



ADVISING GUIDE (See Fulbright advisor for an official degree plan)

Bachelor of Science (B.S.) Mathematics/STEM Education Minor - Mathematics Licensure (grades 7-12)

University Core Requirements

ENGLISH COMPOSITION (2 courses • 6 hours)

- ENGL 1013 Composition I
- ENGL 1023 Composition II

U.S. HISTORY (1 course • 3 hours)

- HIST 2003 History of the American People to 1877
 - HIST 2013 History of the American People 1877 to Present
 - PLSC 2003 American National Government
- Note: U.S. History & Government courses cannot be used more than once within the University Core.*

FINE ARTS (1 course • 3 hours)

- ARCH 1003 Architecture Lecture
- ARHS 1003 Art Lecture
- COMM 1003 Film Lecture
- DANC 1003 Movement and Dance
- LARC 1003 The American Landscape
- MLIT 1003 Music Lecture
- MLIT 1013 Music Lecture for Music Majors
- THTR 1003 Theatre Appreciation
- THTR 1013 Musical Theatre Appreciation

HUMANITIES (1 course • 3 hours)

- AAST 2023 The African American Experience
- ARCH 1013 Diversity and Design
- CLST 1003 Intro to Classical Studies: Greece
- CLST 1013 Intro to Classical Studies: Rome
- COMM 1233 Media, Community, and Citizenship
- ENGL 1213 Intro to Literature
- GNST 2003 Intro to Gender Studies
- HUMN 1124H* Honors Eq. of Cultures, 500-1600
- HUMN 2124H* Honors 20th Century Global Culture
- MUSY 2003 Music in World Cultures
- PHIL 2003 Intro to Philosophy
- PHIL 2103 Intro to Ethics
- PHIL 2203 Logic
- PHIL 3103 Ethics and the Professions
- WLIT 1113 World Literature I
- WLIT 1123 World Literature II
- World language at Intermediate I (2003) level

UNIV 1001: University Perspectives

- (Freshmen must complete during first year -**ARSC 1201 satisfies this requirement and is one entry option into licensure program**)

SOCIAL SCIENCES (3 courses from at least 2 fields • 9 hours)

- AGECE 1103 Principles of Agricultural Microeconomics
- AGECE 2103 Principles of Agricultural Macroeconomics
- ANTH 1023 Intro to Cultural Anthropology
- COMM 1023 Communication in a Diverse World
- ECON 2013 Principles of Macroeconomics
- ECON 2023 Principles of Microeconomics
- ECON 2143 Basic Economics: Theory and Practice
- GEOS 1123 Human Geography
- GEOS 2003 World Regional Geography
- HESC 1403 Life Span Development
- HESC 2413 Family Relations
- HIST 1113 Institutions and Ideas of World Civilizations I
- HIST 1123 Institutions and Ideas of World Civilizations II
- HIST 2003 History of the American People to 1877
- HIST 2013 History of the American People 1877 to Present
- HUMN 1114H* Honors Roots of Culture to 500 C.E.
- HUMN 2114H* Honors Birth of Modern Culture, 1600-1900
- PLSC 2003 American National Government
- PLSC 2013 Intro to Comparative Politics
- PLSC 2203 State and Local Government
- PSYC 2003 General Psychology
- RESM 2853 Leisure and Society
- RSOC 2603 Rural Sociology
- SOCI 2013 General Sociology
- SOCI 2033 Social Problems

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**Mathematics Major Course Requirements –
Pure Mathematics Concentration**

MATH 2574 Calculus III
MATH 2584 Elementary Differential Equations
MATH 2803 Transition to Advanced Mathematics
MATH 3093 Abstract Linear Algebra
MATH 3113 Introduction to Abstract Algebra I
MATH 4513 Advanced Calculus I
MATH 4933 Mathematics Major Seminar

CSCE 2004 Programming Foundations I

MATH 4113 Introduction to Abstract Algebra II
OR... MATH 4523 Advanced Calculus II

MATH 4443 Complex Variables

Four MATH or STAT elective courses numbered at the
3000-level or higher (may include CSCE 4133)

- ❖ _____
- ❖ _____
- ❖ _____
- ❖ _____

Note: B.S. majors can select from 3 concentrations:
Applied, Pure, or Statistics. See catalog for
requirements of Applied or Statistics concentration.

