

Computational Science Degree (planned) 120-123 hours			
Fall semester	CR	Spring semester	CR
First Year			
One course from: (a) BCSE 102 General Applications Programming (b) BCSE 104 Computing in Matlab (c) BCSE 209 Special Topics in Computer Programming	3	BCSE 150 Introduction to Computational Science	3
BMTH 131 Intro Math for Computational Science	3	BMTH 141 Calculus 1	4
BENG 101/101L Composition and Composition Laboratory	3-4	BENG 102 Composition and Literature	3
General education elective	3	General education elective	3
General education elective	3	General education elective	3
Total:	15-16		16
Second year			
BCSE 145 Algorithm Design I	4	BCSE 146 Algorithm Design II	4
BMTH 230 Linear Algebra	3	BMTH 240 Calculus III	4
BMTH 142 Calculus II	4	General education elective	3
*General education elective (Recommended: BPHY 211+L, Essentials of Physics I w/Lab)	3-4	*General education elective (Recommended: BPHY 212+L, Essentials of Physics II w/lab)	3-4
General education elective	3	BMTH 242 Differential Equations	3
Total:	17-18		17-18
Third Year			
**BCSE 350 Techniques of Computation	3	One course from: (a) **BCSE360 Operating system (b) **BCSE361 Computer networking and communications (c) **BCSE362 Software Engineering	3
BCSE 320 Database Management Systems	3	**BMTH 380 Computational Mathematics	3
General education elective	3	**BSTA 340 Applications in Probability and Statistics	3
**Cognate course elective	3	**Cognate course elective	3
**Elective	3	**Elective	3
Total	15		15
Forth year			
**Cognate course elective	3	**BCSE 460 Independent research (capstone)	3
**BCSE 450 Computer Simulation	3	**Cognate course elective	3
**BCSE 390 High performance computing	3	**Elective	3
**BSTA 350 Experimental Design	3	**Elective	3
**Elective	3		
Total	15		12

** denotes new course to be developed, some existing courses may be used as cognate electives

Notes: USCB Bulletin Statement on Cognates:

“The Cognate is a minimum of twelve hours in advanced level courses related to, but outside the major. It is intended to support the course work in the major.”

Courses satisfying the Cognate are chosen by the student through advising and approval of the student’s major advisor and may be drawn from one or more departments. The courses must be above the prerequisite level.