

**2005-07 Catalog Paradigm
Computer Science
Computer Science Concentration**

First Year	
1.	CSCI 110 (1 st semester)
2.	CSCI 205 (2 nd semester)
3.	MATH 131 (GS8) (1 st semester)
4.	MATH 132 (2 nd semester)
5.	General Education
6.	General Education
7.	General Education
8.	General Education

Second Year	
1.	CSCI 225 (1 st semester)
2.	CSCI 220 (2 nd semester)
3.	MATH 250 (2 nd semester)
4.	General Education
5.	General Education
6.	General Education
7.	Elective/Minor
8.	Elective/Minor

Third Year	
1.	CSCI 322 (1 st semester)
2.	CSCI 370 (2 nd semester)
3.	CSCI Application
4.	General Education
5.	General Education
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

Fourth Year	
1.	CSCI 321 or CSCI 323 (1 st semester)
2.	CSCI 460 (2 nd semester)
3.	General Education
4.	General Education
5.	Elective/Minor
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

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

1. If necessary, a student may take CSCI 110 in the second semester of their first year, CSCI 205 in the first semester of their second year, and CSCI 225 in the first semester of their third year.
2. CSCI courses numbered 3xx can be taken after successfully completing prerequisites, although it is important to note that many courses are offered once per year or once every other year.
3. For detailed information about course offerings, a check sheet, and prerequisites, go to <http://www.snc.edu/compsci> and choose **Programs** from the top menu bar.
4. Students considering graduate school should consult with a computer science faculty member.

Progress Sheet

Computer Science

Computer Science Concentration

Student Name: Student ID:	
General Education – Lower Biennium	Major
<input type="checkbox"/> GS1 – Religious Studies _____ <input type="checkbox"/> GS2 – Philosophy of Human Nature _____ <input type="checkbox"/> GS3 – Human Relationships _____ <input type="checkbox"/> GS4 – Natural Science _____ <input type="checkbox"/> GS5 – Creative Expression _____ <input type="checkbox"/> GS6 – United States Heritage _____ <input type="checkbox"/> GS7 – Foreign Heritages _____ <input type="checkbox"/> GS8 – Quantitative Skills _____ <input type="checkbox"/> GS9 – Writing _____	<p>Required Courses:</p> <input type="checkbox"/> CSCI 110 – Introduction to Computer Programming <input type="checkbox"/> CSCI 205 – Software Engineering and Elementary Data Structures <input type="checkbox"/> CSCI 220 – Advanced Data and File Structures <input type="checkbox"/> CSCI 225 – Machine Organization and Assembly Language <input type="checkbox"/> CSCI 322 – Programming Languages <input type="checkbox"/> CSCI 370 – Introduction to Operating Systems <input type="checkbox"/> CSCI 460 – Senior Capstone Experience in Computer Science <input type="checkbox"/> MATH 131 – Calculus and Analytic Geometry I <input type="checkbox"/> MATH 132 – Calculus and Analytic Geometry II <input type="checkbox"/> MATH 250 – Advanced Foundations of Mathematics <p>Theory Electives (at least one theory elective must be completed). <input type="checkbox"/> CSCI 321 – Analysis of Algorithms <input type="checkbox"/> CSCI 323 – Theory of Computation</p> <p>Application Electives (at least one application elective must be completed). <input type="checkbox"/> CSCI 330 – Database Techniques and Modeling <input type="checkbox"/> CSCI 340 – Artificial Intelligence <input type="checkbox"/> CSCI 347 – Robotics and Real-Time Processing <input type="checkbox"/> CSCI 350 – Event and Windows Programming <input type="checkbox"/> CSCI 373 – Communication/Networks <input type="checkbox"/> CSCI 450 – Special Topics <input type="checkbox"/> CSCI 495 – Independent Study</p>
General Education – Upper Biennium	
<input type="checkbox"/> GS1 – Religious Studies _____ <input type="checkbox"/> GS10 – Western Tradition _____ <input type="checkbox"/> GS11 – Global Society _____ <input type="checkbox"/> GS12 – Senior Colloquium (GENS 400) _____	<p>Note –</p> <ol style="list-style-type: none"> 1. If necessary, a student may take CSCI 110 in the second semester of their first year, CSCI 205 in the first semester of their second year, and CSCI 225 in the first semester of their third year. 2. CSCI courses numbered 3xx can be taken after successfully completing prerequisites, although it is important to note that many courses are offered once per year or once every other year. 3. For detailed information about course offerings, a check sheet, and prerequisites, go to http://www.snc.edu/compsci and choose Programs from the top menu bar. 4. Students considering graduate school should consult with a computer science faculty member.

