Computer Science

Computer Science Program Mission

The mission of the Computer Science BS program is to equip students with knowledge in, skills of, and values of computer science and the ability to apply and advance the knowledge, skills, and values of computer science.

Bachelor of Science with a Major in Computer Science Option 1

Option-1 Preparation for Graduate School		
General Education (38 cr.)		
General Education Courses [1]		36
Required Core		**48**
CSCI 160	Computer Science I	
CSCI 161	Computer Science II	
CSCI 242	Algorithms and Data Structures I	
CSCI 275	Computer and Digital Hardware	
CSCI 331	Technology and Society	
CSCI 335	Theoretical Computer Science	
CSCI 340	Networking	
CSCI 356	Database Management	
CSCI 360	Systems Programming	
CSCI 370	Computer Organization	
CSCI 452	Compiler and Interpreter Construction	
CSCI 460	Capstone Project	
Elect 2 or more credits from the following		**2**
CSCI 221	Web Application Development and Security	
CSCI 260	UNIX and Linux Systems	
CSCI 323	Robotics	
CSCI 456	Machine Learning, Data Mining, and Artificial Intelligence	
CSCI 497	Internship	
DATA 240	Programming for Data Science	
Graduate School Option		**16**
CSCI 243	Algorithms and Data Structures II	
CSCI 321	Windows Programming	
CSCI 330	Software Engineering and Testing	
CSCI 450	Operating Systems	
Required Support Math Courses (20 cr.)		**20**
MATH 165	Calculus I	
MATH 166	Calculus II	
MATH 208	Discrete Mathematics I	
MATH 210	Elementary Statistics	
or DATA 211	Applied Statistics and Data Visualization	
MATH 305	Linear Algebra	
Total Hours		**122**

[1] Math 165 is required for the math general education requirement

Bachelor of Science with a Major in Computer Science Option 2

Option 2 - Software Development/Engineering		
General Education (38 cr.)		
General Education Courses [1]		36
Required Core		**48**

CSCI 160	Computer Science I	
CSCI 161	Computer Science II	
CSCI 242	Algorithms and Data Structures I	
CSCI 275	Computer and Digital Hardware	
CSCI 331	Technology and Society	
CSCI 335	Theoretical Computer Science	
CSCI 340	Networking	
CSCI 356	Database Management	
CSCI 360	Systems Programming	
CSCI 370	Computer Organization	
CSCI 452	Compiler and Interpreter Construction	
CSCI 460	Capstone Project	
Software Development/Engineering Option		**20**
CSCI 221	Web Application Development and Security	
CSCI 243	Algorithms and Data Structures II	
CSCI 258	Software Security and Design	
CSCI 321	Windows Programming	
CSCI 330	Software Engineering and Testing	
Elect 2 or more credits from the following		**2**
CSCI 260	UNIX and Linux Systems	
CSCI 323	Robotics	
CSCI 450	Operating Systems	
CSCI 456	Machine Learning, Data Mining, and Artificial Intelligence	
CSCI 497	Internship	
DATA 240	Programming for Data Science	
Required Support Math Course (15-16 cr.)		**15-16**
MATH 146	Applied Calculus	
or MATH 165	Calculus I	
MATH 208	Discrete Mathematics I	
MATH 210	Elementary Statistics	
or DATA 211	Applied Statistics and Data Visualization	
MATH 305	Linear Algebra	
Total Hours		**121-122**

[1] Math 146 or 165 is required for the math general education requirement

Bachelor of Science with a Major in Computer Science Option 3

Option 3 - Computer/Network Security		
General Education (38 cr.)		
General Education Courses [1]		36
Required Core (48 cr.)		**48**
CSCI 160	Computer Science I	
CSCI 161	Computer Science II	
CSCI 242	Algorithms and Data Structures I	
CSCI 275	Computer and Digital Hardware	
CSCI 331	Technology and Society	
CSCI 335	Theoretical Computer Science	
CSCI 340	Networking	
CSCI 356	Database Management	
CSCI 360	Systems Programming	
CSCI 370	Computer Organization	
CSCI 452	Compiler and Interpreter Construction	

