

MATHEMATICS - BA, TEACHING EMPHASIS

The curriculum in the Bachelor of Arts in Mathematics, Mathematics Teaching Emphasis affords students to undertake a traditional liberal arts education in mathematics while pursuing requirements for teaching certification. Students in this program investigate a broad array of techniques in mathematics and pursue electives in related fields that demonstrate how mathematics is fundamental to the world at large.

The main goal for the Mathematics Teaching Emphasis is to prepare students to teach at the high school level, and the degree include coursework towards teaching certification as well as a semester of clinical teaching. Students are expected to participate in the AggieTEACH program and enroll in the Secondary Education (SEED) Minor. A student will typically seek admission to the AggieTEACH program after completing their first year.

Program Requirements

First Year

| | Semester Credit Hours |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Fall | |
| ENGL 104 Composition and Rhetoric or ENGL 103 or Introduction to Rhetoric and Composition | 3 |
| MATH 171 Calculus I | 4 |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ¹ | 3 |
| Freshman Science elective ² | 4 |
| General elective ^{3,4} | 1 |
| Semester Credit Hours | 15 |
| Spring | |
| ARSC 201 Self-Directed Experiences with Adolescents | 1 |
| MATH 172 Calculus II | 4 |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ¹ | 3 |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ¹ | 3 |
| Freshman Science elective ² | 4 |
| General elective ^{3,4} | 1 |
| Semester Credit Hours | 16 |

Second Year

| | Semester Credit Hours |
|--------------------------------------------------------------------|-----------------------|
| Fall | |
| MATH 221 Several Variable Calculus | 4 |
| MATH 300 Foundations of Mathematics | 3 |
| STAT 211 Principles of Statistics I | 3 |
| Select one of the following: | 4 |
| CSCE 110 Programming I | |
| CSCE 111 Introduction to Computer Science Concepts and Programming | |
| CSCE 206 Structured Programming in C | |

| | |
|---------------------------------|-----------|
| General elective ^{3,4} | 2 |
| Semester Credit Hours | 16 |

| Spring | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------|
| INST 222 Foundations of Education in a Multicultural Society or TEFB 273 or Introduction to Culture, Community, Society and Schools | | 3 |
| MATH 308 Differential Equations | | 3 |
| MATH 323 Linear Algebra | | 3 |
| Select one of the following: | | 3 |
| COMM 203 Public Speaking | | |
| COMM 205 Communication for Technical Professions | | |
| COMM 243 Argumentation and Debate | | |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ¹ | | 3 |
| Semester Credit Hours | | 15 |

| Third Year | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------|
| Fall | | |
| MATH 409 Analysis on the Real Line | | 3 |
| PHYS 206 Newtonian Mechanics for Engineering and & PHYS 226 Science and Physics of Motion Laboratory for the Sciences | | 4 |
| TEFB 322 Teaching and Schooling in Modern Society | | 3 |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ¹ | | 3 |
| Math elective ^{5,6} | | 3 |
| Semester Credit Hours | | 16 |

| Spring | | |
|-------------------------------------------------------------------------------------------------------------------------------|--|-----------|
| MATH 415 Modern Algebra I or MATH 433 or Applied Algebra | | 3 |
| MATH 467 Modern Geometry | | 3 |
| RDNG 372 Reading and Writing across the Middle or RDNG 465 Grades Curriculum or Reading in the Middle and Secondary Grades | | 3 |
| TEFB 324 Teaching Skills II | | 3 |
| General elective ⁴ | | 3 |
| Semester Credit Hours | | 15 |

| Fourth Year | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----------|
| Fall | | |
| INST 210 Understanding Special Populations | | 3 |
| MATH 403 Mathematics and Technology | | 3 |
| TEFB 407 Mathematics in the Middle and Senior School | | 3 |
| University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) ¹ | | 3 |
| MATH elective ^{5,6} | | 3 |
| Semester Credit Hours | | 15 |

Spring

| | | |
|------------------------------------|------------------------------|------------|
| TEED 425 | Supervised Clinical Teaching | 12 |
| Semester Credit Hours | | 12 |
| Total Semester Credit Hours | | 120 |

¹ Of the 18 hours shown as University Core Curriculum (<http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/>), 3 must be from language, philosophy and culture, 3 from creative arts, 6 from American history, 6 from Government/Political Science.

² Select 4 hours from ASTR 111, BIOL 111, BIOL 112, CHEM 119, CHEM 120, CHEM 107/CHEM 117, PHYS 207/PHYS 227.

The remaining 4 hours may be selected from ASTR 111, ATMO 201/ATMO 202, BIOL 111, BIOL 112, CHEM 119, CHEM 120, CHEM 107/CHEM 117, GEOL 101/GEOL 102, OCNG 251/OCNG 252, PHYS 207/PHYS 227.

³ MATH 170 is highly recommended for math majors co-enrolled in MATH 150, MATH 171, or MATH 172. MATH 170 may be taken twice for credit.

⁴ Select from any 100-499 course not used elsewhere, (except ALED 125; ASCC 102; ASTR 109/PHYS 109, ASTR 119/PHYS 119; BMEN 153; KINE 199; LAND 101; MATH 102 - 148 (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>), MATH 151 - 168 (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>), MATH 304, MATH 309, MATH 311, MATH 365, MATH 366, MATH 367, MATH 375, MATH 376; PBSI 301, PHYS 109/ASTR 109, PHYS 119/ASTR 119, PHYS 201, PHYS 202, PHYS 205; STAT 201, STAT 301, STAT 302, STAT 303).

⁵ Three hours of math elective courses are to be from MATH 325, MATH 407-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>). Students who plan to attend graduate school in mathematics are encouraged to take MATH 416 and MATH 446.

⁶ Three hours of math elective courses chosen from MATH 325, MATH 407-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>), CSCE 210-470 (<http://catalog.tamu.edu/undergraduate/course-descriptions/csce/>) (except CSCE 222/ECEN 222, CSCE 285, CSCE 289, CSCE 291, CSCE 402); or ISEN 320-430 (<http://catalog.tamu.edu/undergraduate/course-descriptions/isen/>). Students who plan to attend graduate school in mathematics are encouraged to take MATH 416 and MATH 446.

Maximum of 3 hours of MATH 300 or CSCE 222/ECEN 222 may be used in this degree program.

Maximum of 3 hours of MATH 411 or STAT 414 may be used in this degree program.

Maximum of 4 hours of MATH 417, MATH 437, or CSCE 442 may be used in this degree program.

If a grade of D or F is earned in any of the following courses, MATH 151/MATH 171, MATH 152/MATH 172, MATH 221/MATH 251/MATH 253, MATH 300, MATH 323 or MATH 308, this course must be immediately retaken and a grade of C or better earned. The department will allow at most two Ds in upper-level (MATH 325-499 (<http://catalog.tamu.edu/undergraduate/course-descriptions/math/>)) courses. If a third D is earned, one of the three courses in which a D was earned must be retaken and a grade of C or better earned.

Graduation requirements include a requirement for 3 hours of International and Cultural Diversit (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/international-cultural-diversity-requirements/>)y (<https://catalog.tamu.edu/>

undergraduate/general-information/degree-information/international-cultural-diversity-requirements/) courses and 3 hours of Cultural Discourse (<http://catalog.tamu.edu/undergraduate/general-information/degree-information/cultural-discourse-requirements/>) courses. A course satisfying a Core category, a college/department requirement, or a general elective can be used to satisfy this requirement. See academic advisor.

This degree requires that a student be admitted into the AggieTEACH program and complete the Secondary Education (SEED) minor. Courses for the SEED minor have already been incorporated in the planned coursework above.