**2005-07 Catalog Paradigm
Computer Science
Business Information Systems Concentration**

First Year	
1.	CSCI 110 (1 st semester)
2.	CSCI 205 (2 nd semester)
3.	MATH 124 or MATH 131 (GS8) (1 st semester)
4.	General Education
5.	General Education
6.	General Education
7.	General Education
8.	General Education

Second Year	
1.	CSCI 225 (1 st semester)
2.	CSCI 220 (2 nd semester)
3.	BUAD 205
4.	BUAD 284
5.	General Education
6.	General Education
7.	Elective/Minor
8.	Elective/Minor

Third Year	
1.	CSCI 330 (1 st semester)
2.	CSCI 3xx
3.	BUAD 230
4.	BUAD 270
5.	General Education
6.	General Education
7.	Elective/Minor
8.	Elective/Minor

Fourth Year	
1.	BUAD 345 (1 st semester)
2.	BUAD 3xx
3.	CSCI 460 (2 nd semester)
4.	General Education
5.	General Education
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

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

1. If necessary, a student may take CSCI 110 in the second semester of their first year, CSCI 205 in the first semester of their second year, and CSCI 225 in the first semester of their third year.
2. CSCI courses numbered 3xx can be taken after successfully completing prerequisites, although it is important to note that many courses are offered once per year or once every other year.
3. For detailed information about course offerings, a check sheet, and prerequisites, go to <http://www.snc.edu/compsci> and choose **Programs** from the top menu bar.
4. Students considering graduate school should consult with a computer science faculty member.

Progress Sheet
Computer Science
Business Information Systems Concentration

Student Name: Student ID:	
General Education – Lower Biennium	Major
<input type="checkbox"/> GS1 – Religious Studies _____ <input type="checkbox"/> GS2 – Philosophy of Human Nature _____ <input type="checkbox"/> GS3 – Human Relationships _____ <input type="checkbox"/> GS4 – Natural Science _____ <input type="checkbox"/> GS5 – Creative Expression _____ <input type="checkbox"/> GS6 – United States Heritage _____ <input type="checkbox"/> GS7 – Foreign Heritages _____ <input type="checkbox"/> GS8 – Quantitative Skills _____ <input type="checkbox"/> GS9 – Writing _____ _____	Required Courses: <input type="checkbox"/> CSCI 110 – Introduction to Computer Programming <input type="checkbox"/> CSCI 205 – Software Engineering and Elementary Data Structures <input type="checkbox"/> CSCI 220 – Advanced Data and File Structures <input type="checkbox"/> CSCI 225 – Machine Organization and Assembly Language <input type="checkbox"/> CSCI 330 – Database Techniques and Modeling <input type="checkbox"/> CSCI 3xx – CSCI elective, numbered 300 or above (exclude CSCI 310) <input type="checkbox"/> CSCI 460 – Senior Capstone Experience in Computer Science <input type="checkbox"/> MATH 124 or MATH 131 – Survey of Calculus or Calculus and Analytic Geometry I <input type="checkbox"/> BUAD 205 – Financial Accounting <input type="checkbox"/> BUAD 230 – Foundations of Management <input type="checkbox"/> BUAD 270 – Marketing Concepts and Issues <input type="checkbox"/> BUAD 284 or MATH 321 – Statistics for Business and Economics or Probability and Statistics <input type="checkbox"/> BUAD 345 – Business Applications Using Systems Analysis and Design <input type="checkbox"/> BUAD 3xx – BUAD elective numbered 300 or above
General Education – Upper Biennium	
<input type="checkbox"/> GS1 – Religious Studies _____ <input type="checkbox"/> GS10 – Western Tradition _____ <input type="checkbox"/> GS11 – Global Society _____ <input type="checkbox"/> GS12 – Senior Colloquium (GENS 400) _____ _____	Note – 1. If necessary, a student may take CSCI 110 in the second semester of their first year, CSCI 205 in the first semester of their second year, and CSCI 225 in the first semester of their third year. 2. CSCI courses numbered 3xx can be taken after successfully completing prerequisites, although it is important to note that many courses are offered once per year or once every other year. 3. For detailed information about course offerings, a check sheet, and prerequisites, go to http://www.snc.edu/compsci and choose Programs from the top menu bar. 4. Students considering graduate school should consult with a computer science faculty member. RELATED MINORS - MATH MINOR=electives MATH 132, 233, 250, and 3xx, and take MATH 321 instead of BUAD 284. BUSINESS MINOR=electives ECON 102, BUAD 142, and BA350.

