# Bachelor of Science: Mathematics Major

**Mathematics Education Option** (Masters Track)

For students graduating in calendar year 2014

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## I. Mathematics Courses (49 credits)

<table>
<thead>
<tr>
<th>Required Courses (46)</th>
<th>Credits</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 1205 Calculus</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 1206 Calculus</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 1114 Elementary Linear Algebra</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Math 1224 Vector Geometry</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Math 2214 Intro. to Diff. Equations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 2224 Multivariable Calculus</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 2644 Math Tutoring (2F) (arrange position)</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Math 3034 Proofs (Prereq Math 2214 or 2224)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 3124 Modern Algebra</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 3144 Linear Algebra</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 3224 Advanced Calculus</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 4044 History of Math (F)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 4334 College Geometry</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 4625 Math for Secondary Teachers I (4F)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 4626 Math for Secondary Teachers II (4S)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 4644 Secondary Sch Math with Tech (4F)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Math 4664 Senior MAED Seminar (4F)</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

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.

**Elective Math Course (3):** Select 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.

Math _______ ___________________ (3) ( )

The grades in the above mathematics courses determine the in-major GPA.

## II. Computer Programming (3 credits) One of the following

- MATH 3054 Programming for Mathematical Problem Solving,
- CS 1044 Introduction to Programming in C,
- CS 1054 Introduction to Programming in Java, or
- CS 1114 Introduction to Software Design

_________ ___________________ (3) ( )

## III. Statistics (3 credits)

Stat 4705 Probability and Statistics (3) ( )

The following substitutions are allowed: Stat 4105, Stat 4714

## IV. Education (13 credits)

- EDCI 3724 Teaching Math I (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.

**V. Curriculum for Liberal Education** (32 credits): All courses used 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, or Physics. The two-hour lab requirement for this option is not waived because of state certification requirements. Mathematics majors must take Math 1205-1206 or its equivalent to satisfy the Area 5 requirement. The Area 6 requirement must be met with one 3-credit course, not three 1-credit courses.

Writing and Discourse (Area 1: 6 credits)

__________ (3) ( )

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

__________ (3) ( )

Society and Human Behavior (Area 3: 6 credits)

( Psyc 2004 recommended)

__________ (3) ( )

Scientific Reasoning and Discovery (Area 4: 8 credits)

(must complete sequence, with labs)

__________ (4) ( )

Quantitative and Symbolic Reasoning (Area 5: met by major)

Creativity and Aesthetic Experience (Area 6: 3 credits)

__________ (3) ( )

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

__________ (3) ( )

Foreign Languages: The equivalent of three years of one foreign language in secondary school.

__________ (3) ( )

Students who complete 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 and 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 for graduation in the College of Science.

**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, 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 72 semester credits (including transfer, advanced placement, advanced standing, credit by examination, course withdrawal), students must have completed Math 1205, 1206, 1224, 2224, 1114, 2214, and 3034 (totaling 19 credits).

3. Upon having attempted 96 semester credits, students must have an in-major grade-point average of 2.0 or above.

4. Math Education students need to apply for the Professional Studies Component of the program at the beginning of their Junior year. See the Mathematics Education Program handbook for details.

IX. Minimum Hours Required. 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. All Mathematics courses listed in I count toward the in-major GPA for this option.