Academic Map: Mathematics, STEMteach Applied Mathematics

Department:	Mathematics	Degree:	BS
Program/Major:	Mathematics		
Track/Emphasis:	STEMteach Applied Mathematics		
Does this program	require a minor? (Yes/No) Yes		

Important program information in the online Undergraduate Bulletin:

UCA Core Requirements: http://uca.edu/ubulletin/general-policies-information/uca-core/

LD Core Check Sheet: http://uca.edu/academicbulletins/ld-uca-core/

Degree Requirements: http://uca.edu/ubulletin/general-policies-information/degree-requirements/

Program Description: <a href="http://uca.edu/ubulletin/colleges-departments-programs/college-of-natural-sciences-and-departments-programs/

mathematics/department-of-mathematics/

Course Descriptions: http://uca.edu/ubulletin/courses/

This degree program requires a total of $\underline{120}$ semester credit hours, including at least 40 upper-division credit hours.

Comparable courses in the Arkansas Course Transfer System (ACTS) are cross-referenced in the ACTS column of each semester block below; a core link (http://uca.edu/academicbulletins/ld-uca-core/) takes the user to the *Undergraduate Bulletin*'s UCA Lower-Division Core check sheet, where LD UCA Core options and ACTS course numbers are listed in full; an acts link takes the user to the *Undergraduate Bulletin*'s ACTS page (http://uca.edu/academicbulletins/acts/) for additional information and a UCA-ACTS crosswalk.

Year 1

Fall - Semester 1 (credit hours: 14)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	1496	Calculus I	4	MATH2405
WRTG	1310	Introduction to College Writing or Approved alternative (LD UCA Core: Writing Foundation) ¹	3	ENGL1013 core link
		LD UCA Core ¹	3	core link
		LD UCA Core ¹	3	core link
STEM	1100	Inquiry Approaches to Teaching (UCA STEMteach) ²	1	

Spring – Semester 2 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	1497	Calculus II	4	MATH2505
WRTG ENGL	1320 1320	Academic Writing and Research or Interdisciplinary Writing and Research or Other approved alternative (LD UCA Core: Research/Writing) ¹	3	ENGL1023 ENGL1023 core link
		LD UCA Core ¹	3	core link
		LD UCA Core (Natural Sciences) ^{1, 3}	4	core link
STEM	1101	Inquiry Based Lesson Design (UCA STEMteach)	1	

Form AMAP8S Version: 2018–2019 Page 1 of 3

Year 2

Fall – Semester 3 (credit hours: 17)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	2335	Transition to Advanced Mathematics	3	
MATH	2441	Mathematical Computation	4	
		General Elective ³	3	
MATH	2471	Calculus III	4	MATH2603
		LD UCA Core ¹	3	core link

Spring – Semester 4 (credit hours: 16/17)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	3320	Linear Algebra (UD UCA Core: I)	3	
		Program Requirement ⁴	3 or 4	
STEM	1301	Knowing and Learning (UCA STEMteach)	3	STEM
MATH	3331	Differential Equations	3	MATH
		LD UCA Core (Natural Sciences)	4	

Year 3

Fall – Semester 5 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4371	Introduction to Probability (UD UCA Core: R)	3	
		LD UCA Core ¹	3	core link
		LD UCA Core ¹	3	core link
MATH	4313	Functions and Modeling	3	
		LD UCA Core	3	

Spring – Semester 6 (credit hours: <u>15/16</u>)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	3311	Statistical Methods	3	
MATH	4345	College Geometry	3	
		Program Requirement ⁴	3 or 4	
MATH	4306	Modeling and Simulation (UD UCA Core: Z)	3	
STEM	2301	Classroom Interactions (UCA STEMteach)	3	

Year 4

Fall – Semester 7 (Credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4315 4340 4373	Introduction to Partial Differential Equations or Numerical Methods or Regression Analysis	3	
		General Elective ³	3	
		General Elective ³	3	
STEM	3310	Research Method in Mathematics and Science (UCA STEMteach)	3	

SUBJ	NUM	TITLE	SCH	ACTS
STEM	3300	Project-Based Instruction (UCA STEMteach)	3	

Spring - Semester 12 (Credit hours: 12)

SUBJ	NUM	TITLE	SCH	ACTS
STEM	4600	Apprentice Teaching (UCA STEMteach) (UD UCA Core: Z)	6	
STEM	4605	Apprentice Teaching Seminar (UCA STEMteach)	6	

		March 22, 2016
	SIGNED – DEPARTMENT CHAIR	DATE
	Signed – College Dean	DATE
To be completed by the advisor who	en an Eight-Semester plan is accepted by	the student:
If applicable, has student selected If "yes," specify: UCA STEMteach	a minor? Type "x" as appropriate.	No X Yes

Notes

The student will also need to complete major, minor, or general elective courses designated as fulfilling the upper-division and capstone requirements of the UCA Core. See annotations in this Academic Map for courses within the major that fulfill these requirements; for others, consult the *Undergraduate Bulletin* and your academic advisor.

Form AMAP8S Version: 2018–2019 Page 3 of 3

¹ See appropriate choices, alternatives, or substitutions under "UCA Lower Division Core" in the *Undergraduate Bulletin*. Prior to completion of 30 semester hours, a student must complete a UCA Lower Division Core course designated as a First-Year Seminar (FYS) in Critical Inquiry, Diversity, or Responsible Living.

² This Academic Map includes the 26 credit hours of the UCA STEMteach minor.

³ Students will need to adjust the number of general elective credit hours depending on the sequence chosen to meet the program requirements.

⁴ Program Requirement: PHYS 1441 and PHYS 1442 <u>OR</u> PHYS 1410 and PHYS 1420 <u>OR</u> CHEM 1450 and PHYS 1451 <u>OR</u> ECON 2320 and ECON 2321. Students who use the first course of the sequence for a lower-division UCA Core Critical Inquiry requirement (Physical Science or Social Science) will take an additional general elective instead of the program requirement in their fifth semester.