



Bachelor of Science in Data Science - Computational Intelligence

The interdisciplinary Bachelor of Science in Data Science at MSU goes beyond data analytics and embraces a vision in which data become the power behind the digital transformation of every field of human endeavor. The concentration in Computational Intelligence focuses on understanding artificial intelligence and machine learning approaches to develop effective strategies to solve large-scale data science problems. This includes creation of new software tools, algorithms, and using existing programs and libraries.

Freshman Year

Fall Semester			Spring Semester		
EN 1103	English Composition I	3	EN 1113	English Composition II	3
MA 1713	Calculus I	3	MA 1723	Calculus II	3
DSCI 2013	Data Science Literacy	3	PHI 1113	Intro to Logic	3
— —	Natural Science 1 + Lab	3	— —	Natural Science 2 + Lab	3
— —	Fine Arts	3	CSE 1284	Introduction to Programming	4

Sophomore Year

Fall Semester			Spring Semester		
— —	Social Science	3	MA/ST 3123	Statistical Inference	3
MA 2733	Calculus III	3	MA 3113	Intro to Linear Algebra	3
DSCI 3013	Fundamentals of Data Acquisition	3	BIS 3233	Management Information Systems	3
DSCI 2012	Lab - Data Wrangling	2	DSCI 4013	Data Visualization	3
CSE 1384	Intermediate Programming	4	CSE 2383	Data Structures and Analysis of Algorithms	3

Junior Year

Fall Semester			Spring Semester		
CSE 2813	Discrete Structures	3	CSE 3763	Legal & Ethical Issues Computing	3
DSCI 3012	Lab - Desc., Analysis, Inference	2	CO 1003	Fundamentals of Public Speaking	3
DSCI 3022	Lab - Data Visualization	2	DSCI 3032	Lab - Artificial Intelligence	2
CSE 2213	Methods & Tools in Software Development	3	CSE 4503	Database Management Systems	3
CSE 4633	Artificial Intelligence	3	CSE 4163	Designing Parallel Algorithms	3
— —	Humanities	3	DSCI 2022	Lab - Cloud, Quantum, HPC	2

Senior Year

Fall Semester			Spring Semester		
MGT 3213	Organizational Communication	3	MA/ST 4523	Intro to Probability	3
CSE 4683	Machine Learning and Soft Computing	3	CSE 4833	Introduction to Algorithms	3
CSE 4643	AI Robotics	3	CSE 4623	Computational Biology	3
CSE 4653	Cognitive Science	3	CSE 4293	Artificial Intelligence for Cybersecurity	3
DSCI 4553	Capstone 1	3	DSCI 4663	Capstone 2	3