

Computer Science Majors

Focus Areas Available Starting Fall 2017

Four Focus Area Choices:

- Computer Science
- Computer Science + Computer Engineering
- Computer Science + Data Science
- Computer Science + Robotics and Intelligent Systems

Computer Science	
Focus Area: CS Courses (18 or 21 credits)	Focus Area: Non-CS Courses (12 or 9 credits)
Computer Science Core (28 credits)	Math Emphasis (6 credits)
Mines Core: Math, Science, Engineering (35 credits)	General Education: Humanities, Social Sciences, Economics, Free Electives (30.5 credits)
Total Credits: 129.5	

Course and Credit Hour Breakdown for Computer Science Majors

Courses within Computer Science Core (for all focus areas)

CSCI101	Introduction to Computer Science	3.0
CSCI261	Programming Concepts	3.0
CSCI262	Data Structures	3.0
CSCI274	Introduction to the Linux Operating System	1.0
CSCI306	Software Engineering	3.0
CSCI341	Computer Organization	3.0
CSCI358	Discrete Math	3.0
CSCI370	Advanced Software Engineering (Field Session)	6.0
CSCI406	Algorithms	3.0
		28.0

Courses within Computer Science Focus Area

Computer Science Courses

CSCI400	Principles of Programming	3.0
CSCI403	Database Management	3.0
CSCI442	Operating Systems	3.0
CSCI4**	CS Electives	12.0
		21.0

Non-CS Courses

*****	Free Electives	9.0
		9.0

Courses within CS+Computer Engineering Focus Area Computer Science Courses

CSCI250	Python-Based Computing	3.0
CSCI442	Operating Systems	3.0
CSCI471	Computer Networks	3.0
CSCI475	Information Security & Privacy	3.0
Choose One Of	CSCI403, CSCI440, CSCI474	3.0
CSCI4**	CS Elective	3.0
		18.0

Non-CS Courses

EENG281	Introduction to Electrical Circuits	3.0
EENG284	Digital Logic	4.0
EENG383	Microcomputer Architecture	4.0
*****	Free Elective	1.0
		12.0

Courses within CS+Data Science Focus Area

Computer Science Courses

CSCI303	Introduction to Data Science	3.0
CSCI400	Principles of Programming Languages	3.0
CSCI403	Database Management	3.0
CSCI470	Introduction to Machine Learning	3.0
Choose One Of	CSCI404, CSCI423, CSCI440, CSCI474, CSCI475	3.0
CSCI4**	CS Elective	3.0
		18.0

Non-CS Courses

MATH334	Introduction to Probability	3.0
MATH335	Introduction to Mathematical Statistics	3.0
MATH424	Introduction to Applied Statistics	3.0
Choose One Of	MATH432, MATH436, MATH437, MATH438, MATH439	3.0
		12.0

Courses within CS+Robotics and Intelligent Systems Focus Area

Computer Science Courses

CSCI250	Python-Based Computing	3.0
CSCI404	Artificial Intelligence	3.0
CSCI407	Introduction to Computer Vision	3.0
CSCI442	Operating Systems	3.0
CSCI470	Introduction to Machine Learning	3.0
CSCI473	Human Centered Robotics	3.0
CSCI4**	CS Elective	3.0
		21.0

Non-CS Courses

EENG281	Introduction to Electrical Circuits	3.0
EENG307	Introduction to Feedback Control Systems	3.0
MEGN441	Introduction to Robotics	3.0
		9.0