Bachelor of Science

Data Science (BS)

Web Site: https://www.odu.edu/datascience (https://www.odu.edu/datascience/)

Degree Program Guide

The Degree Program Guide is a suggested curriculum to complete this degree program in four years. It is just one of several plans that will work and is presented only as broad guidance to students. Each student is strongly encouraged to develop a customized plan in consultation with their academic advisor. Additional information can also be found in Degree Works.

Specialization Area: Artificial Intelligence and Machine Learning

Course	Title	Credit Hours
Freshman		
Fall		
ENGL 110C	English Composition (C or better required)	3
Oral Communication		3
Information Literacy and Research		3
Mathematics (MATH 162M required)		3
DASC/SOC 205S	Data, Technology, Society	3
	Credit Hours	**15**
Spring		
ENGL 211C or ENGL 231C	Writing, Rhetoric, and Research (C or better required) or Writing, Rhetoric, and Research: Special Topics	3
Interpreting the Past		3
Human Behavior (may not use DASC 205S or SOC 205S)		3
MATH 163	Precalculus II	3
BDA 200T	Elements of Data Science	3
	Credit Hours	**15**
Sophomore		
Fall		
Nature of Science I		4
STAT 130M	Elementary Statistics	3
CS 153	Introduction to Programming with Python	4
CS 252	Introduction to Unix for Programmers	1
Language & Culture I (if needed) or General Elective		3
	Credit Hours	**15**
Spring		
Nature of Science II		4
CS 251	Programming with Java	4
MATH 211	Calculus I	4
STAT 310	Introductory Data Analysis	3
	Credit Hours	**15**
Junior		
Fall		
DASC 300	Foundations of Data Science	3
IT 360T	Principles of Information Technology	3
CS 361	Data Structures and Algorithms	3
CS 480 or MSIM 480	Introduction to Artificial Intelligence or Introduction to Artificial Intelligence	3
Language & Culture II (if needed) or General Elective		3
	Credit Hours	**15**
Spring		
DASC/PHIL 357E	Ethics and Data	3
IT 450	Database Concepts	3
MATH 212	Calculus II	4
BDA 411 or CS 422	Introduction to Machine Learning or Introduction to Machine Learning	3
General Elective		3
	Credit Hours	**16**
Senior		
Fall		
Literature		3
DASC 434	Data Science Research Methods	3
Approved Area Electives		6
General Elective		3
	Credit Hours	**15**
Spring		
Human Creativity		3
DASC 436W	Data Science Capstone Project (C or better required)	3
Approved Area Elective		3
General Electives		5
	Credit Hours	**14**
	Total Credit Hours	**120**

Specialization Area: Data Visualization

Course	Title	Credit Hours
Freshman		
Fall		
ENGL 110C	English Composition (C or better required)	3
Oral Communication		3
Information Literacy and Research		3
Mathematics (MATH 162M required)		3
DASC/SOC 205S	Data, Technology, Society	3
	Credit Hours	**15**
Spring		
ENGL 211C or ENGL 231C	Writing, Rhetoric, and Research (C or better required) or Writing, Rhetoric, and Research: Special Topics	3
Interpreting the Past		3
Human Behavior (may not use DASC 205S or SOC 205S)		3
MATH 163	Precalculus II	3

BDA 200T	Elements of Data Science	3
	Credit Hours	**15**
Sophomore		
Fall		
Nature of Science I		4
STAT 130M	Elementary Statistics	3
CS 153	Introduction to Programming with Python	4
CS 252	Introduction to Unix for Programmers	1
Language & Culture I (if needed) or General Elective		3
	Credit Hours	**15**
Spring		
Nature of Science II		4
CS 251	Programming with Java	4
MATH 211	Calculus I	4
STAT 310	Introductory Data Analysis	3
	Credit Hours	**15**
Junior		
Fall		
DASC 300	Foundations of Data Science	3
IT 360T	Principles of Information Technology	3
CS 361	Data Structures and Algorithms	3
BNAL 206	Business Analytics I	3
Language & Culture II (if needed) or General Elective		3
	Credit Hours	**15**
Spring		
DASC/PHIL 357E	Ethics and Data	3
IT 450	Database Concepts	3
GAME 201T	Introduction to Game Studies	3
BNAL 306	Business Analytics II	3
General Elective		3
	Credit Hours	**15**
Senior		
Fall		
Literature		3
DASC 434	Data Science Research Methods	3
BNAL 403	Data Visualization and Exploration	3
Approved Area Elective		3
General Elective		3
	Credit Hours	**15**
Spring		
Human Creativity		3
DASC 436W	Data Science Capstone Project (C or better required)	3
ECE 406	Computer Graphics and Visualization	3
Approved Area Elective		3
General Elective		3
	Credit Hours	**15**
	Total Credit Hours	**120**

Specialization Area: Geospatial Information Systems

Course	Title	Credit Hours
Freshman		
Fall		
ENGL 110C	English Composition (C or better required)	3
Oral Communication		3
Information Literacy and Research		3
Mathematics (MATH 162M required)		3
DASC/SOC 205S	Data, Technology, Society	3
	Credit Hours	**15**
Spring		
ENGL 211C or ENGL 231C	Writing, Rhetoric, and Research (C or better required) or Writing, Rhetoric, and Research: Special Topics	3
Interpreting the Past		3
Human Behavior (may not use DASC 205S or SOC 205S)		3
MATH 163	Precalculus II	3
BDA 200T	Elements of Data Science	3
	Credit Hours	**15**
Sophomore		
Fall		
Nature of Science I		4
CS 153	Introduction to Programming with Python	4
STAT 130M	Elementary Statistics	3
GEOG 102T	Digital Earth: Geospatial Technology and Society	3
Elective		1
	Credit Hours	**15**
Spring		
Nature of Science II		4
CS 251	Programming with Java	4
STAT 310	Introductory Data Analysis	3
Elective(s)		4
	Credit Hours	**15**
Junior		
Fall		
DASC 300	Foundations of Data Science	3
IT 360T	Principles of Information Technology	3
GEOG 402	Geographic Information Systems	3
GEOG 404	Digital Techniques for Remote Sensing	3
Language & Culture I (if needed) or General Elective		3
	Credit Hours	**15**

Spring		
DASC/PHIL 357E	Ethics and Data	3
IT 450	Database Concepts	3
GEOG 419	Spatial Analysis of Coastal Environments	3
GEOG 425	Internet Geographic Information Systems	3
Language & Culture II (if needed) or General Elective		3
	Credit Hours	**15**
Senior		
Fall		
Literature		3
DASC 434	Data Science Research Methods	3
GEOG 432	Advanced GIS	3
GEOG 462	Advanced Spatial Analysis	3
Elective		3
	Credit Hours	**15**
Spring		
Human Creativity		3
DASC 436W	Data Science Capstone Project (C or better required)	3
GEOG 463	GIS Programming	3
GEOG 473	Geographic Information Systems for Emergency Management	3
Elective		3
	Credit Hours	**15**
	Total Credit Hours	**120**