GRAND VIEW W
U N I V E R S I T Y

Computer Science

Degree Awarded: Bachelor of Arts
Requirements for the Major: 45-49 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 Iterations**
Transfer courses do not receive outcome iterations

				CI	IL	W	O	Q	GA	V
	MATH 121	College Algebra	3	x				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 Iterations**
Transfer courses do not receive outcome iterations

				CI	IL	W	O	Q	GA	V
	BSAD/CPSC 241	Computer Science I	3							
	CPSC 242	Computer Science II	3		x					
	CPSC 300	Computer Architecture	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 451	Computer Capstone Seminar Experience I	2						x	x
	CPSC 453	Computer Capstone Seminar Experience II	1		x	x	x			

Upon approval of Computer Science advisor, students may substitute CPSC 451 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 Iterations**
Transfer courses do not receive outcome iterations

				CI	IL	W	O	Q	GA	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 Iterations
Transfer courses do not receive outcome iterations

			CI	IL	W	O	Q	GA	V
	One course outside of CPSC approved by CPSC advisor (applicable to future goals)	3-5							

Take 6 credits from the following:

			CI	IL	W	O	Q	GA	V
CPSC 210	Human Computer Interaction	3	x	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	x			
CPSC 430	Topics in Computer Science	3							
CPSC 440	Theory of Computation	3							

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