

UNIVERSITY OF SCRANTON

MATHEMATICS PROGRAM REQUIREMENTS

		MATH 114 <i>Calculus I</i>	CMPS 134/134L <i>Comp Science I</i> OR DS 201 <i>Intro to Data Science</i>	MATH 299 <i>Intro to Mathematical Proof</i> MATH 446 <i>Real Analysis I</i> MATH 448 <i>Modern Algebra I</i>	MATH 447 <i>Real Analysis II</i> OR MATH 448 <i>Modern Algebra II</i>	6 MATH Electives, at least 1 from each of these categories: <ul style="list-style-type: none"> • Algebra/Geometry • Applied • Analysis 	Minimum of 7 to 8 credits from introductory courses in ACC, BIOL, CHEM, CMPS, DS, ECO or PHYS.				
MATHEMATICS	Option to Minor										
PHYSICAL SCIENCES			CHEM 112/112L <i>General & Analytical Chemistry I</i>	PHYS 140/140L <i>Elmts Physics I</i> PHYS 141/141L <i>Elmts Physics II</i>	CHEM 232/232L <i>Organic Chemistry I</i> OR PHYS 270/270L <i>Modern Physics</i> PHYS 352 <i>Statistical & Engineer Thermodynamics II</i>	2 Electives: • CHEM or • PHYS	MATH 341 <i>Differential Equations</i>	MATH 312 <i>Probability</i>	MATH 461 <i>Complex Variables</i> OR MATH 371 <i>Applied Combinatorics</i> <ul style="list-style-type: none"> • 2 MATH Electives • 2 STEM Electives 		
BIOLOGICAL SCIENCES			CHEM 113/113L <i>General & Analytical Chemistry II</i>	BIOL 141/141L <i>Gen Biology I</i> BIOL 142/142L <i>Gen Biology II</i>	CHEM 233/233L <i>Organic Chemistry II</i> OR any 2 of: <ul style="list-style-type: none"> BIOL 245/245L <i>Gen Physiology</i> BIOL 350/350L <i>Cellular Biology</i> BIOL 351/351L <i>Dev Biology</i> BIOL 370/370L <i>Animal Behavior</i> BIOL 371/371L <i>Ecology</i> BIOL 374/374L <i>Vertebrate Biology</i> 	2 Electives: • BCMB • BIOL • CHEM • NEUR or • PSIO	MATH 441 <i>Partial Differential Equations</i>	OR	MATH 463 <i>Topics in Biomathematics</i> <ul style="list-style-type: none"> • 2 MATH Electives • 2 STEM Electives 		
COMPUTER & INFORMATION SCIENCE			CMPS 134/134L <i>Comp Science I</i>	MATH 142 <i>Discrete Struct</i> CMPS 250 <i>Machine Org & Assembly Language</i>	PHYS 140/140L <i>Elements of Physics I</i> OR CHEM 112/112L <i>General & Analytical Chemistry I</i> OR BIOL 141/141L <i>General Biology I</i>	2 Electives: • CMPS or • DS	MATH 371 <i>Applied Combinatorics</i>	MATH 361 <i>Numerical Analysis</i>	MATH 360 <i>Coding Theory</i> MATH 368 <i>Cryptography</i> <ul style="list-style-type: none"> • 2 MATH Electives • 2 STEM Electives 		
DATA SCIENCE			CMPS 144/144L <i>Comp Science II</i>		PHYS 141/141L <i>Elements of Physics II</i> OR CHEM 113/113L <i>General & Analytical Chemistry II</i> OR BIOL 142/142L <i>General Biology II</i>				MATH 312 <i>Probability</i>	DS 362 <i>Data-Driven Knowledge Discovery</i> <ul style="list-style-type: none"> • 2 MATH Electives • 2 STEM Electives 	
ACTUARIAL SCIENCE	Option to Minor		CMPS 240 <i>Data Structures & Algorithms</i>	DS 201 <i>Intro to Data Science</i>		2 Electives: • ACC • ECO • FIN or • DS	MATH 330 <i>Actuarial Mathematics</i>	MATH 314 <i>Mathematical Statistics</i>	DS 210 <i>Mathematical Methods for Data Science</i> <ul style="list-style-type: none"> • 2 MATH Electives • 2 STEM Electives 		
MATH 351 <i>Linear Algebra</i>			ECO 153 <i>Microeconomics</i> ECO 154 <i>Macroeconomics</i> FIN 251 <i>Intro to Finance</i>		FIN 362 <i>Investments</i> OR FIN 363 <i>Intermediate Finance</i>				ACC 251/252 <i>Financial Accounting I & II</i> OR ACC 253/254 <i>Financial Accounting / Managerial Accounting</i>		

Math/Comp Sci CONCENTRATION: DATA SCIENCES	DS 201 <i>Intro to Data Science</i>	MATH 114 <i>Calculus I</i>	MATH 221 <i>Calculus II</i>	DS 210 <i>Mathematical Methods for Data Science</i>	CMPS 134/134L <i>Computer Science I</i>	CMPS 144/144L <i>Computer Science II</i>	MATH 351 <i>Linear Algebra</i>	CMPS 240 <i>Data Structures & Algorithms</i>	CMPS 340 <i>Intro to Database</i>	CMPS 341 <i>Database Systems</i>	DS 362 <i>Data-Driven Knowledge Discovery</i>	CMPS 372 <i>Artificial Intelligence</i>
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