SCIENCE: Choose 2 courses – 8 hours

- ❖ BIOL 1543/1541L Principles of Biology
- ❖ BIOL 1603/1601L Principles of Zoology
- ❖ BIOL 1613/1611L Plant Biology
- ❖ BIOL 2013/2011L General Microbiology
- ❖ CHEM 1103/1101L University Chemistry I
- ❖ CHEM 1123/1121L University Chemistry II
- ❖ GEOS 1113/1111L General Geology
- ❖ GEOS 1133/1131L Earth Science
- ❖ PHYS 2054 University Physics I
- ❖ PHYS 2074 University Physics II

- ❖ _____
- ❖ _____

Course Requirements toward Mathematics Licensure – 24 credit hours

**ARSC 1201/1212 Intro to Teaching STEM Subjects/Field Experience
Or... STEM 2003 The Art of STEM Communication**

**STEM 2103 Knowing and Learning
STEM 3203 Classroom Interactions
CIED 4023 Teaching in Inclusive Secondary Settings
STEM 4506 Supervised Teaching Internship**

**STEM 4303 Teaching Secondary Mathematics I
or
STEM 4313 Teaching Secondary Mathematics II**

MATH 2903 Functions, Foundations, and Models

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Example of an eight-semester Plan

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

- 1) ARSC 1201/1212 Teaching STEM Subjects/Field Experience
or 2) STEM 2003 Art of STEM Communication

Modify the courses below based on which path you choose

Fall Semesters		Spring Semesters		
<i>Freshman Year</i>				
ARSC 1201 <i>(UNIV 1001)</i>	Intro to Teaching STEM Subjects <i>(fulfills Univ 1001 and is an entry option into the program coupled with ARSC 1212)</i>	1	ARSC 1212 Field Experience in Teaching STEM Subjects <i>(only required by those who choose ARSC 1201/1212 instead of STEM 2003*)</i>	2
MATH 2554	Calculus I	4	MATH 2564 Calculus II	4
ENGL 1013	English Composition I	3	MATH 2803 Transition to Advanced Mathematics	3
	Science (from list)	4	ENGL 1023 English Composition II	3
	Required Core Elective	3		Science (from list) 4
			UNIV 1001 University Perspectives <i>(only take this if not taking ARSC 1201)</i>	1
	TOTAL		TOTAL	
<i>Sophomore Year</i>				
STEM 2103(Fa)	Knowing and Learning	3	STEM 3203 (Sp) Classroom Interactions	3
MATH 2584	Calculus III	4	MATH 3113 Intro to Abstract Algebra 1	3
MATH 3093	Abstract Linear Algebra	3	MATH 2584 Elementary Differential Equations	4
	Required Core Elective	3		Required Core Electives 3
	Required Core Elective	3		Required Core Electives 3
	TOTAL		TOTAL	
<i>Junior Year</i>				
STEM 4303* (Fa)	Teaching Secondary Mathematics I <i>(*choose STEM 4303 OR STEM 4313)</i>	3	STEM 4313* (Sp) Teaching Secondary Mathematics II <i>(*choose STEM 4303 OR STEM 4313)</i>	3
MATH 2903 (Fa-E)	Functions, Foundations, & Models	3	MATH 4933 Mathematics Major Seminar	3
MATH 4513	Advanced Calculus I	3	MATH 3133 History of Math (Math Elective)	3
CSCE 2004	Programming Foundations I	4	MATH 4113 Intro to Abstract Algebra II <i>or...MATH 4523 or... Advanced Calculus II</i>	3
	Required Core Elective	3	STAT 3003* Statistical Methods (Math Elective)	3
	Total		Total	
<i>Senior Year</i>				
<i>**Summer: could opt to take CIED 4023 online in summer session 1 instead of during internship semester</i>				
			STEM 4506 Supervised Teaching Internship + weekly seminar; <i>(full time teaching for 16 weeks- begins before univ. semester)</i>	6
MATH 3773	Foundations of Geometry (Math Elective)	3	CIED 4023** <i>(online)</i> Teaching in Inclusive Sec. Settings <i>(could opt to take during summer)</i>	3
MATH 3013	Intro to Probability (Math Elective)	3		
MATH 4443	Complex Variables	3		
	TOTAL		TOTAL	

Add electives to reach required total of 120 credit hours for a degree

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Notes:

Students who choose not to complete the licensure program should consider completing the 9 credit hour Certificate in STEM Education or the 15 credit hour Minor in STEM Education.

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

Recommended for those interested in coaching sports in secondary schools: Coaching endorsement (24 credit hours)– some courses are online or in the summer. Advisor: Dr. Jack Kern (jkern@uark.edu)

Go to stem.uark.edu for more information about the STEM Education Program for Mathematics, Science, & Computer Science.