Mathematics and Computer Science

Requirements for the Major in Computer Science

The major requires successful completion of the following:

Course Requirements [1]		
CSCI 157	Introduction to Modeling and Programming	4
CSCI 257	Data Structures [2]	4
CSCI 284	Database Design with Web Applications	4
CSCI 320	Analysis of Algorithms	4
CSCI 370	Computer Organization	4
MATH 101	Calculus I (or higher)	4
MATH 215	Discrete Mathematical Structures	4
Select four additional courses in computer science (CSCI) numbered above 270 [3]		16
Select one additional breadth course in an application area: [3]		4
ART 287	Electronic Sculpture	
ECON 341	Game Theory	
ENST 217	Fundamentals of GIS	
MATH 301	Introduction to Numerical Analysis	
MATH 332	Mathematical Modeling	
PHYS 203	Intermediate Electricity and Magnetism I	
PSYC 254	Introduction to Behavioral Neuroscience	
STAT 204	Elementary Statistics	
or another course approved by the student's advisor		
Total Semester Hours		**48**

Additional Requirements
A comprehensive examination [4]

1. A student majoring in computer science must present nineteen full course credits (seventy-six hours) from outside the major field.
2. With the permission of the department, students who are well prepared may begin their computer science sequence with CSCI 257.
3. Electives are to be selected in consultation with the departmental advisor. MATH 301 emphasizes both numerical and symbolic computing and may serve as one of the required computer science electives.
4. A student with a double major in the department must take a comprehensive exam in each major, and must take twelve full course credits (forty-eight hours) outside the major field.

Honors

Departmental honors may be conferred on students considered worthy of distinction. Most of the following accomplishments are generally expected: (1) an average of at least 3.50 in computer science courses numbered above 270; (2) a superior performance on both the written and oral comprehensive examination; (3) an original project, usually as part of a 444 computer science elective course, and oral defense or presentation of the work; and (4) additional course work in computer science beyond the minimum requirement.

Pre-engineering Program

Both mathematics and computer science are options in the pre-professional engineering program. The major is slightly abbreviated to accommodate a student's shortened time at Sewanee. The major is completed during the subsequent two years of study at the relevant engineering institution. Scheduling of courses during the three years at Sewanee is often complex. Students should consult departmental advisors within their major of interest in their first year to avoid scheduling conflicts.

A student must complete all core curriculum requirements of the college. A comprehensive examination is not required for a pre-engineering major.

Course Requirements
CHEM 101

CHEM 102		
CSCI 157	Introduction to Modeling and Programming	4
CSCI 257	Data Structures	4
CSCI 320	Analysis of Algorithms	4
CSCI 370	Computer Organization	4
CSCI 428	Operating Systems	4
MATH 101	Calculus I	4
MATH 102	Calculus II	4
MATH 207	Multidimensional Calculus	4
MATH 212	Differential Equations	4
MATH 215	Discrete Mathematical Structures	4
PHYS 101	General Physics I (Lab)	4
PHYS 102	General Physics II (Lab)	4
Select one additional course in computer science (CSCI) numbered 300 or above		4
Select three advanced courses in computer science or computer engineering at the designated engineering school		12
Total Semester Hours		**64**