

GENERAL EDUCATION REQUIREMENTS				
<b>Competencies</b>				
<input type="checkbox"/>	♦ Basic College Math			
<input type="checkbox"/>	♦ Reading Comprehension			
<input type="checkbox"/>	♦ Computer Literacy			
<b>♦ General Education Categories - 34-35 credits</b>				
♦FYS	First Year Seminar		3	
♦W-I	Written Communication - Level I		3	
♦OC	Oral Communication		3	
PGR	Personal Growth & Responsibility		3	
CEA	Creative Expression & Appreciation		3	
WC	World Cultures		3	
HP	The Human Past		3	
CS	Contemporary Society		3	
SR	Scientific Reasoning:	# Any SR course	3-4	
		# SR Lab course	4	
QR	Quantitative Reasoning		3	
<b>‡ Written Communication (Level II and Level III)</b>				
W-II	Written Communication - Level II			<input type="checkbox"/>
W-III	Written Communication - Level III			<input type="checkbox"/>

**Free Electives (2 credits minimum)**

Additional free elective credits beyond the credits listed may be required based on the use of support courses to satisfy General Education Category requirements


**Minor (Optional):**


COURSES IN MAJOR (45-50 credits total)				
<b>Required (30 credits)</b>				
CSC	105	Survey of Computer Science	4	
CSC	110	Software Design and Program. I	4	
CSC	115	Software Design and Program. II	4	
CSC	260	Data Structures and Algorithms	4	
CSC	295	Computer Org. & Arch.	3	
CSC	300	Software Engineering I	4	
CSC	381	Operating System Principles	3	
CSC	520	Computer Science Capstone Project Specification	1	
CSC	521	Computer Science Capstone Project	3	
<b>Electives (9-12 credits)</b>				
†¶CSC				
†¶CSC				
†¶CSC				
<b>Required Option Sequence (6-8 credits) (typically taken junior and/or early senior year)</b>				
†CSC				
†CSC				
➤	Computation Theory	CSC 400 and CSC 415		
	Computer Graphics and Visualization:	Choose two from CSC 246, CSC 340, CSC 425		
	Cyber Physical Systems:	Choose two from CSC 223, CSC 230, CSC 485		
	Networking and Cloud Computing:	CSC 315A plus choose one from CSC 435, CSC 445, CSC 475		
	Software Engineering:	CSC 351 plus choose one from CSC 263, CSC 325		
<b>▼ Required Support Courses (34 credits total)</b>				
MAT	147		3	
MAT	214A		4	
MAT	220		4	
MAT	221		4	
▶MAT			3	
PHS	205		4	
◊			4	
◊			4	
∞			4	

▼ Students may choose to use support courses to satisfy general education categories, but may not be required to do so. **Note:** If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does **not** reduce the credit total required for graduation.

- ◆ Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
- # These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline
- ‡ Level II and Level III Written Communications Courses may be used to satisfy requirements anywhere else in a student's program of study where they may apply. The credits are counted only in one area.
- † At least one CSC elective or one Option course must be chosen from the following list of courses using a programming language other than the one used in the CSC 110 / CSC 115 sequence: CSC 278, CSC 279, CSC 325.
- ¶ At least one CSC elective must be numbered between 301 and 499 (CSC 367 Internship may *not* be used to satisfy this requirement).
- The Computation Theory Option Sequence is not scheduled on a regular basis – see the department chairperson for details and availability of courses
- ◊ A laboratory science sequence chosen from the following list is a required support ingredient for the Computer Science major: BIO 131-132, CHE 130-131, CHE 130 & 212, PHS 211A-212A, PHS 221-222, GLS 100 & 102.
- ∞ This science support course is in addition to the lab science sequence and must be chosen from the following list: BIO 131, CHE 130, CHE 212, GLS 100, GLS 102, PHS 211A, PHS 221.
- ▶ Choose one MAT course of at least three credits that has MAT 220 or MAT 221 as a prerequisite, or another MAT course with permission of the Computer Science Chairperson.

◆ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS      ◆ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS

Exceptions in the timing of courses will be made for transfer students

## Computer Science major flowsheet observations

Note that a number of courses that are required by the Computer Science major can simultaneously be used to satisfy general education requirements. If you decide to take advantage of this option, please note that while a specific course may satisfy two requirements on the flowsheet, credits for the course are awarded only once. The benefit of taking advantage of this option is that for every general education requirement you choose to satisfy via a required support course, a corresponding number of *free elective* credits can be taken towards fulfilling the 120 credits needed for graduation - this provides for added flexibility in choosing courses.

Required Support Course	General Education Requirement satisfied by support course
MAT 147	Quantitative Reasoning
◇ lab science sequence, part 1	Scientific Reasoning, any SR course
◇ lab science sequence, part 2	Scientific Reasoning, SR lab course
CSC 300	Written Communication Level II (WII)
CSC 521	Written Communication Level III (WIII)

Choosing to satisfy these five general education requirements by utilizing the listed required support courses can result in 18 additional free elective credits.

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Students may take Summer semester courses as a means of either accelerating the date of graduation or of lightening the credit load during Fall/Spring semesters. Note that most General Education requirements and some Mathematics Support courses are available during the Summer semester. The availability of Computer Science courses during the Summer semester is generally limited to CSC 105 and CSC 110, with CSC 115 and CSC 260 offered occasionally.

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Science courses used to satisfy Computer Science major support course requirements must be chosen from a specific list - *please see the flowsheet **in effect the year you declared the Computer Science major** for details*. Choosing a science course that is *not* on the approved list will *not* satisfy a CS major science support course requirement and will result in a decrease in the number of free elective credits available and may result in your needing to take more than 120 credits in order to graduate.

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MAT 110 Precalculus is the appropriate entry-level Mathematics course for many Computer Science majors, but is *not* a required course. If your background permits, MAT 110 can be skipped, with MAT 220 Calculus I being taken in its place and future semester's MAT courses adjusted accordingly. If you are unsure as to whether to take MAT 110, please consult with the

Chairperson of the Mathematics Department and/or with your advisor in the Computer Science Department. Taking MAT 110 will reduce the number of free elective credits by 3.

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Note that there is a cap of 55 on the number of Computer Science (CSC) course credits that can be taken. Any credits above 55 will appear on your transcript, but *will not count towards the total of 120 required for graduation*