COMPUTER SCIENCE

Requirements

Summary of Graduation Requirements for the Computer Science Major

To complete the major in computer science a student must complete the following:

1. All required courses listed by number in the schedule of courses above:

Code	Title	Hours
CSSE 120	Introduction to Software Development	4
CSSE 132	Introduction to Systems Programming	4
CSSE 220	Object-Oriented Software Development	4
CSSE 230	Data Structures and Algorithm Analysis	4
CSSE 232	Computer Architecture I	4
CSSE 280	Introduction to Web Programming	4
CSSE 304	Programming Language Concepts	4
CSSE 332	Operating Systems	4
CSSE 333	Intro to Database Systems	4
CSSE 371	Software Requirements Engineering	4
CSSE 374	Software Design	4
CSSE 473	Design and Analysis of Algorithms	4
or MA 473	Design & Analysis of Algorithms	
CSSE 474	Theory of Computation	4
or MA 474	Theory of Computation	
Select one of the following options:		12
Option 1:		
CSSE 487	Senior Research Project I	
CSSE 488	Senior Research Project II	
CSSE 489	Senior Research Project III	
Option 2:		
CSSE 494	Senior Thesis I	
CSSE 495	Senior Thesis II	
CSSE 496	Senior Thesis III	
Option 3:		
CSSE 497	Senior Capstone Project I	
CSSE 498	Senior Capstone Project II	
CSSE 499	Senior Capstone Project III	
MA 111	Calculus I	5
MA 112	Calculus II	5
MA 113	Calculus III	5
MA 221	Matrix Algebra & Differential Equations I	4
MA 276	Introduction to Proofs	4
MA 374	Combinatorics	4
MA 381	Introduction to Probability with Applications to Statistics	4
ECE 233	Introduction to Digital Systems	4
ECE 332	Computer Architecture II	4
PH 111	Physics I	4
PH 112	Physics II	4
CHEM 111	General Chemistry I	3
CHEM 111L	General Chemistry I Lab	1
HUM H190	First-Year Writing Seminar	4
ENGL H290	Technical & Professional Communication	4
RHIT 100	Foundations for Rose-Hulman Success	1

2. Twelve credits of additional computer science courses numbered between 300 and 492 and designated as computer science electives. None of the credits may be from CSSE 372 Software Project Management, CSSE 373 Formal Methods in Specification and Design, CSSE 375 Software Construction and Evolution, CSSE 376 Software Quality Assurance, and CSSE 477 Software Architecture. The student's academic advisor must approve the courses to satisfy this requirement. Use of computer science courses numbered 490 through 492 to fulfill this requirement must be approved by the department head. Credits used to satisfy any requirements for a minor or secondary major pursued by a student cannot also be used to satisfy CS elective requirements for the student's primary or secondary major in Computer Science. Credits used by a student pursuing a secondary major in CS that are intended to satisfy the CS elective requirement can only be used to satisfy technical or free elective requirements within the student's primary major or not used towards any requirements within the primary major.
3. Four credits of science electives, which can be any CHEM, PH, BIO, or GEOL courses not already required for the computer science major.
4. Four additional credits of technical electives, consisting of any courses in biology, chemistry, engineering (except software engineering and engineering management), geology, mathematics, biomathematics, or physics.
5. Twenty-eight credits of additional courses offered by the Department of Humanities, Social Sciences, and the Arts. The distribution of these courses must meet the requirements of the Department of Humanities, Social Sciences, and the Arts.
6. Twenty credits of free elective courses. These courses must have the approval of the student's academic adviser. Free electives may be selected from any Rose-Hulman course.
7. A total of 192 credits.