writing	
EDUC 5150	Teacher Leadership within Educational System	3
EDUC 5220	Instructional Coaching and Mentoring	3

EDUC 5225	Curriculum Development and Assessment	3
EDUC 5330	Community-Based Participatory Action Research	3

BIO SCI electives – any combination of additional elective graduate-level BIO SCI courses chosen with guidance from the advisor and advisory committee (12 hours)

### Justification for request

The Biological Sciences Department is pleased to partner with the Department of Teacher Education and Certification to develop a new emphasis area in our non-thesis Biological Sciences MS degree program. This emphasis area will allow preservice and in service teachers to complete an MS degree in the Biological Sciences discipline. Earning an MS degree in Biological Sciences will provide a new opportunity for teachers to engage in professional development. An important aspect of this advance degree opportunity is that it will lead to an MS degree in Biological Sciences (CIP code 26), which will qualify teachers to teach dual credit and Advanced Placement credit college courses in the biological sciences to their high school students. By completing all the requirements for the STEM Education emphasis area these teachers will also earn a Graduate Certificate in Teacher Leadership through the Department of Teacher Education and Certification.

### Supporting Documents

Program Change (PC) Form 032024 emphasis area STEM education.docx  
 20240417-Provost Letter of Support.pdf  
 BIO SCI STEM Ed Ephasis Area DDD.pdf  
 MDHE Approval Letter\_ST\_November 2024bioed.pdf

### Reviewer Comments

**Crystal Wilson (wilsoncry) (Thu, 11 Jul 2024 18:37:36 GMT):** Rollback: Please attach signed proposal from Vice Provost and Dean of your college and approval memos as outlined in the Emphasis Area Approval Process.

**Crystal Wilson (wilsoncry) (Thu, 11 Jul 2024 20:04:32 GMT):** Attached signed proposal from the department.

**Jade McCain (jm558v) (Fri, 20 Sep 2024 13:34:07 GMT):** Rollback: Rollback per needing MDHEWD documents.

**Stephen Raper (sraper) (Wed, 04 Dec 2024 13:54:34 GMT):** Final MDHE Approval.

Key: 30