MATHEMATICS - BA

The curriculum in the Bachelor of Arts in Mathematics affords students to undertake a traditional liberal arts education in mathematics. 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 degree is well suited for students interested in pursuing mathematics and some other area, and a minor field of study is required for this degree.

A student completing this program is prepared to enter the professional work force, or with appropriately chosen electives, to pursue professional degrees in various fields, including education, law, and medicine. Students in this degree can also pursue teaching certification programs. All advising for this degree option is done through the Undergraduate Program Office in the Department of Mathematics.

Program Requirements

First Year

Fall

		Semester Credit Hours
ENGL 104 or ENGL 103	Composition and Rhetoric 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

MATH 172	Calculus II	4
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	
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

Fall

MATH 221	Several Variable Calculus	4
MATH 300	Foundations of Mathematics	3
STAT 211	Principles of Statistics I	3
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
Semester Credit Hours		**16**

Spring

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
Minor elective [5]		3
Semester Credit Hours		**15**

Third Year

Fall

MATH 409	Analysis on the Real Line	3
PHYS 206 & PHYS 226	Newtonian Mechanics for Engineering and Science and Physics of Motion Laboratory for the Sciences	4
Minor elective [5]		3
General elective [4]		3
Semester Credit Hours		**13**

Spring

Select one of the following:		3
MATH 415	Modern Algebra I	
MATH 423	Linear Algebra II	
MATH 433	Applied Algebra	
MATH elective [6,7]		3
Minor electives [5]		6
General elective [4]		3
Semester Credit Hours		**15**

Fourth Year

Fall

University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/)		3
MATH elective [6,7]		6
Minor elective [5]		3
General elective [4]		3
Semester Credit Hours		**15**

Spring

University Core Curriculum (http://catalog.tamu.edu/undergraduate/general-information/university-core-curriculum/) [1]		3
MATH elective [6,7]		3
Minor elective [5]		3
General electives [4]		6
Semester Credit Hours		**15**
Total Semester Credit Hours		**120**

1 Of the 21 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, 3 from social and behavioral sciences, 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 151, MATH 152, MATH 171 or MATH 172.

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; ISEN 101; KINE 199; LAND 101; MATH 102 - 148, 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 A 15-18-hour minor field of study should be selected in conference with a departmental advisor.

6 Three hours can be from any 400-level MATH (excluding MATH 401), STAT 335 - STAT 482 (http://catalog.tamu.edu/undergraduate/course-descriptions/stat/), CSCE 210 - CSCE 470 (http://catalog.tamu.edu/undergraduate/course-descriptions/csce/) (excluding CSCE 222/ECEN 222, CSCE 285, CSCE 289, CSCE 291), or ISEN 320 - ISEN 430, (http://catalog.tamu.edu/undergraduate/course-descriptions/isen/) excluding any 485 course in any department without permission of a departmental advisor. Students seeking secondary certification must take MATH 403, MATH 467, and either MATH 415 or MATH 433. Students who plan to attend graduate school are encouraged to take MATH 416, MATH 447.

7 Nine hours of math elective courses are to be from any 400-level MATH, excluding MATH 401.

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 (325-499) 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.

Students desiring teacher certification should consult the requirements for certification before registering for electives.

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.