ADVISING GUIDE: Bachelor of Arts (B.A.) in Mathematics with STEM Education Minor and Mathematics Licensure (grades 7-12)

Example of an eight-semester plan – math and education courses only

Choice of 2 entry options into the STEM Teacher Education licensure program:

1) ARSC 1201/1212 Teaching STEM Subjects/Inquiry Approach – *recommended* for teacher licensure

or 2) STEM 2003 Art of STEM Communication

Modify the courses below based on which path you choose

Fall Semesters			Spring Semesters		
Freshman Year					
ARSC 1201	Intro to Teaching STEM Subjects *(fulfills Univ 1001 requirement)*	1	ARSC 1212	Inquiry Approach to Teaching STEM Subjects	2
MATH 2554	Calculus I	4	MATH 2564	Calculus II	4
			MATH 2803	Transition to Advanced Mathematics	3
			MATH 2801L	(co-requisite with MATH 2803)	1
	TOTAL			TOTAL	
Sophomore Year					
STEM 2103(Fa)	Knowing and Learning	3	STEM 3203 (Sp)	Classroom Interactions	3
MATH 2574	Calculus III	4	MATH 3113	Intro to Abstract Algebra 1	3
MATH 3093	Abstract Linear Algebra	3	STAT 3003(Sp)	Statistical Methods *(Math Elective)*	3
	*Consider **STEM 2003 The Art of STEM Communication** for a Social Science core elective…*				
	TOTAL			TOTAL	
Junior Year					
STEM 4303* (Fa)	Teaching Secondary Mathematics I *(*choose STEM 4303 OR 4313)*	3	STEM 4313* (Sp)	Teaching Secondary Mathematics II *(*choose STEM 4303 OR 4313) although both are recommended)*	3
MATH 2903 (Fa-E)	Functions, Foundations, & Models	3	MATH 4933(Sp)	Mathematics Major Seminar	3
MATH 3513(Fa)	Elementary Analysis	3	MATH 3133(Sp)	History of Math *(Math Elective)*	3
CSCE 2004	Programming Foundations I	4			
	Total			Total	
Senior Year					
			STEM 4506	Teaching Internship *(full time teaching for 16 weeks- begins before univ. semester)*	6
MATH 3773(Fa)	Foundations of Geometry *(Math Elective)*	3	STEM 4403	Teaching Seminar *(meets one evening a week on campus)*	3
MATH 3013	Intro to Probability *(Math Elective)*	3			
	TOTAL			TOTAL	

Add other university requirements and electives to reach required total of 120 credit hours for graduation.

Notes:

Math education advisor: Dr. Kim McComas **kmccomas@uark.edu**
See Fulbright advisor for an official degree plan.

Four upper-level math electives are required by the math B.A. degree. The suggested electives on this advising guide support math teaching at the secondary level, but others may be substituted. The math department also accepts MATH 2584 Introduction to Differential Equations as an upper-level math elective even though it is a 2000 level course (the degree audit will not count MATH 2584 toward the Fulbright 24-hour rule of upper-level courses, however the college will substitute an upper-level STEM Education course if needed to reach 24 hours.)

If a student starts Calculus I as a sophomore, the math courses can be rearranged to complete the degree in the remaining three years. In that case, the student should take MATH 2803 and 2801L concurrently with Calculus I, since MATH 2803 is a pre-req for many of the courses in the math degree.

The STEM Education minor and teacher licensure courses also fit into any of the 3 Mathematics B.S. degree options (Pure, Applied, Statistics). Although the B.S. has more prescribed courses (including MATH 2584, and MATH 4513 instead of MATH 3513), it only takes 3 more math courses to earn the B.S.
Students who are unsure if they want to earn the B.A. or the B.S. do not have to decide right away since the core curriculum is the same for the first couple of years.

Students who choose not to complete the teacher licensure program should consider completing the 9-credit hour Certificate in STEM Education or the 15-credit hour Minor in STEM Education.
Go to **STEM.uark.edu**

For students who want mathematics teacher licensure coupled with a different major other than mathematics (such as engineering), the following math courses (or equivalent) are required to earn a teaching license in this subject:

- MATH 2574 Calculus III
- MATH 2803 Transition to Advanced Mathematics
- MATH 2903 Functions, Foundations, and Models (also listed under STEM Education requirements)
- MATH 3093 Abstract Linear Algebra
- MATH 3113 Introduction to Abstract Algebra
- MATH 3133 History of Mathematics
- MATH 3773 Foundations of Geometry
- STAT 3003 Statistical Methods

Recommended for those interested in adding Computer Science Licensure: CATE 4073 Teaching Programming in Secondary Schools and CSCE 2014 Programming Foundations II