Program Completion Plan (Eight Semester Plan)

Department: Mathematics   **Degree:** BS

Program/Major: Mathematics

Track/Emphasis: 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/ubulletin2014/general-policies-information/uca-core/

Degree Requirements: http://uca.edu/ubulletin2014/general-policies-information/degree-requirements/

Program Description: http://uca.edu/ubulletin2014/colleges-departments-programs/college-of-natural-sciences-and-mathematics/department-of-mathematics/

Course Descriptions: http://uca.edu/ubulletin2014/courses/

This degree program requires a total of 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/go/ubulletin2014-ldcore/) takes the user to the *Undergraduate Bulletin*'s UCA Core page, where 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/go/acts) for additional information and a full UCA-ACTS crosswalk.

Year 1

Fall – Semester 1 (credit hours: 16)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	1496	Calculus I	4	MATH2405
		UCA (Writing Foundation)[1]	3	core link
		UCA Core [1]	3	core link
		UCA Core[1]	3	core link
		UCA Core[1]	3	core link

Spring – Semester 2 (credit hours: 14)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	1497	Calculus II	4	MATH2505
		UCA Core (Research and Writing)[1]	3	core link
		UCA Core[1]	3	core link
		UCA Core (Natural Sciences) [1,2]	4	core link

Year 2

Fall – Semester 3 (credit hours: 14)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	2335	Transition to Advanced Mathematics	3	
MATH	2471	Calculus III	4	MATH2603
		UCA Core[1]	3	core link
		UCA Core (Natural Sciences) [1,2]	4	core link

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

SUBJ	NUM	TITLE	SCH	ACTS
MATH	2441	Mathematical Computation	4	
MATH	3320	Linear Algebra	3	
MATH	3331	Differential Equations	3	
		Program Requirement[2]	3 or 4	
		Minor Field[3,4]	3	

Year 3

Fall – Semester 5 (credit hours: 15 or 16)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4371	Introduction to Probability	3	
		MATH Major Elective (recommended MATH 4315)	3	
		UCA Core[1]	3	core link
		Program Requirement (if needed) or General Elective[2]	3 or 4	
		Minor Field[3,4]	3	

Spring – Semester 6 (credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4372	Introduction to Statistical Inference	3	
		MATH Major Elective (recommended Math 4340)	3	
		UCA Core[1]	3	core link
		Minor Field[3,4]	3	
		Minor Field[3,4]	3	

Year 4

Fall – Semester 7 (Credit hours: 15)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4305	Applied Mathematics I	3	
		General Elective[4]	4	
		General Elective[4]	3	
		Minor Field[3,4]	3	
		Minor Field[3,4]	3	

Spring – Semester 8 (Credit hours: 13 - <u>15</u>)

SUBJ	NUM	TITLE	SCH	ACTS
MATH	4306	Applied Mathematics II	3	
		General Electives[4]	3	
		General Electives[4,5]	1 - 3	
		Minor Field[3,4]	3	
		Minor Field[3,4]	3	

_____   _____
SIGNED – DEPARTMENT CHAIR   DATE

_____   _____
SIGNED – COLLEGE DEAN   DATE

To 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

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

[2] PHYS1441 and PHYS1442 **OR** PHYS1410 and PHYS1420 **OR** CHEM1450 and PHYS1451 **OR** ECON 2320 and ECON 2321.Students who use the first course of the sequence for a UCA Core Critical Inquiry requirement (Physical Science or Social Science) would take an additional general elective instead of the program requirement in their fifth semester.

[3] This Program Completion Plan includes 24 credit hours in the Minor field of study. Minor requirements range from 15 - 31 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. **Given 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 minor filed courses and additional math or general electives.

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