New Program Proposal

Date Submitted: 11/09/20 3:10 pm

Viewing: STEM-M : STEM Education Minor

Last edit: 11/30/20 1:08 pm

Changes proposed by: seb010

Submitter:	User ID:	seb010	Phone: 575-3875
Program Status	Active		
Academic Level	Undergraduate		
Type of proposal	Minor		
Select a reason for this new program	Adding New Minor		
Effective Catalog Year	Fall 2021		
College/School Code	College of Education and Health Professions (EDUC)		
Department Code	Department of Curriculum and Instruction (CIED)		
Program Code	STEM-M		
Degree	Minor		
CIP Code			

In Workflow

1. **EDUC Dean Initial**
2. **Director of Program Assessment and Review**
3. **Registrar Initial**
4. **Institutional Research**
5. **CIED Chair**
6. **EDUC Curriculum Committee**
7. **ARSC Dean**
8. **EDUC Dean**
9. **Global Campus**
10. **Provost Review**
11. **University Course and Program Committee**
12. **Faculty Senate**
13. Provost Final
14. Provost's Office--Notification of Approval
15. Registrar Final
16. Catalog Editor Final

Approval Path

1. 11/09/20 3:29 pm Ketevan Mamiseishvili (kmamisei): Approved for EDUC Dean Initial
2. 11/09/20 4:29 pm Alice Griffin (agriffin): Approved for Director of

Program Assessment and Review
3. 11/30/20 1:08 pm Lisa Kulczak (lkulcza): Approved for Registrar Initial
4. 11/30/20 1:48 pm Gary Gunderman (ggunderm): Approved for Institutional Research
5. 11/30/20 1:50 pm Ed Bengtson (egbengts): Approved for CIED Chair
6. 12/02/20 2:41 pm Ketevan Mamiseishvili (kmamisei): Approved for EDUC Curriculum Committee
7. 12/04/20 8:52 am Jeannie Hulen (jhulen): Approved for ARSC Dean
8. 12/04/20 9:30 am Ketevan Mamiseishvili (kmamisei): Approved for EDUC Dean
9. 12/04/20 10:32 am Suzanne Kenner (skenner): Approved for Global Campus

10. 12/08/20 4:06 pm Terry Martin (tmartin): Approved for Provost Review
11. 12/19/20 7:25 am Alice Griffin (agriffin): Approved for University Course and Program Committee

13.1205 - Secondary Education and Teaching.

Program Title

STEM Education Minor

Program Delivery Method

On Campus

Is this program interdisciplinary?

Yes

College(s)/School(s)

College/School Name
Fulbright College of Arts and Sciences (ARSC)

Does this proposal impact any courses from another College/School?

Yes

College(s)/School(s)

College/School Name
Fulbright College of Arts and Sciences (ARSC)

What are the total hours needed to complete the program?

15

Program Requirements and Description

Requirements

Minor in STEM Education (STEM-M)

The Minor in STEM Education is open to STEM majors interested in acquiring valuable communication skills in these complex subject areas, in developing a deeper understanding of how people learn science, mathematics, and computer science, and in applying research-based strategies to engage others in understanding these subjects. A minimum GPA of 3.0 required to earn the minor. Of the 15 credit hours, a minimum of 9 credit hours must be STEM, CIED, SEED, or CATE courses.

The 15 credit hour Minor in STEM Education is not a teacher licensure program. However, these courses can be applied to the undergraduate teacher licensure program that prepares students for secondary licensure in the following subjects: Mathematics, Biology, Chemistry, Physics, or Computer Science. For questions about teacher licensure, please visit the Office of Teacher Education. Students may also consider the one-year Master of Arts in Teaching program as a path to teacher licensure.

