Computer Science

Degree Awarded: Bachelor of Arts
Requirements for the Major: 44-48 credits plus 3 prerequisite credits

The major in Computer Science is designed for students with interests in using computation and logic to solve real world problems. The computer science core provides students a foundation of computational concepts with a strong mathematical emphasis, within a liberal arts context. This foundation supports a variety of computing careers or graduate study. The internship and capstone courses help students explore these possibilities.

Prerequisite courses for the major:

				Essential Competencies-Outcome Skills **Transfer courses do not receive outcome skills**					
				IL	W	O	Q	IC	V
	MATH 121	College Algebra	3				x		

This course will not be counted in computing the GPA for the major.

Requirements for the Major:

Computer Science Core Courses

				Essential Competencies-Outcome Skills **Transfer courses do not receive outcome skills**					
				IL	W	O	Q	IC	V
	BSAD/CPSC 241	Computer Science I	3						
	CPSC 242	Computer Science II	3	x					
	CPSC 300	Computer Architecture and Operating Systems	3						
	CPSC 330	Data Structures and Algorithms	3						
	CPSC 360	Programming Languages	3						
	CPSC 363	Software Development	3		x				
	CPSC 399	Internship	3						x
	CPSC 449	Ethics Seminar	1						
	CPSC 453	Computer Capstone Seminar Experience II	1	x	x	x			

Upon approval of Computer Science advisor, students may substitute CPSC 449 and 453 with a capstone course taken for a second major, if a sufficient amount of computer science work is incorporated.

Mathematics Core Courses

				Essential Competencies-Outcome Skills **Transfer courses do not receive outcome skills**					
				IL	W	O	Q	IC	V
	MATH 231 or MATH 212	Calculus with Analytic Geometry I or Applied Calculus	5 or 3				x x		
	MATH 300	Introduction to Mathematical Reasoning	3				x		
	MATH 340	Discrete Computational Structures	3						
	MATH 331 or STAT 261	Linear Algebra or Applied Statistics	3				x	x	

Electives (9-11 credits)

				Essential Competencies-Outcome Skills **Transfer courses do not receive outcome skills**					
				IL	**W**	**O**	**Q**	**IC**	**V**
	One course outside of CPSC approved by CPSC advisor (applicable to future goals)		3-5						

Take 6 credits from the following:

	CPSC 210	Human Computer Interaction	3	x				x	
	CPSC 260	Fundamental Programming for Data Mining and Analysis	3						
	CPSC 310	High Performance Computing for Big Data and AI	3				x		
	CPSC 316	Web Application Development	3						
	BSAD/CPSC 323	Networking & Telecommunication	3						
	BSAD/CPSC 421	Databases	3		x	x			
	CPSC 430	Topics in Computer Science	3						
	CPSC 441	Machine Learning	3						

The computer science core, mathematics core, and elective courses will be counted in computing the 2.5 GPA required for this major.