

**2005-07 Catalog Paradigm  
Mathematics**

<b>First Year</b>	
1.	MATH 131 or MATH 132 (GS8)
2.	MATH 132 or MATH 233
3.	CSCI 110
4.	General Education
5.	General Education
6.	General Education
7.	Elective/Minor
8.	Elective/Minor

<b>Second Year</b>	
1.	MATH 233
2.	MATH 250
3.	General Education
4.	General Education
5.	General Education
6.	General Education
7.	Elective/Minor
8.	Elective/Minor

<b>Third Year</b>	
1.	MATH 300 or above
2.	MATH 300 or above
3.	MATH 300 or above
4.	General Education
5.	General Education
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

<b>Fourth Year</b>	
1.	MATH 300 or above
2.	MATH 300 or above
3.	MATH 499 (non credit) (2 <sup>nd</sup> semester)
4.	General Education
5.	General Education
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor
9.	Elective/Minor

Elective/Minor courses can be used to take additional major courses, free electives, or to fulfill a minor.

## Progress Sheet Mathematics

Student Name: _____  Student ID: _____	
<b>General Education – Lower Biennium</b>	<b>Major</b>
<input type="checkbox"/> <b>GS1</b> – Religious Studies _____ <input type="checkbox"/> <b>GS2</b> – Philosophy of Human Nature _____ <input type="checkbox"/> <b>GS3</b> – Human Relationships _____ <input type="checkbox"/> <b>GS4</b> – Natural Science _____ <input type="checkbox"/> <b>GS5</b> – Creative Expression _____ <input type="checkbox"/> <b>GS6</b> – United States Heritage _____ <input type="checkbox"/> <b>GS7</b> – Foreign Heritages _____ <input type="checkbox"/> <b>GS8</b> – Quantitative Skills _____ <input type="checkbox"/> <b>GS9</b> – Writing _____ _____	<b>Required Courses:</b> <input type="checkbox"/> CSCI 110 – Introduction to Computer Programming  <input type="checkbox"/> MATH 131 (or 124) – Calculus and Analytic Geometry I (or Survey of Calculus)  <input type="checkbox"/> MATH 132 – Calculus and Analytic Geometry II  <input type="checkbox"/> MATH 233 – Calculus and Analytic Geometry III  <input type="checkbox"/> MATH 250 – Advanced Foundations of Mathematics  <input type="checkbox"/> MATH 499 – Senior Examination  5 Math courses numbered 300 or above. CS 323 is included as a math course in this requirement. At least one must be from MATH 303, 306, 373, or 376.  <input type="checkbox"/> MATH 300 or above _____ <input type="checkbox"/> MATH 300 or above _____ <input type="checkbox"/> MATH 300 or above _____ <input type="checkbox"/> MATH 300 or above _____ <input type="checkbox"/> MATH 300 or above _____ <input type="checkbox"/> MATH 300 or above _____ .
<b>General Education – Upper Biennium</b>	
<input type="checkbox"/> <b>GS1</b> – Religious Studies _____ <input type="checkbox"/> <b>GS10</b> – Western Tradition _____ <input type="checkbox"/> <b>GS11</b> – Global Society _____ <input type="checkbox"/> <b>GS12</b> – Senior Colloquium (GENS 400) _____ _____	Note – it is recommended that math majors take courses in at least one area where mathematics is applied; for example, computer science, physics, economics, or business administration.  MATH 499 is a noncredit course required of all math majors in their senior year

**Paradigm  
Mathematics Teaching Major  
Early Adolescence/Adolescence Certification**

<b>First Year</b>	
1.	MATH 131 or MATH 132 (GS8)
2.	MATH 132 or MATH 233
3.	CSCI 110
4.	SSCI 220 (GS3)
5.	EDUC 120 and EDUC 125
6.	General Education
7.	General Education
8.	General Education

<b>Second Year</b>	
1.	MATH 233
2.	MATH 250
3.	General Education
4.	General Education
5.	General Education
6.	EDUC 281 <sup>SB</sup>
7.	EDUC 351 <sup>SB</sup>
8.	EDUC 223 and EDUC 250 <sup>SB</sup>

<b>Third Year</b>	
1.	MATH 306
2.	MATH 350 (offered Spring semester 2006, 2008)
3.	MATH 300 or above*
4.	General Education
5.	General Education
6.	EDUC 331, 332, 334 <sup>EA</sup>
7.	EDUC 377 <sup>EA</sup>
8.	Elective

<b>Fourth Year</b>	
1.	MATH 300 or above*
2.	MATH 300 or above*
3.	MATH 499 (non credit) (2 <sup>nd</sup> semester)
4.	General Education
5.	General Education
6.	EDUC 450 <sup>ST</sup>
7.	EDUC 451 <sup>ST</sup>
8.	EDUC 455 <sup>ST</sup>
9.	EDUC 458(1 <sup>st</sup> semester), EDUC 301(1 <sup>st</sup> semester) <sup>ST</sup>

Elective course can be used to take an additional major course or a free elective.

\* - one of these must be MATH 321.

