

Math Applied Track (Physics) Requirements

Part A: Required Prerequisites

Math 1151 and 1152	Calculus I and II	10
Math 1295	Introductory Seminar	1
Physics 1250 and 1251	Mechanics, Thermal Physics, Waves and E & M, Optics, Modern Physics	10
Chem 1210	General Chemistry I	5
CSE 1222 or 1223 or 1224	Intro to Computer Programming in C++ or Intro to Computer Programming in Java or Intro to Computer Programming in Python	3

Choose one of the following two:

Biology 1113	Biological Sciences: Energy Transfer and Development	4
Biology 1114	Biological Sciences: Form, Function, Diversity and Ecology	4

Part B: Major Program (Minimum grade of C- and GPA of 2.0)

Core Requirements

Math 2153 or 2182H	Calculus III or Honors Calculus II	4-5
Math 2568 or 2568H	Linear Algebra	Prereq: Math 2153 3
Math 3345 or 3345H	Foundations of Higher Mathematics	Prereq: Math 2153 3
Math 4530 or Stat 4201	Probability or Introduction to Mathematical Statistics I	Prereq: Math 2153 3-4
Stat 4202	Introduction to Mathematical Statistics II	Prereq: Math 4530 or Stat 4201 4

Required Courses

Math 2255	Differential Equations and Their Applications	Prereq: Math 2153 3
Math 4557	Partial Differential Equations	Prereq: Math 2255 3

Applied Math Courses:

Physics 2300	Intermediate Mechanics I	Prereq: Phys 1251, Concur: Math 2153 4
Physics 2301	Intermediate Mechanics II	Prereq: Phys 2300 4

Choose two of the following three:

Math 3607	Beginning Scientific Computing	Prereq: Math 2255 and 2568 3
Math 4552	Complex Analysis	Prereq: Math 2153 3
Math 4556	Dynamical Systems	Prereq: Math 2153 3

Applied Math Electives (choose at least 6 hours of math):

Math 3607	Beginning Scientific Computing (IF NOT BEFORE)	Prereq: Math 2255 and 2568 3
Math 4350	Quantitative Neuroscience	Prereq: Math 1152 3
Math 4547	Introductory Analysis I	Prereq: Math 3345 3
Math 4548	Introductory Analysis II	3
Math 4551	Vector Analysis	Prereq: Math 2153 3
Math 4552	Complex Analysis (IF NOT BEFORE)	Prereq: Math 2153 3
Math 4556	Dynamical Systems (IF NOT BEFORE)	Prereq: Math 2153 3
Math 4578	Discrete Mathematical Models	Prereq: Math 2568 and 4530 4
Math 5101	Linear Mathematics in Finite Dimensions	Prereq: Math 2568 3
Math 5102	Linear Mathematics in Infinite Dimensions	Prereq: Math 5101 3
Math 5451	Calculus of Variations and Tensor Calculus	Prereq: Math 2415 and 2568 3
Math 5756	Mathematical Methods in Relativity Theory I	Prereq: Math 2568 and Phys 2000 ⁺ 3
Math 5757	Mathematical Methods in Relativity Theory II	3
Total Hours		43-45

Honors Degree: Students completing an honors degree must complete at least 5 honors eligible courses selected in consultation with a faculty advisor. At most 2 courses can count from (2182H, 2568H, 3345H) and at least 3 must be from a list of approved 5000 level courses.



Math Applied Track (Physics) Sample Schedule

	Autumn		Spring	
Year 1	Math 1151	5	Math 1152	5
	Chem 1210	5	Physics 1250	5
	CSE 1222 or 1223	3	English 1110	3
	ARTSSCI 1100.01	1	GE	3
	GE	3		
		17		16
Year 2	Math 2153	4	Math 3345	3
	Physics 1251	5	Math 2255	3
	GE	3	Math 2568	3
	GE	3	Biology 1113 or 1114	4
	Math 1295	1	GE	3
		16		16
Year 3	Math 4530 or Stat 4201	3-4	Stat 4202	4
	Physics 2300	4	Physics 2301	4
	Math 4557	3	GE	3
	GE	3	GE	3
		13-14		14
Year 4	Applied Math Course or Elective	3-5	Applied Math Course or Elective	3-5
	Applied Math Course or Elective	3-5	Applied Math Course or Elective	3-5
	GE	3	GE	3
	GE	3		
		12-16		9-13

Additional hours may be necessary depending on course selection.