STEM 2003 THE ART OF STEM COMMUNICATION	Course STEM 2003 THE ART OF STEM COMMUNICATION Not Found	3
or ARSC 1201 & ARSC 1212	Introduction to Teaching STEM Subjects and Course ARSC 1212 Not Found	
STEM 2103	Knowing and Learning in Science and Mathematics	3
STEM 3203 CLASSROOM INTERACTIONS	Course STEM 3203 CLASSROOM INTERACTIONS Not Found	3
Electives chosen from:		6
STEM 4333	History and Philosophy of Science for Science Teachers	
BIOL 3273	UAteach Research Methods	
or CHEM 3273	UAteach Research Methods	
or PHYS 3273	UAteach Research Methods	
MATH 2903	Functions, Foundations and Models	
CATE 4073	Introduction to Teaching Programming in the Secondary Schools	
SEED 4003 TEACHING SECONDARY SCIENCE	Course SEED 4003 TEACHING SECONDARY SCIENCE Not Found	
SEED 4303 TEACHING SECONDARY MATHEMATICS I	Course SEED 4303 TEACHING SECONDARY MATHEMATICS I Not Found	
SEED 4313 TEACHING SECONDARY MATHEMATICS II	Course SEED 4313 TEACHING SECONDARY MATHEMATICS II Not Found	
CIED 4023	Teaching in Inclusive Secondary Settings	
Total Hours		15

8-Semester Plan

Program Costs

No new cost is associated with this new minor. STEM minor is replacing existing UATeach minor that will be discontinued.

Library Resources

N/A

Instructional Facilities

N/A

Faculty Resources

STEM minor is replacing existing UATeach minor that will be discontinued. No new faculty resources are needed to deliever the program.

List Existing Certificate or Degree Programs that Support the Proposed Program

Program(s)
EDUCMA - Teacher Education, Master of Arts in Teaching
BIOLBA - Biology, Bachelor of Arts
BIOLBS - Biology, Bachelor of Science
CHEMBS - Chemistry, Bachelor of Science
MATHBA - Mathematics, Bachelor of Arts
MATHBS - Mathematics, Bachelor of Science
PHYSBA - Physics, Bachelor of Arts
PHYSBS - Physics, Bachelor of Science

Are Similar Programs available in the area?

No

Estimated Student Demand for Program: 20-25

Scheduled Program Review Date: NA

Program Goals and Objectives

Program Goals and Objectives
To attract STEM majors to delve into the topic of STEM education and develop communication skills that will be beneficial to any career, even if they are not interested in becoming teachers (note: this minor replaces the UAteach minor in which the teaching internship was required. The internship will no longer be part of the minor.)

Program Goals and Objectives
To increase the pool of potential teachers of STEM subjects to help address the critical shortage of teachers in math, science, and computer science at the secondary level.
To increase enrollment in the STEM education (former UAteach) courses to keep them viable and offered on a regular basis to ensure that the University of Arkansas will be able to continue to prepare math, science, and computer science teachers at the secondary level.

Learning Outcomes

Learning Outcomes
Students who earn this minor in STEM Education will improve their ability to communicate STEM topics such as math and science to others.
Students who earn this minor in STEM Education will have a deeper understanding of how people learn math, science, and computer science.
Students who earn this minor in STEM Education will be able to teach STEM topics in a way that engages a class or other audience, using research-based strategies.
Students who earn this minor in STEM Education will have an opportunity to explore their interests by choosing two elective courses relating to STEM education.
Students who earn this minor in STEM Education will earn 15 credit hours in STEM education courses that can be applied to the teacher licensure program for Math, Biology, Chemistry, Physics, or Computer Science if they decide to become teachers.

Description and Justification for this request

Description of request	Justification for request

Description of request	Justification for request
To propose a new minor in STEM Education that replaces the current UAteach minor.	Of the vast number of STEM majors on campus, only a few are interested in becoming teachers at the secondary level. However, most will enter professions where communicating complex information in science, math, computer science, engineering, etc. is highly valued. Offering a minor in STEM education in which STEM majors can learn valuable skills for teaching and conveying information, which will be an important contribution to the purpose of this university and to future employers of these students. Most STEM majors have 15 credits of free electives, which will allow this minor to fit into their degree plans. The teacher licensure program for math, biology, chemistry, physics, and computer science will benefit as the pool of students who obtain a minor in STEM education increases, and some of those students will decide to become teachers.

Upload attachments

Reviewer Comments

Alice Griffin (agriffin) (11/09/20 3:53 pm): Removed scheduled program review date. Minors are not formerly reviewed.

Alice Griffin (agriffin) (11/09/20 3:55 pm): ATTENTION: ARSC 1201 course title has changed and completed approval. But new courses have not yet ported over. The new title is Introduction to Teaching STEM Subjects.

Alice Griffin (agriffin) (11/09/20 4:28 pm): Removed footnotes on behalf of the college. Submitter approved.

Lisa Kulczak (lkulcza) (11/30/20 1:08 pm): All courses not found currently in approval process.

Key: 810