

Name _____
 Advisor _____



BS in Applied and Computational Mathematics

Mathematics of Data Science and Machine Learning

Option - 120 Credits Required

A minimum of 33 credits must be taken at WCSU.

A minimum cumulative GPA of 2.0 is required.

Complete a foreign language at an elementary II level or above. Students who have completed three years of language in high school with at least a 'C' average have satisfied this requirement. Consult your advisor. (IC)

Part 1: General Education Competency Requirements

Students must complete each of the competencies listed below. In addition, students must complete 3 of the competencies a second time excluding First Year (FY), WRT 101 (WI), Writing Intensive Tier II (W2) and Writing Intensive Tier III (W3).

Creative Process (CP)	_____	_____
Critical Thinking (CT)	_____	_____
Oral Communication (OC)	_____	_____
Health and Wellness (HW)	_____	_____
Scientific Inquiry (SI)	_____	_____
Intercultural Competence (IC)	_____	_____
Information Literacy (IL)	PHI 227	_____
First Year Experience (FY)	MAT 150	_____
Culminating Experience (CE)	MAT 453	_____
Writing Course (WRT 101)	WRT 101	_____
Writing Intensive II (W2)	PHI 227	_____
Writing Intensive III (W3)	MAT 453	_____
Quantitative Reasoning (QR)	MAT 181	MAT 182

Part 2: General Education Exploration Including Cognates

40 credits are required.

APPLIED AND COMPUTATIONAL MATH COGNATE REQUIREMENTS (7 S.H.)

WRT 101 Composition I: Habit of Writing	_____
PHI 227 Ethics in Computing (IL, W2)	_____
CS 140 Introduction to Programming (Python)	_____
30 CREDITS IN CLASSES OUTSIDE MAJOR	_____

_____	_____	_____
_____	_____	_____
_____	_____	_____

Part 3: Major in Applied & Computational Math

66 credits are required.

Minimum 2.0 major GPA

A minimum of 33 credits must be taken at WCSU.

APPLIED and COMPUTATIONAL MATH MAJOR CORE

MAT 141 Foundational Discrete Math (C or better)	_____
MAT 150 Mathematics Seminar I (FY)	_____
MAT 151 Mathematics Seminar II	_____
MAT 181 Calculus I (C or better) (QR)	_____
MAT 182 Calculus II (C or better) (QR)	_____
MAT 207 Proofs	_____
MAT 222 Introductory Statistics (C or better)	_____
MAT 272 Introduction to Linear Algebra (C or better)	_____
MAT 281 Calculus III (C or better)	_____
MAT 282 Ordinary Differential Equations (C or better)	_____

MAT 322 Probability (C or better)	_____
MAT 332 Appl Linear Alg and Math of Machine Learning (C or better)	_____
MAT 380 Math Modeling with Symbolic and Scientific Computations (C or better)	_____
MAT 383 Introduction to Mathematical Analysis	_____
MAT 453 Senior Sem.(CE,W3) or SIS w/Project or Senior Thesis or Internship	_____
MATHEMATICS OF DATA SCIENCE AND MACHINE LEARNING OPTION	_____
MAT 422 Statistics for Data/Actuarial Science and Machine Learning	_____
MAT 470 Applications of Machine Learning and Wavelets	_____
Select One of the following: MAT 468 Partial Differential Equations (PDEs), MAT 469 Numerical Methods for Ordinary & Partial DEs	_____
CS 172 Intermediate Java Programming	_____
CS 205 Data Modeling and Database Design	_____
CS 250 Introduction to Data Structures, Algorithms and Complexity	_____
CS 303 Introduction to Data Science with Python	_____

Part 4: 14 Free Elective Credits

_____	_____	_____
_____	_____	_____