

# BACHELOR OF SCIENCE (B.S.) MAJOR IN MATHEMATICS

**Minimum required: 120 semester credit hours**

## General Requirements

- The general education core curriculum courses are listed in the degree plan below along with the statewide component code number. See the General Education Core Curriculum (<http://mycatalog.txstate.edu/undergraduate/general-education-core-curriculum/>) section of this catalog for the Texas State requirements and options in the core curriculum, including Honors courses.
- Students must complete a minimum of 36 advanced hours (3000 or 4000 level courses).
- Students entering Texas State with fewer than 16 credit hours completed after high school graduation will be required to take US 1100. All others will be exempt from taking this course. Students may be required to earn an additional elective to reach the 120 minimum total credit hour requirement for the awarding of a degree.
- Students must select a minor from the approved list of Undergraduate Minors (<http://www.mycatalog.txstate.edu/undergraduate/minors/>).
- Nine semester credit hours must be writing intensive (WI).
- Students pursuing this B.S. degree program are required to complete an additional 3 hours of English beyond the general education core curriculum. Students may select from the following English courses.

Code	Title	Hours
ENG 2310	British Literature before 1785	3
ENG 2320	British Literature since 1785	3
ENG 2330	World Literature before 1600	3
ENG 2340	World Literature since 1600	3
ENG 2359	US Literature before 1865	3
ENG 2360	US Literature since 1865	3
ENG 3303	Technical Writing	3

- If two years of the same language are taken in high school, then no additional language hours will be required for the degree. In the absence of such high school language, two semesters of the same modern language must be taken at the college level.

## Course Requirements

	First Semester Hours	Second Semester Hours	Freshman
US 1100	1 MATH 2472 (Component Area Option Code 090/092 [TCCN MATH 2414])	4	4
MATH 2471 (Mathematics Component Code 020 [TCCN MATH 2413]) <sup>1</sup>	4 American History Component Code 060	3	3
ENG 1310 (Communication Component Code 010 [TCCN ENGL 1301])	3 Communication Component Code 010	3	3

POSI 2310 (Government/Political Science Component Code 070 [TCCN GOVT 2306])	3 Life and Physical Sciences Component Code 030	3
Social and Behavioral Sciences Component Code 080	3 Language, Philosophy, and Culture Component Code 040	3
Component Area Option Codes 090	3	

17		16
First Semester Hours		Second Semester Hours
MATH 2393 (TCCN MATH 2315)	3 Minor	3
MATH 3330	3 CS 1428 (TCCN COSC 1437)	4
Minor	3 MATH 3377	3
Life and Physical Sciences Component Code 030	4 MATH Advanced Electives	3
Electives	3	

16		13
First Semester Hours		Second Semester Hours
MATH 3380	3 MATH Advanced Electives	6
Creative Arts Component Code 050 [HUMA 1315]	3 Minor	3
American History Component Code 060	3 Electives	3
Minor	3 POSI 2320 (Government/Political Science Component Code 070 [TCCN GOVT 2305])	3
Electives	3	

15		15
First Semester Hours		Second Semester Hours
MATH 4330	3 MATH 4307	3
MATH Advanced Elective	3 MATH 4315	3
Electives	4 Minor	6
ENG 3303 (or ENG Literature)	3 Elective	3

**Total Hours: 120**

<sup>1</sup> Even though MATH 2471 is the first required mathematics course, some students will need to take courses numbered below 2471. Credit examinations in MATH 1315, MATH 2417 and MATH 2471 are available.

## MATH Advanced Electives

Code	Title	Hours
MATH 3305	Introduction to Probability and Statistics	3
MATH 3323	Differential Equations	3
MATH 3325	Number Systems	3
MATH 3348	Deterministic Operations Research	3
MATH 3383	Numerical Analysis I	3

MATH 3398	Discrete Mathematics II	3
MATH 4305	Probability and Statistics	3
MATH 4306	Fourier Series and Boundary Value Problems	3
MATH 4327	Introduction to Complex Analysis and Its Applications	3
MATH 4336	Studies in Applied Mathematics	3
MATH 4337A	Topological Data Analysis	3
MATH 4337B	Research in Discrete Mathematics	3
MATH 4337C	Numerical Methods for Ordinary Differential Equations	3
MATH 4337D	Topics in Topology and Algebra	3
MATH 4350	Introduction to Combinatorics	3
MATH 4383	Numerical Analysis II	3
MATH 4393	Introduction to Finite Element Methods	3