College of Science
Bachelor of Science: Mathematics Major
Mathematics Education Option (Masters Track)
For students graduating in Calendar Year 2019

I. Curriculum for Liberal Education (32 credits): All courses used for the Curriculum for Liberal Education must be on the approved Curriculum for Liberal Education list. Each of Area 2 and Area 3 requires 6 hours. Area 4 requires a single eight-hour laboratory sequence in Biology, Chemistry, Geosciences, Environmental Science or Physics. Mathematics majors must take either Path 1: Math 1205-1206 or PATH 2: Math 1225-1226 or the equivalent to satisfy the Area 5 requirement. The Area 6 requirement must be met with one 3-credit course, not three 1-credit courses.

Area 1: Writing and Discourse (6 credits)   _____ 3 ( )
     _____ 3 ( )

Area 2: Ideas, Cultural Traditions, and Values (6 credits)   _____ 3 ( )
     _____ 3 ( )

Area 3: Society and Human Behavior (6 credits)   _____ 3 ( )
     _____ 3 ( )

Area 4: Scientific Reasoning and Discovery (8 credits)   _____ 4 ( )
     _____ 4 ( )

Area 5: Quantitative and Symbolic Reasoning (either Path 1: Math 1205-1206 or PATH 2: Math 1225-1226)

Area 6: Creativity and Aesthetic Experience (3 credits)   _____ 3 ( )

Area 7: Critical Issues in a Global Context (3 credits)   _____ 3 ( )

Foreign Languages: The equivalent of three years of one   _____ 3 ( )
foreign language in secondary school   _____ 3 ( )

NOTE: Students who completed two years of a single foreign language in high school are strongly urged to complete the second semester (1106) of that foreign language very early in their program of study. Students who will be taking first and second semesters (1105-1106) of a foreign language are encouraged to schedule it in their freshman or sophomore years.
NOTE: Students who completed fewer than two years of a single foreign language in high school must complete six semester hours of one foreign language at the college level and these six credits do not count toward the 120 hours required to graduate in the College of Science.

II. Required Mathematics Courses (50 credits.)

A. Calculus and Vector Geometry

PATH 1:		OR	PATH 2:	
MATH 1205 Calculus	3 ( )		MATH 1225 Calculus of a Single Variable I	4 ( )
MATH 1206 Calculus	3 ( )		MATH 1226 Calculus of a Single Variable II	4 ( )
MATH 1224 Vector Geometry	2 ( )		MATH 2204 Intro to Multivariable Calculus	3 ( )
MATH 2224 Multivariable Calculus	3 ( )			

B. Algebra, ODE's

MATH 2114 Introduction to Linear Algebra	3 ( )
MATH 2214 Intro. to Differential Equations	3 ( )
MATH 3144 Linear Algebra I	3 ( )
MATH 3124 Modern Algebra	3 ( )

C. Proofs, Advanced Calculus

MATH 3034 Intro. to Proofs	3 ( )
MATH 3224 Advanced Calculus	3 ( )
MATH 4044 History of Math (4F)	3 ( )
MATH 4334 College Geometry	3 ( )

D. Mathematics for Educators

MATH 2644 Math Tutoring (2F) (arrange position)	1 ( )
MATH 4625 Math for Secondary Teachers I (4F)	3 ( )
MATH 4626 Math for Secondary Teachers II (4S)	3 ( )
MATH 4644 Secondary Sch Math with Tech (4F)	3 ( )
MATH 4664 Senior MAED Seminar (4F)	2 ( )

E. Mathematics Electives

MATH _____ 3 ( )

The three hours of math electives may be chosen from any three-credit Math course at the 3000 or 4000 level, or undergraduate research hours (Math 4994) arranged with a member of the math faculty

Letters in parentheses indicate the course is only offered in the Fall or Spring semester. Corresponding numbers indicate the year in which the course should be taken.
The grades in the above mathematics courses determine the in-major GPA.

III. Computer Programming (3 credits): One of the following

MATH 3054 Programming for Mathematical Problem Solving,
CS 1054 Introduction to Programming in Java, or

CS 1044 Introduction to Programming in C,
CS 1114 Introduction to Software Design

_____ _____   (3)   (   )

IV. Statistics (3 credits)

STAT 4705 Probability and Statistics   (3)   (   )
The following substitutions are allowed: Stat 4105, Stat 4714

V. Education (13 credits)

MATH 3624 Early Teaching Experience (3S) *   (4)   (   )
EDEP 5154 Psych. Foundations for Teachers   (3)   (   )
EDCI 5264 Content Area Reading   (3)   (   )
EDCI 5554 Education of Exceptional Learners   (3)   (   )

Students need Senior status to enroll in 5000-level EDCI courses.
Please consult the course catalog for additional prerequisite requirements.

* This is the early field experience. Juniors need to **apply** for this course in early September in order to get a middle/high school placement for the following spring. See the Mathematics Education Program handbook for details.

Praxis I & II must be passed before a Bachelor of Science degree in Mathematics is granted.

VI. Free Electives (sufficient to achieve the 120 credit graduation requirement):

_____ ( )( )   _____ ( )( )   _____ ( )( )
_____ ( )( )   _____ ( )( )   _____ ( )( )
_____ ( )( )   _____ ( )( )   _____ ( )( )
_____ ( )( )   _____ ( )( )   _____ ( )( )

VII. Outcomes Assessment: Each student is required to participate in the department's Outcomes Assessment procedures as determined by each year's Undergraduate Program Committee and approved by the Head.

VIII. Satisfactory Progress Toward the B.S. in Mathematics: Upon having attempted 36 semester credits, the student must have completed 12 credits of the University Curriculum for Liberal Education. Upon having attempted 72 credits (including transfer, advanced placement, advanced standing, credit by examination and course withdrawal), the student must have completed 24 credits of the University Curriculum for Liberal Education. In addition, satisfactory progress toward the B.S. in mathematics requires that:

1. Within the previous two semesters, the student must pass at least one mathematics course that is used in the in-major GPA calculation.
2. Upon having attempted 45 semester credits, students must have an in-major grade-point average of 2.2 or above.
3. **Path 1:** Upon having attempted 72 semester credits (including transfer, advanced placement, advanced standing, credit by examination, course withdrawal), students must have completed the following courses with grades of C- or better: Math 1205, 1206, 1224, 2224, 1114 or 2114, 2214, and 3034 and not have taken any of these courses more than twice, including attempts ending in course withdrawal.
   Path 2: Upon having attempted 72 semester credits (including transfer, advanced placement, advanced standing, credit by examination, course withdrawal), students must have completed the following courses with grades of C- or better: Math 1225, 1226, 2114, 2204, 2214, and 3034 and not have taken any of these courses more than twice, including attempts ending in course withdrawal.

IX. Minimum hours required for graduation: 120 semester credits.

X. Minimum GPA required for graduation: Students are required to have a 2.0 GPA and a 2.0 in-major GPA for graduation. All Mathematics courses listed in II count toward the in-major GPA for this option.

NOTE: Please consult the course catalogue for prerequisite requirements.