

# STEM Education (STEM)

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STEM Education Website (<https://STEM.uark.edu/>)

The Department of Curriculum and Education offers a minor in STEM Education and a Certificate of Proficiency in STEM Education, both of which are open to students majoring in the STEM fields — science, technology, engineering and mathematics — and who are 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.

The certificate and minor in STEM Education are also initial pathways into the undergraduate teacher licensure program that prepares secondary teachers in the following subjects: mathematics, biology, chemistry, physics, or computer science.

## Requirements for Minor in STEM Education

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 (<https://teacher-education.uark.edu/>). Students may also consider the one-year Master of Arts in Teaching program as a path to teacher licensure.

### Course Requirements

STEM 2003	The Art of STEM Communication	3
	or ARSC 1201 Introduction to Teaching STEM Subjects & ARSC 1212 and Inquiry Approach to Teaching STEM Subjects	
STEM 2103	Knowing and Learning in Science and Mathematics	3
STEM 3203	Classroom Interactions	3
Electives chosen from:		6
ARSC 1201	Introduction to Teaching STEM Subjects <sup>1</sup>	
ARSC 1212	Inquiry Approach to Teaching STEM Subjects <sup>1</sup>	
STEM 2003	The Art of STEM Communication <sup>1</sup>	
STEM 4333	History and Philosophy of Science for Science Teachers	
BIOL 3273	Inquiry and Modeling in Science Education	
	or CHEM 3273 Inquiry and Modeling in Science Education	
	or PHYS 3273 Inquiry and Modeling in Science Education	
MATH 2903	Functions, Foundations and Models	
CATE 4073	Introduction to Teaching Programming in the Secondary Schools	
SEED 4003	Teaching Secondary Science	
STEM 4303	Teaching Secondary Mathematics I	

STEM 4313	Teaching Secondary Mathematics II
CIED 4023	Teaching in Inclusive Secondary Settings

**Total Hours** 15

<sup>1</sup> Can be used only once for the minor.

## Certificate of Proficiency in STEM Education

The Certificate in STEM Education is for STEM majors interested in acquiring valuable communication skills in these complex subject areas, developing a deeper understanding of how people think about and learn these subjects, and applying research-based strategies to engage others in understanding these subjects.

The 9 credit hour Certificate in STEM Education is not a minor or teacher licensure program. However, these courses can be applied to the undergraduate Minor in STEM Education and also the teacher licensure program that prepares students for secondary licensure in the following subjects: mathematics, biology, chemistry, physics, or computer science. Contact a STEM Education faculty adviser at [teach@uark.edu](mailto:teach@uark.edu).

STEM 2003	The Art of STEM Communication	3
Electives chosen from: (3 hrs must be 3000/4000 level)		6
ARSC 1201	Introduction to Teaching STEM Subjects	
	& ARSC 1212 and Inquiry Approach to Teaching STEM Subjects	
STEM 2103	Knowing and Learning in Science and Mathematics	
STEM 4333	History and Philosophy of Science for Science Teachers	
CATE 4073	Introduction to Teaching Programming in the Secondary Schools	
BIOL 3273	Inquiry and Modeling in Science Education	
CHEM 3273	Inquiry and Modeling in Science Education	
PHYS 3273	Inquiry and Modeling in Science Education	
MATH 2903	Functions, Foundations and Models	
EDST 4113	Teaching and Funding Outdoor & Informal Education	

**Total Hours** 9