SB – Sophomore block, EA – Early Adolescent Block, ST – Student Teaching Semester

## Progress Sheet Mathematics Teaching Major

Student Name:  Student ID:	
<b>General Education – Lower Biennium</b>	<b>Major</b>
<input type="checkbox"/> <b>GS1</b> – Religious Studies __RELS 106 or RELS 114__ <input type="checkbox"/> <b>GS2</b> – Philosophy of Human Nature __PHIL 120__ <input type="checkbox"/> <b>GS3</b> – Human Relationships __SSCI 220__ <input type="checkbox"/> <b>GS4</b> – Natural Science __A Physical Science__ <input type="checkbox"/> <b>GS5</b> – Creative Expression __ENGL 150 or HUMA 100__ <input type="checkbox"/> <b>GS6</b> – United States Heritage __POLI 130 or HIST 116__ <input type="checkbox"/> <b>GS7</b> – Foreign Heritages __Any except HIST 112/113__ <input type="checkbox"/> <b>GS8</b> – Quantitative Skills _____ <input type="checkbox"/> <b>GS9</b> – Writing _____ _____	<b>Required Courses:</b> <input type="checkbox"/> CSCI 110 – Introduction to Computer Programming <input type="checkbox"/> MATH 131 (or 124) – Calculus and Analytic Geometry I (or Survey of Calculus) <input type="checkbox"/> MATH 132 – Calculus and Analytic Geometry II <input type="checkbox"/> MATH 233 – Calculus and Analytic Geometry III <input type="checkbox"/> MATH 250 – Advanced Foundations of Mathematics <input type="checkbox"/> MATH 306 – Abstract Algebra <input type="checkbox"/> MATH 321 – Probability and Statistics <input type="checkbox"/> MATH 350 – Modern Geometry <input type="checkbox"/> MATH 300 or above _____ <input type="checkbox"/> MATH 300 or above _____ <input type="checkbox"/> MATH 499 – Senior Examination . MATH 499 is a noncredit course required of all math majors in their senior year.
<b>General Education – Upper Biennium</b>	
<input type="checkbox"/> <b>GS1</b> – Religious Studies _____ <input type="checkbox"/> <b>GS10</b> – Western Tradition _____ <input type="checkbox"/> <b>GS11</b> – Global Society _____ <input type="checkbox"/> <b>GS12</b> – Senior Colloquium (GENS 400) __GENS 408__	Notes – 1. Those wishing to obtain teaching certification must contact a co-advisor in the Education Discipline. During the Freshman year a letter of intent to apply for admission to the Teacher Education Program must be filed in the Teacher Education office.  2. Teaching certification requires specific General Education courses.  3. MATH 306 must be taken no later than the fall of the junior year in order to complete the program in four years.  4. MATH 350, a required course, is offered every other spring.  5. Advanced MATH courses are numbered 300 or above.

## **College Catalog Mathematics (MATH)**

The mathematics program is designed to be personally and intellectually challenging and to have three objectives: 1) to introduce students to the methodology and applications of mathematics; 2) to provide students in all disciplines with the mathematical competency required in their studies; and 3) to train professional mathematicians for graduate school, teaching, or other careers.

Check out our web site at <http://www.snc.edu/math> to obtain more information about the major program and the many activities in which mathematics majors participate.

### **Outcomes of the Major Program**

1. Each student should have a firm grounding in calculus, set theory, logic, and strategies of mathematical proof and problem solving.
2. Each student should have a working knowledge of at least five of the following mathematical areas: linear algebra, abstract algebra, differential equations, numerical analysis, operations research, probability and statistics, modern geometry, real analysis, and complex analysis. The precise combination of areas will depend on the student's particular interests and career objectives.
3. Each student should understand the connections and the differences between pure and applied mathematics. Students should be able to reason rigorously in mathematical arguments, and students should be able to use mathematical models and algorithms to solve problems.
4. Each student should master the language, symbology, and form used in mathematical proof and develop the ability to communicate mathematics clearly.
5. Each student should develop the ability to use technology to reason numerically, symbolically, graphically, and verbally. Students should be able to write computer programs or use appropriate software to solve mathematical problems.
6. Each student should develop the ability to be a self-learner in mathematics in order to maximize the student's future success as a professional mathematician, an actuary, a high school teacher, a computer scientist, etc.

**Retroactive Credit:** Students who pass MATH 132 or 233 with a grade of B or higher as their first mathematics course will be awarded credit for MATH 131, if they have not yet received credit for MATH 131. Students who pass MATH 233 with a grade of B or higher as their first mathematics course will also be awarded credit for MATH 132, if they have not yet received credit for that course.

**Graduate School Advisor:** Dr. Richard Poss

**Pre-Actuarial Advisor:** Dr. Gene DeBoth and Dr. Richard Poss

**2005-07 Catalog**  
**Mathematics Requirements**

**Mathematics Major (10 courses plus MATH 499):** CSCI 110, MATH 131 (or MATH 124), MATH 132, MATH 233, MATH 250, MATH 499, plus at least five additional mathematics courses numbered 300 or above. At least one of these five courses must be MATH 303, MATH 306, MATH 373, or MATH 376. For the mathematics major, CSCI 323 will count as a mathematics course numbered 300 or above. The major receives a Bachelor of Arts degree.

It is recommended that students majoring in mathematics take courses in at least one area where mathematics is applied; for example, computer science, physics, economics or business administration.

**Mathematics Teaching Major:** For secondary teaching, the program shall consist of CSCI 110, MATH 131 (or MATH 124), MATH 132, MATH 233, MATH 250, MATH 306, MATH 321, MATH 350, MATH 499, plus at least two additional mathematics courses numbered 300 or above.

**Mathematics Academic Minor (6 courses):** MATH 131 (or MATH 124), MATH 132, MATH 233, MATH 250, and two mathematics courses numbered 300 or above.

**Mathematics Teaching Minor:** The program shall consist of CSCI 110, MATH 131 (or MATH 124), MATH 132, MATH 250, MATH 306, and MATH 321 or MATH 350.

**Residency Requirements:** Students majoring in mathematics (including the teaching major) must take MATH 499 and earn credit in at least three mathematics courses at St. Norbert College which are numbered 300 or above.