# Academic Map: Mathematics, STEM Teach Applied Mathematics track

**Department:** Mathematics **Degree:** BS

**Program/Major:** Mathematics

**Track/Emphasis:** STEM Teach Applied Mathematics track

**Does this program require a minor? (Yes/No)** Yes

**Important program information in the online *Undergraduate Bulletin*:**

**UCA Lower Division Core Requirements:** http://uca.edu/ubulletin2015/general-policies-information/uca-core/

**LD Core Check Sheet:** http://uca.edu/ubulletin/ldcore/

**Degree Requirements:** http://uca.edu/ubulletin2015/general-policies-information/degree-requirements/

**Program Description:** http://uca.edu/ubulletin2015/colleges-departments-programs/college-of-natural-sciences-and-mathematics/department-of-mathematics/

**Course Descriptions:** http://uca.edu/ubulletin2015/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/ubulletin/ldcore/) takes the user to the *Undergraduate Bulletin*'s UCA Lower-Division Core check sheet, where UCA Lower Division 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/ubulletin/arkansas-course-transfer-system/) 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 | 3 | ENGL1013 core link |
| | | UCA Lower Division Core [1] | 3 | core link |
| | | UCA Lower Division Core [1] | 3 | core link |
| EDUC | 1100 | Inquiry Approaches to Teaching (UCA STEM Teach Minor Course)[3] | 1 | |

**Spring – Semester 2 (credit hours: 15)**

| SUBJ | NUM | TITLE | SCH | ACTS |
|---|---|---|---|---|
| MATH | 1497 | Calculus II | 4 | MATH2505 |
| WRTG<br>ENGL | 1320<br>1320 | Academic Writing and Research or<br>Interdisciplinary Writing and Research or<br>Other approved alternative | 3 | ENGL1023<br>ENGL1023<br>core link |
| | | UCA Lower Division Core [1] | 3 | core link |
| | | UCA Lower Division Core (Natural Sciences) [1, 2] | 4 | core link |
| EDUC | 1101 | Inquiry Based Lesson Design (UCA STEM Teach Minor Course)[3] | 1 | |

## 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 |
| EDUC | 1301 | Knowing and Learning (UCA STEM Teach Minor Course)[3] | 3 | |
| | | UCA Lower Division 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 [UCA Upper Core: I] | 3 | |
| | | UCA Lower Division Core [1] | 3 | core link |
| | | Program Requirement[2] | 3 or 4 | |
| EDUC | 2301 | Classrooms Interactions (UCA STEM Teach Minor Course)[3] | 3 | |

## Year 3

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

| SUBJ | NUM | TITLE | SCH | ACTS |
|---|---|---|---|---|
| MATH | 4371 | Introduction to Probability [UCA Upper Core: R] | 3 | |
| MATH | 3331 | Differential Equations [UCA Upper Core: C] | 3 | |
| | | UCA Lower Division Core [1] | 3 | core link |
| | | UCA Lower Division Core [1] | 3 | core link |
| EDUC | 3300 | Project Based Instruction (UCA STEM Teach Minor Course)[3] | 3 | |

**Spring – Semester 6 (credit hours: 15 or 16)**

| SUBJ | NUM | TITLE | SCH | ACTS |
|---|---|---|---|---|
| MATH | 4372 | Introduction to Statistical Inference | 3 | |
| MATH | 4345 | College Geometry | 3 | |
| | | UCA Lower Division Core [1] | 3 | core link |
| | | Program Requirement[3] | 3 or 4 | |
| MATH | 4306 | Modeling & Simulation [UCA Upper Core: Z] | 3 | |

## Year 4

**Fall – Semester 7 (Credit hours: 15)**

| SUBJ | NUM | TITLE | SCH | ACTS |
|---|---|---|---|---|
| MATH | | MATH Major course (MATH 4315 or 4340 or 4373) | 3 | |
| MATH | | Math Major Course (MATH 4305 or 4340 or 4373) | 3 | |
| | | General Elective[4] | 3 | |
| MATH | 4313 | Function and Modeling | 3 | |
| STEM | 3310 | Research Method and Mathematics and Science (UCA STEM Teach Minor Course)[3] | 3 | |

**Spring – Semester 8 (Credit hours: 15)**

| SUBJ | NUM | TITLE | SCH | ACTS |
|---|---|---|---|---|
| STEM | 3305 | Perspectives on Mathematics and Science (UCA STEM Teach Minor Course)[3] | 3 | |
| | | General Electives[4] | 3 | |
| STEM | 4305 | Apprentice Teaching Seminar (UCA STEM Teach Minor Course)[3] | 3 | |
| STEM | 4600 | Apprentice Teaching (UCA STEM Teach Minor Course)[3] | 6 | |

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 _X_ Yes**

**If "yes," specify:** UCA STEM TEACH

## Notes

[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. 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 Lower Division 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 Lower Division 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 Academic Plan includes 24 credit hours UCA STEM TEACH minor.

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