

B.S. Applied and Computational Math Program Sheet			
(120 SH Required to Complete Degree)			
Note: SC = Applied Differential Equations and Scientific Computing Option			
Part 1: Foreign Language Requirement			
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.			
Part 2: General Education Competency Requirement			
Students must complete each of the competencies listed below. In addition, students must complete three of the competencies a second time excluding First Year (FY) and Writing (W1,W2,W3). Non-MAT courses in this section count towards the 40 credit requirement in Part 3 (General Education Exploration). Please note, some classes offered by the university satisfy multiple competencies simultaneously.			
Competency	Comp1	Compe2	
First Year (FY)	MAT 150		
Creative Process (CP)			
Critical Thinking (CT)			
Oral Communication (OC)			
Health and Wellness (HW)			
Scientific Inquiry (SI)			
Intercultural Competence (IC)			
Information Literacy (IL)			
Writing Course (W1)			WRT 101
Writing Intensive II (W2)			
Writing Tier III (W3)	MAT 453	MAT 182	
Quantitative Reasoning (QR)	MAT 181		
Culminating Experience (CE)	MAT 453		
Part 3: General Education Exploration incl Cognates			
You need to complete a total of 40 credits outside your major. Count the non-MAT courses from part 2 and the following courses towards these 40 credits.		Credits:	
WRT 101 - Composition I: Habit of Writing		3	
SC Option Cognate			
CS 140 - Introduction to Programming (Python)		4	
PHY 110 - General Physics I (Calculus) (For MTR sequence)		4	
General Education Explorations: Any course outside of major total		40	
Part 4: Major Requirements			
A minimum of 23 credits of the major requirements must be taken at WCSU. A Minimum GPA of 2.0 is required for your major requirements.			
All Option Areas Must Take:		Credits:	
MAT 141 - Foundational Discrete Math		3	
MAT 150 - Math Seminar I (FY)		0.5	
MAT 151 - Math Seminar II		0.5	

MAT 181 - Calculus I (QR)	4
MAT 182 - Calculus II (QR)	4
MAT 207 - Proofs	3
MAT 222 - Introductory Statistics	3
MAT 272 - Linear Algebra	3
MAT 281 - Calculus III	4
MAT 282 - Ordinary Differential Equations	3
MAT 322 - Probability	3
MAT 332 - Applied Linear Algebra and Math of Machine Learning	3
MAT 380 - Math Modeling with Symbolic and Scientific Computations	3
MAT 383 - Introduction to Mathematical Analysis	3
MAT 453 - Senior Seminar (CE,W3) (OR SIS with Project) (OR Senior Thesis) (OR Internship)	3
SH Subtotal of Common Classes for all Options	43
SC Option Must Take:	Credits:
MAT 468 - Partial Differential Equations	3
MAT 469 - Numerical Methods for Ordinary and Partial Differential Equations (OPDEs)	3
MAT 470 - Applications of Machine Learning and Wavelets	3
SC Option Total MAT Credits in Major	52
Part 5: Application Area (Option Area Specific Courses)	
SC Option Must Take: (Select one sequence of courses)	Credits:
Sequence CHE (Lectures only): CHE 110 - General Chemistry I, CHE 111 - General Chemistry II , CHE 300 - Physical Chemistry I, CHE 301 - Physical Chemistry II (Students taking CHE 111 four 4 credits will meet SI competency)	12
Sequence MTR: PHY 111 - General Physics II (Calculus), MTR 310 - Atmospheric Thermodynamics , MTR 311 - Atmospheric Dynamics, MTR 340 - Mesoscale Meteorology and Numerical Forecasting	13
SC Option Total Application Area Credits	12--13
SC Option Total Credits excl Electives	104-105
Part 6: Free Electives (15-16 SH)	Credits:
SC Option Total Free Elective Credits	15-16
Total Semester Hours	Credits:
SC Option	120