**2005-07 Catalog Paradigm
Computer Science
Graphic Design and Implementation Concentration**

First Year	
1.	CSCI 110 (1 st semester)
2.	CSCI 205 (2 nd semester)
3.	MATH 124 or MATH 131 (GS8) (1 st semester)
4.	ART 134 (1 st semester)
5.	ART 135 (2 nd semester)
6.	General Education
7.	General Education
8.	General Education

Second Year	
1.	CSCI 225 (1 st semester)
2.	CSCI 220 (2 nd semester)
3.	ART 280 or ART 335
4.	General Education
5.	General Education
6.	General Education
7.	General Education
8.	Elective/Minor

Third Year	
1.	ART 350 (1 st semester)
2.	CSCI 350
3.	General Education
4.	General Education
5.	Elective/Minor
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

Fourth Year	
1.	ART 485 (1 st semester)
2.	CSCI 3xx
3.	CSCI 460 (2 nd semester)
4.	General Education
5.	General Education
6.	Elective/Minor
7.	Elective/Minor
8.	Elective/Minor

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

1. If necessary, a student may take CSCI 110 in the second semester of their first year, CSCI 205 in the first semester of their second year, and CSCI 225 in the first semester of their third year.
2. CSCI courses numbered 3xx can be taken after successfully completing prerequisites, although it is important to note that many courses are offered once per year or once every other year.
3. For detailed information about course offerings, a check sheet, and prerequisites, go to <http://www.snc.edu/compsci> and choose **Programs** from the top menu bar.
4. Students considering graduate school should consult with a computer science faculty member.

Progress Sheet
Computer Science
Graphic Design and Implementation Concentration

Student Name: Student ID:	
General Education – Lower Biennium	Major
<input type="checkbox"/> GS1 – Religious Studies _____ <input type="checkbox"/> GS2 – Philosophy of Human Nature _____ <input type="checkbox"/> GS3 – Human Relationships _____ <input type="checkbox"/> GS4 – Natural Science _____ <input type="checkbox"/> GS5 – Creative Expression _____ <input type="checkbox"/> GS6 – United States Heritage _____ <input type="checkbox"/> GS7 – Foreign Heritages _____ <input type="checkbox"/> GS8 – Quantitative Skills _____ <input type="checkbox"/> GS9 – Writing _____	Required Courses: <input type="checkbox"/> CSCI 110 – Introduction to Computer Programming <input type="checkbox"/> CSCI 205 – Software Engineering and Elementary Data Structures <input type="checkbox"/> CSCI 220 – Advanced Data and File Structures <input type="checkbox"/> CSCI 225 – Machine Organization and Assembly Language <input type="checkbox"/> CSCI 3xx – CSCI elective, numbered 300 or above (exclude CSCI 310) <input type="checkbox"/> CSCI 350 – Event Programming within a Windowing Environment <input type="checkbox"/> CSCI 460 – Senior Capstone Experience in Computer Science <input type="checkbox"/> MATH 124 or MATH 131 – Survey of Calculus or Calculus and Analytic Geometry I <input type="checkbox"/> ART 134 – Basic Drawing <input type="checkbox"/> ART 135 – Drawing, Design, and the Computer <input type="checkbox"/> ART 350 – Computer Graphics <input type="checkbox"/> ART 485 – Design for the Web One of <input type="checkbox"/> ART 280 – Introductory Photography and Electronic Imaging OR <input type="checkbox"/> ART 335 – Advertising Design
General Education – Upper Biennium	
<input type="checkbox"/> GS1 – Religious Studies _____ <input type="checkbox"/> GS10 – Western Tradition _____ <input type="checkbox"/> GS11 – Global Society _____ <input type="checkbox"/> GS12 – Senior Colloquium (GENS 400) _____	Note – 1. If necessary, a student may take CSCI 110 in the second semester of their first year, CSCI 205 in the first semester of their second year, and CSCI 225 in the first semester of their third year. 2. CSCI courses numbered 3xx can be taken after successfully completing prerequisites, although it is important to note that many courses are offered once per year or once every other year. 3. For detailed information about course offerings, a check sheet, and prerequisites, go to http://www.snc.edu/compsci and choose Programs from the top menu bar. 4. Students considering graduate school should consult with a computer science faculty member.

