

## B.S. Computer Science - Four Year Degree Completion Guide (Spring 2020 - Current)

The highlighted cells indicate General Education Courses for *B.S. Computer Science*

The minimum credits required for graduation: 120

Year 1			Credits
Fall	IGED 110	Foundation Writing I	3
	IGED 130	Foundation Oral Communication	3
	MATH 151/155	Calculus I (Lec+Lab)	4
	APCT 115	Foundations of Computing	3
	APCT 110/111	Intro to Programming (Lec+Lab)	3
	Subtotal		
Spring	IGED 111	Foundation Writing II	3
	MATH 152/156	Calculus II (Lec+Lab)	4
		Natural Science Elective (Lec+Lab)	4
	APCT 231/233	Computer Science I (Lec+Lab)	4
Subtotal			15

Year 2			Credits
Fall	IGED 140	Foundation Ethics	3
	IGED 210	Discovery Writing	3
	MATH 220	Discrete Math	3
	APCT 232/234	Computer Science II (Lec+Lab)	4
	CMOP 235/236	Intro. to WebPage Development and HTML (Lec+Lab)	3
	Subtotal		
Spring	IGED 270	Discovery Diversity	3
		Natural Science Elective (Lec+Lab)	4
	CSCI 241	Data Structures	3
	CSCI 306	Computer Ethics and Laws	3
	CSCI 308	Advanced Object-Oriented Programming	3
Subtotal			16

Year 3			Credits
Fall	IGED 280	Discovery Civics	3
	MATH 225	Linear Algebra	3
	CSCI 325	Organization of Programming Language	3
	CSCI 351	Computer Networks	3
		Security Elective+	3
	Subtotal		
Spring	MATH 381	Probability and Statistics	3
	CSCI 341	Software Engineering	3
	CSCI 410	Theory of Computing	3
	CSCI 415	Computer Organization and Architecture	3
		CS Elective+	3
Subtotal			15

Year 4			Credits
Fall	CSCI 412	Operating Systems	3
	CSCI 434	Analysis of Algorithms	3
	CSCI 498	Senior Project I	3
		CS Elective+	3
		CS Elective+	3
	Subtotal		
Spring	CSCI 436	Parallel and Distributed Computing	3
	CSCI 452	Database Systems Design	3
	CSCI 499	Senior Project II	3
		CS Elective+	3
Subtotal			12

### Security Elective+

Course number	Title	New Credits
CSCI 352	Network Security	3
CSCI 353	Information Security	3
CSCI 441	Digital Forensics	3
CSCI 453	Secure Software Engineering	3
CSCI 455	Cryptography	3

All CS students are required to take at least one security course among the security-related courses.

### CS Elective+

Course number	Title	New Credits
APCT 341	Advanced Web Development	3
CSCI 251/253	Assemblers & Systems (Lec + Lab)	4
CSCI 315	Unix and System Programming	3
CSCI 345	Human Computer Interaction	3
CSCI 352	Network Security	3
CSCI 353	Information Security	3
CSCI 398	Advanced Applied Programming	3
CSCI 414	Introduction to Artificial Intelligence	3
CSCI 417	Functional Programming	3
CSCI 421	Machine Learning	3
CSCI 422	Introduction to Deep Learning	3
CSCI 424	Introduction to Compiler Design	3
CSCI 435	Digital Image Processing	3
CSCI 441	Digital Forensics	3
CSCI 453	Secure Software Engineering	3
CSCI 454	Computer Graphics	3
CSCI 455	Cryptography	3
CSCI 456	Visualization	3
CSCI 478	Big Data Analysis	3
CSCI 490	Special Topics	3
CSCI 497	Independent Study	3