COMPUTER SCIENCE-B.S.
General Computer Science, Computer Graphics, Embedded Programming, & Related Discipline Concentration

General Education Requirements

I. Required Skills and Competencies 16 cr
____ ENG 106 Writing Intensive First Year Seminar OR
____ ENG 110 Advanced Placement Writing (3 cr)
May need ENG 050 Basic Writing first, based on test results
____ HCS 100 Intro to Human Communication (3 cr)
____ MAT 211 Calculus I (4 cr)
If necessary, student may need MAT 175 Pre-Calculus first.
____ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
____ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 35 cr
A: Language/Numbers for Rational Thinking (3 cr)

B: Literary, Artistic & Cultural Traditions (9 cr)

C: Biological & Physical Sciences (11 cr)*

D: Political, Economic & Geographic Science (6 cr)

E: Social & Behavioral Science (6 cr)

III. Library Skills: Complete via College/Advanced Writing

Computer Science Major Core Requirements all concentrations 32 cr
____ CSC 107 Computer Science I Lab (1 cr)
____ CSC 110 Computer Science I (3 cr)
____ CSC 111 Computer Science II (4 cr)
____ CSC 210 Data Structures (4 cr)
____ CMPE 220 Computer Organization (4 cr)
____ CSC 310 Design & Analysis of Algorithms (4 cr)
____ CMPE 320 Operating Systems (4 cr)
____ CSC 371 Database Management (4 cr)
____ CMPE 320 Operating Systems (4 cr)
____ CSC 499 Research and Development Project (2 cr)

Other Courses required in all Concentrations 15 cr
____ MAT 211 Calculus I (4 cr)
____ MAT 225 Discrete Mathematics (4 cr)
____ MAT 313 Statistics I (4 cr)
____ MAT 329 Elementary Linear Algebra (3 cr)

General Computer Science Degree 20 cr
The general computer science degree consists of the following courses. Student may instead choose a specific area of interest. (See concentrations below).
____ CSC 350 Intro to Computer Graphics (4 cr)
____ CSC 401 Simulation Techniques (4 cr)
____ CSC 431 Computer Networks (4 cr)
____ CSC 440 Compiler Design (4 cr)
____ CSC 460 Artificial Intelligence (4 cr)

Concentrations
Three concentrations are pre-approved: (See Below) In addition, other concentrations can be developed. Students may, with their advisor, draw up a customized concentration to be submitted to the dept. for approval.

Embedded Programming Concentration 20 cr
____ CSC 401 Simulation Techniques (4 cr)
CSC 420 Embedded & Real-Time Programming (4 cr)
CSC 431 Computer Networks (4 cr)
CSC 440 Compiler Design (4 cr)
CSC 461 Introduction to Robotics (4 cr)
Computer Graphics Concentration 25 cr
CSC 350 Intro to Computer Graphics (4 cr)
CSC 450 Advanced Computer Graphics (4 cr)
CSC 451 Computer Graphics Algorithms (4 cr)
Computer Science Elective** (4 cr)
ART 217 Computer Design I (3 cr)
Any two of the following:
ART 306 Computer Design II (3 cr) Illustration
ART 319 Computer Design III (3 cr) Photomanipulation & Painting
ART 430 Computer Design IV (3 cr) Multimedia
Related Discipline Concentration 16+ cr
Computer Science Elective (4 cr)**
Computer Science Elective (4 cr)***
Computer Science Elective (4 cr)***
Major or Minor in other discipline
None of these electives can overlap with your other major/minor
*Computer Science majors must complete a two-semester science sequence. Students can choose from BIO161/162, CHM 121&125/122&126, or PHY 205&123/206&125. The first course in the sequence can count as a Category C General Education course.
** Math or Computer Science Elective is any CSC or MAT course at the 300-level or above or MAT 223 or MAT 329 or PHL 332
*** Computer Science Elective is any CSC course at the 300-level or above.
Check with advisor or bulletin board for frequency of required courses.
Free Electives 17 cr
Total Graduation Requirements 120-122 cr
GPA Needed to Declare: 2.0
To declare or retain this major, a student must earn a ‘C’ or better in CSC 110 Computer Science I.
Students pursuing this major should have strong math skills.
Helpful Hints for Advising:
Semester I CSC 110 Computer Science I (3 cr)
CSC 107 Computer Science I Lab (1 cr)
Calculus I (4 cr)*****
Two Gen Ed courses (6 cr)
Semester II CSC 111 Computer Science II (4 cr)
MAT 225 Discrete Mathematics (4 cr)****
Two General Education Classes (6 cr)
***** Depending on math placement.
****** Students not qualified to take Calculus I may be required to first complete MAT 175 Pre-Calculus
A Computer Science minor is available 20-21 cr.