College Catalog Computer Science (CSCI)

Computer science is primarily concerned with the study of algorithms. An algorithm is a sequence of unambiguous steps that performs a task. Computer hardware and software are developed to test and implement algorithms. So, computer science involves problem solving using computer algorithms. The scope of the discipline is broad, drawing from mathematics, engineering, business administration, psychology, linguistics, art and others.

The Computer Science Discipline is committed to providing a program that is intellectually challenging, preparing graduates to understand both the fundamental concepts in computing as well as the computing profession within the context of a larger society. The Discipline recognizes the need to develop an awareness of the cultural, social, legal, and ethical issues inherent in the discipline of computing and addresses these issues throughout the curriculum. The computer science program challenges students to share the values found in computing professions.

The purpose of the computer science major is to prepare students for a career in computing grounded in the liberal arts, providing a foundation for life-long learning through professional development and/or graduate study.

The objectives of the computer science program are to provide students with a thorough introduction to the theory and applications of computer science. The major is consistent with the ACM recommendations for a liberal arts program. It emphasizes both oral and written communication skills by requiring internal and external program documentation, topical papers, and presentations. Logical thinking and problem-solving is emphasized and attention is given to concepts that allow students to adapt to changing computing environments. Structured laboratory work reinforces mastery of concepts and their applications to real-world problems. Laboratories help students develop techniques and methodologies for experimentation and modeling.

Students work in a networked environment that links various types of personal computers to several servers. A large UNIX server is dedicated for computer science courses and student/faculty research projects. The Discipline also maintains a small Linux network and an experimental robotics laboratory.

Students interested in majoring in computer science have a choice of three formal concentrations: computer science, business information systems, or graphic design and implementation. Students may also choose a minor in computer science which can be combined with any other major. See the computer science web page for more information: <http://www.snc.edu/compsci>.

Residency requirements: Students majoring in computer science must earn credit in CSCI 460 and at least three computer science (CSCI) courses at St. Norbert College which are numbered 300 or above. Students minoring in computer science must earn credit in at least three computer science (CSCI) courses at St. Norbert College.

Graduate School Advisor: Dr. Bonnie McVey

2005-07 College Catalog
Computer Science Requirements

Computer Science Major (5 courses plus concentration): CSCI 110, 205, 220, 225, 460 and completion of one of the following concentrations:

Computer Science Concentration (7 courses): MATH 131, 132, 250, CSCI 322, 370, CSCI 321 or CSCI 323, and one application elective from CSCI 330, 340, 347, 350, 373, 450, or 490.

Business Information Systems Concentration (8 courses): MATH 124, BUAD 205, 230, 270, 284, 345, CSCI 330, one 300 or 400 level CSCI elective excluding CSCI310, and one 300 level BUAD elective.

Graphic Design and Implementation Systems Concentration (8 courses): MATH 124, ART 134, 135, 350, 485, ART 280 or ART 335, CSCI 350, and one 300 or 400 level CSCI elective excluding CSCI 310.

Computer Science Minor (7 courses): CSCI 110, CSCI 205, CSCI 220, CSCI 225, MATH 131 (or MATH 124), and two courses chosen from the following: any CSCI course 200 or above, MATH 315, and BUAD 345.