CSCI 460	Capstone Project	
Computer/Network Security Option		**20**
CSCI 221	Web Application Development and Security	
CSCI 258	Software Security and Design	
CSCI 260	UNIX and Linux Systems	
CSCI 410	Defensive Network Security	
CSCI 450	Operating Systems	
Elect 2 or more credits from the following		**2**
CSCI 321	Windows Programming	
CSCI 323	Robotics	
CSCI 390	Ethical Hacking	
CSCI 456	Machine Learning, Data Mining, and Artificial Intelligence	
CSCI 497	Internship	
DATA 240	Programming for Data Science	
Required Support Math Courses (15-16 cr.)		**15-16**
MATH 146	Applied Calculus	
or MATH 165	Calculus I	
MATH 208	Discrete Mathematics I	
MATH 210	Elementary Statistics	
or DATA 211	Applied Statistics and Data Visualization	
MATH 305	Linear Algebra	
Total Hours		**121-122**

[1] Math 146 or 165 is required for the math general education requirement

Bachelor of Science with a Major in Computer Science Option 4

Option 4 - Artificial Intelligence/Machine Learning		
General Education (38 cr.)		
General Education [1]		36
Required Core (48 cr.)		**48**
CSCI 160	Computer Science I	
CSCI 161	Computer Science II	
CSCI 242	Algorithms and Data Structures I	
CSCI 275	Computer and Digital Hardware	
CSCI 331	Technology and Society	
CSCI 335	Theoretical Computer Science	
CSCI 340	Networking	
CSCI 356	Database Management	
CSCI 360	Systems Programming	
CSCI 370	Computer Organization	
CSCI 452	Compiler and Interpreter Construction	
CSCI 460	Capstone Project	
Artificial Intelligence/Machine Learning Option		**20**
CSCI 221	Web Application Development and Security	
CSCI 258	Software Security and Design	
CSCI 260	UNIX and Linux Systems	
CSCI 456	Machine Learning, Data Mining, and Artificial Intelligence	
DATA 240	Programming for Data Science	
Elect 2 or more credits from the following		**2**
CSCI 243	Algorithms and Data Structures II	
CSCI 321	Windows Programming	
CSCI 323	Robotics	

CSCI 330	Software Engineering and Testing	
CSCI 450	Operating Systems	
CSCI 497	Internship	
Required Support Math Courses (15-16 cr.)		**15-16**
MATH 146	Applied Calculus	
or MATH 165	Calculus I	
MATH 208	Discrete Mathematics I	
MATH 210	Elementary Statistics	
or DATA 211	Applied Statistics and Data Visualization	
MATH 305	Linear Algebra	
Total Hours		**121-122**

[1] Math 146 or 165 is required for the math general education requirement.

Bachelor of Science with a Major in Computer Science Option 5

Option 5 - System Administration/Web Development		
General Education (38 cr.)		
General Education [1]		36
Required Core (48 cr.)		**48**
CSCI 160	Computer Science I	
CSCI 161	Computer Science II	
CSCI 242	Algorithms and Data Structures I	
CSCI 275	Computer and Digital Hardware	
CSCI 331	Technology and Society	
CSCI 335	Theoretical Computer Science	
CSCI 340	Networking	
CSCI 356	Database Management	
CSCI 360	Systems Programming	
CSCI 370	Computer Organization	
CSCI 452	Compiler and Interpreter Construction	
CSCI 460	Capstone Project	
System Administration/Web Development Option		**16**
CSCI 221	Web Application Development and Security	
CSCI 258	Software Security and Design	
CSCI 260	UNIX and Linux Systems	
CSCI 330	Software Engineering and Testing	
Elect 6 or more credits from the following		**6**
CSCI 243	Algorithms and Data Structures II	
CSCI 321	Windows Programming	
CSCI 323	Robotics	
CSCI 450	Operating Systems	
CSCI 456	Machine Learning, Data Mining, and Artificial Intelligence	
CSCI 497	Internship	
DATA 240	Programming for Data Science	
Required Support Math Courses (15-16 cr.)		**15-16**
MATH 146	Applied Calculus	
or MATH 165	Calculus I	
MATH 208	Discrete Mathematics I	
MATH 210	Elementary Statistics	
or DATA 211	Applied Statistics and Data Visualization	

MATH 305	Linear Algebra	
Total Hours		**121-122**

[1] Math 146 or 165 is required for the math general education requirement.

Computer Science Minor

Required Core		
CSCI 160	Computer Science I	4
CSCI 161	Computer Science II	4
CSCI 242	Algorithms and Data Structures I	4
CSCI 275	Computer and Digital Hardware	4
CSCI 340	Networking	4
Select two of the following:		7-8
Any CSCI 300-400 Level Course [1]		
Total Hours		**27-28**

[1] Excluding CSCI 324, CSCI 390, CSCI 410, CSCI 420, CSCI 425, and CSCI 432

Computer Science Concentration

Elect at least 12 credits from CSCI courses.	12
Total Hours	**12**