Academic Map: Mathematics, Applied Mathematics

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

Important program information in the online *Undergraduate Bulletin*:

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

LD Core Check Sheet: https://uca.edu/academicbulletins/ld-uca-core/
UD UCA Core Course List: https://uca.edu/academicbulletins/ud-uca-core/

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

Program Description: https://uca.edu/ubulletin/colleges-departments/cn/mathematics/

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

This degree program requires a total of <u>120</u> 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 (https://uca.edu/academicbulletins/ld-uca-core/) takes the user to the *Undergraduate Bulletin*'s Lower-Division (LD) UCA 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 (https://uca.edu/academicbulletins/acts/) for additional information and a UCA-ACTS crosswalk.

Scholarship recipients: Please be aware of eligibility criteria for your scholarship(s). In particular, pay attention to (1) the enrollment requirements each semester for disbursement of your scholarship(s) and (2) the number of hours and GPA required each semester and/or year for renewal of your scholarship(s). Some Academic Maps may suggest enrollment in fewer hours than required for disbursement of your scholarship(s). In such cases, work with your academic advisor to adjust your schedule to meet requirements most efficiently. Contact the Office of Student Financial Aid at (501) 450-3140 with any questions regarding enrollment/renewal requirements of your scholarship(s). For online information resources, see endnote 1.

Year 1

Fall - Semester 1 (credit hours: 16)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	1496	Calculus I (LD UCA Core: Quantitative) (Math Core)	4	MATH2405
WRTG	1310	Introduction to College Writing or Approved alternative (LD UCA Core: Writing Foundation) ²	3	ENGL1013 core link
		LD UCA Core: First Year Seminar	3	core link
		LD UCA Core	3	core link
		LD UCA Core	3	core link

Spring - Semester 2 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	1497	Calculus II (Math Core)	4	MATH2505
WRTG ENGL	1320 1320	Academic Writing and Research or Interdisciplinary Writing and Research or Other approved alternative (LD UCA Core: Research/Writing)	3	ENGL1023 ENGL1023 core link
		LD UCA Core: Lab Science	4	core link
		LD UCA Core: Lab Science	4	core link

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Year 2

Fall - Semester 3 (credit hours: 16)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	2341	Mathematical Computations (Fall Only) (Math Core)	3	
MATH	2471	Calculus III (Math Core)	4	MATH2603
MATH	3320	Linear Algebra (UD UCA Core: I) (Math Core)	3	
		LD UCA Core.	3	core link
		Minor Field ^{3, 4}	3	

Spring - Semester 4 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	2335	Transition to Advanced Mathematics (Spring Only) (Applied Required)	3	
MATH	3331	Differential Equations (UD UCA Core: C) (Spring Only) (Math Core)	3	
		LD UCA Core	3	core link
		LD UCA Core	3	core link
		Minor Field	3	

Year 3

Fall - Semester 5 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4315	Partial Differential Equations (Fall Only) (Applied Restrictive Elective) or MATH Major Elective (Applied Elective)	3	
		MATH Major Elective (Applied Elective)	3	
		LD UCA Core	3	core link
		Minor Field	3	
		General Elective	3	

Spring - Semester 6 (credit hours: 15/16)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	3311	Statistical Methods (Applied Required)	3	
MATH	4340 4373	Numerical Methods (Spring Only) (Applied Restrictive Elective, if needed) or Regression Analysis (Spring Only) (Applied Restrictive Elective, if needed) or MATH Major Elective (Applied Elective)	3	
		Program Related Requirement (if needed) or General Elective	3 or 4	
		General Elective	3	
		Minor Field	3	

Year 4

Fall - Semester 7 (Credit hours: 15/16)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4371	Introduction to Probability (UD UCA Core: R) (Fall Only) (Applied Required)	3	
		UD UCA Core (Diversity) (Math 4350 suggested, Fall Only)	3	
		Program Related Requirement (if needed) or General Elective	3 or 4	
		Minor Field	3	
		General Electives (Upper Division if needed)	3	

Spring - Semester 8 (Credit hours: 11-13)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4306	Modeling and Simulation (UD UCA Core: Z) (Spring Only) (Applied Required)	3	
		Minor Field	3	
		General Electives (Upper Division if needed)	3	
		General Electives (Upper Division if needed)	2-4	

	SIGNED – DEPARTMENT CHAIR		DATE			
	SIGNED - COLLEGE DEAN		DATE			
SIGNED – COLLEGE DEAN DATE o be completed by the advisor when an Eight-Semester plan is accepted by the student:						
If applicable, has student selected a minor? Type "x" as appropriate.		No		Yes		
If "yes," specify:						

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 in the major that will fulfill UD UCA Core requirements; for others, consult the *Undergraduate Bulletin* and your academic advisor.

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¹ See online information resources for UCA scholarships at https://uca.edu/scholarships/ and for state scholarships at https://scholarships.adhe.edu/scholarships-and-programs/a-z/.

² See appropriate choices, alternatives, or substitutions under "LD UCA Core" in the *Undergraduate Bulletin*. Prior to completion of 30 semester hours, a student must complete a LD UCA Core course designated as a First-Year Seminar (FYS) in Critical Inquiry, Diversity, or Responsible Living.

³ This Academic Plan includes 24 credit hours in the Minor field of study. Minor requirements range from 15 to 26 credit hours, so the student will need to adapt the number of general elective and minor elective credit hours in this plan as needed, depending upon the chosen minor field. Depending on a student's choice of minor and special degree requirements, the total number of credit-hours taken may exceed the total number of credit hours required to complete the program.

⁴ The applied mathematics major requires 24 hours of upper-division courses. The additional 16 upper-division credit hours needed to complete the degree may be met by courses in the minor field and by additional math or general electives.