Bachelor of Science Degree in Data Science
College of Natural Science
Department of Computational Mathematics, Science and Engineering (CMSE)

The Bachelor of Science degree in Data Science is designed to provide a solid background in data science through study of a broad range of computational techniques, mathematical modeling, practice in statistical thinking, ethical issues related to data, as well as in-depth exposure to application domains in data science.

Degree Requirements Year 1 and 2

CMSE	CMSE 201	Computational Modeling and Data Analysis I	4 credits
	CMSE 202	Computational Modeling and Data Analysis II	4
Statistics	STT 180	Intro to Data Science	4
Comp Sci	CSE 232	Intro to Programming II	4
Math	MTH 132&133 (or Honors or LB118 &119)	Calculus I & II	7
	MTH 234 (or MTH 254H or LB 220)	Multivariable Calculus	4
	MTH 314	Matrix Algebra with Computational Applications	3
Physics	PHY 183 & 184 (or LB 273 & 274)	Physics for Scientists & Engineers	8
Chemistry	CEM 141 & 142 (or CEM 151/152; or LB 171/172)	General Chemistry Lectures	7
	CEM 161	General Chemistry labs	1
Biology	BS 161 (recommended, CEM 141/151 pre-req); or others	Biological Science (variety of options) [BS 161, ENT 205, IBIO 150, MMG 141, MMG 201, PLB 105, or PSL 250]	

Credits from degree requirements year 1 & 2: ~43 credits

Degree Requirements Year 3 and 4

CMSE	CMSE 381	Fundamentals of Data Science Methods	4
	CMSE 382	Optimization Methods in Data Science	4
	CMSE 495	Experiential Learning in Data Science (fulfills Tier II writing requirement)	4
Comp Sci	CSE 331	Algorithms and Data Structures	3
Statistics	STT 380 or STT 441 & 442	Probability and Statistics for Data Science	4, 7
CMSE, Comp Sci, STT, MTH	12 Credits	Select 400 level advanced data science courses	12

Credits from degree requirements year 3 & 4: ~35 credits

University Requirements

Tier 1 Writing	WRA 101 (recommended for year 1)	4
Integrative Studies in Social Sciences*	ISS 200-level	4
	ISS 300-level	4
Integrative Studies in Arts & Humanities*	IAH 201-210	4
	IAH 211 or higher	4

Credits from additional university requirements: ~27 credits

MICHIGAN STATE DATA SCIENCE