



# MSU COLLEGE OF AEROSPACE, COMPUTING, ENGINEERING, AND DESIGN

## Data Science and Machine Learning Major (2024-2025 Catalog Year)

First Year		
Fall: 14 Credits	CS 1050: Computer Science I	4
	MTH 14010: Calculus I	4
	ENG1010: Composing Arguments	3
	COMM 1010: Presentational Speaking or COMM 1100: Fundamentals of Oral Communication	3
	Global Diversity	0-3
		14-17
Spring: 14 Credits	CS 2050: Computer Science II	4
	MTH 3210: Probability and Statistics	4
	JMP 2610: Intro to Technical Writing	3
	ENG 1020: Written Communication	3
		14

Third Year		
Fall: 14-16 Credits	CS 3810: Principles of Database Systems	4
	MTH 3220: Statistical Methods	4
	Natural & Physical Science	3-5
	Ethnic Studies and Social Justice Requirement	3
		14-16
Spring: 15 Credits	DSML 3850: Cloud Computing	4
	DS/ML Upper Division Elective	4
	PHI 3370: Computers, Ethics, and Society	3
	Free Elective	4
		15

Second Year		
Fall: 14 Credits	CS 3250: Introduction to Software Development and Tools	4
	MTH 3130: Applied Methods in Linear Algebra	4
	Social and Behavioral Science General Studies Requirement	3
	Art and Humanities General Studies Requirement	3
		14
Spring: 14-16 Credits	CS 3120: Machine Learning	4
	MTH 3270: Data Science	4
	Natural & Physical Science	3-5
	Historical + Multicultural General Studies Requirement	3
		14-16

Fourth Year		
Fall: 15 Credits	DSML 4220: Deep Learning	4
	DS/ML Upper Division Elective	4
	Art and Humanities General Studies Requirement	3
	Free Elective (ideally a discipline where DSML can be applied)	3-4
		14-15
Spring: 14-16 Credits	DSML 4360: Senior Experience	4
	Social and Behavioral Science General Studies Requirement	3
	Free Elective (ideally a discipline where DSML can be applied)	3-4
	Free Elective	3-4
		13-15

1. This is not the only ordering of classes, but classes must be taken in an order that satisfies the prerequisites for subsequent classes.
2. All Prerequisite and Major/Minor/ Ancillary courses require a C- or greater.
3. A minimum of 6 credits are needed to meet the Science Requirement.
4. Take Free Electives as needed to meet the total 120 credit requirement.
5. Because of the interdisciplinary nature of DS, it is recommended that some electives are chosen in a field where DS can be applied