College of Science - Mathematics, BS with Concentration in Actuarial Mathematics				
Catalog Year: 2019 - 2020			Grades	
Mason Core Requirements: 24 credits	Course Information	Credits	Earned	Needed
Written Communication:	ENGH 101 (100)	3		
Oral Communication:		3		
*Quantitative Reasoning	*Satisfied by Major Requirements			
*Information Technology	*Satisfied by Major Requirements (CS 112)			
Arts		3		
Global Understanding		3		
Literature		3		
*Natural Science	*Satisfied by Major Requirements			
*Social & Behavioral Sciences	*Satisfied by Concentration Requirement (ECON 103)			
Western Civilization/World History		3		
Written Communication:	ENGH 302	3		
Synthesis/Capstone		3		
Major Requirements (75 - 76 credits in major with Concentration in Actuarial Mathematics) A maximum of 6 credits of grades below 2.00 in coursework designated MATH or STAT may be applied toward the major				
MATH 113	Analytic Geometry and Calculus I	4		
MATH 114	Analytic Geometry and Calculus II	4		
MATH 203	Linear Algebra	3		
MATH 213	Analytic Geometry and Calculus III or	3		
or MATH 215	Analytic Geometry and Calculus III (Honors)			
MATH 214	Elementary Differential Equations or	3		
or MATH 216	Theory of Differential Equations			
MATH 290	Introduction to Advanced Mathematics	3		
MATH 322	Advanced Linear Algebra	3		
CS 112	Introduction to Computer Programming	4		
Science Requirement: Select a one-year sequence of a laboratory science from the following courses (8-9 credits):				
BIOL 213 and One from the following: BIOL 300, 308, or 311	Cell Structure and Function AND Biodiversity, Foundations of Ecology & Evolution, OR General Genetics			
CHEM 211/213 & CHEM 212/214	General Chemistry I & II with Labs			
GEOL 101 & GEOL 102	Introductory Geology I & II			
PHYS 160/161 or 260/261	University Physics I & II with Labs			
Actuarial Mathematics (39 credits)				
MATH 125	Discrete Mathematics I (Mason Core)	3		
MATH 351	Probability	3		
MATH 352	Statistics	3		
MATH 551	Regression and Time Series	3		
MATH 554	Financial Mathematics	3		
MATH 555	Actuarial Modeling I	3		
MATH 557	Financial Derivatives	3		
ACCT 203	Survey of Accounting	3		
ECON 103	Contemporary Microeconomic Principles	3		
ECON 306	Intermediate Microeconomics (ECON 104 waived by Dept.)	3		
or ECON 310	Money and Banking			
or FNAN 321	Financial Institutions			
STAT 362	Introduction to Computer Statistical Packages	3		
Two from the following (6 credits):				
MATH 441	Deterministic Operations Research	3		
MATH 442	Stochastic Operations Research			
MATH 446	Numerical Analysis I	3		
MATH 453	Advanced Mathematical Statistics			
Degree Notes				
Approx. 20 - 21 remaining credits may be completed with elective courses to bring the degree total to 120 with 45 of these credits at the 300/400 level. All graduating seniors are required to have an exit interview.				
Advisor Notes:				

CONCENTRATION IN ACTUARIAL MATHEMATICS

B.S.   Mathematics   2019 - 2020

FALL YEAR 1	CREDITS	SPRING YEAR 1	CREDITS	NOTES
MATH 113	4	MATH 114	4	*G.U. = Global
ECON 103	3	ACCT 203	3	Understanding
Core (Written)	3	Core (W.C.)	3	*W.C. = Western Civ.
Core (Oral)	3	SCI 1a	4	*S.B.S. = Social and
Core (G.U.)	3	Core (S.B.S.)	3	Behavioral Science
UNIV 100	1			*SCI =Year-long
Total:	17 credits	Total:	17 credits	science sequence**

FALL YEAR 2	CREDITS	SPRING YEAR 2	CREDITS	NOTES
MATH 213 or 215	3	MATH 214 or 216	3	*Some Literature
MATH 203	3	MATH 290	3	courses have a
C.S. 112	4	MATH 351	3	required pre-requisite
SCI 1b	4	ECON 306,310 or FNAN 321	3	of 45 completed
IT Ethics	1	Core (Lit.)	3	credits.
Total:	15 credits	Total:	15 credits	

FALL YEAR 3	CREDITS	SPRING YEAR 3	CREDITS	NOTES
MATH 322	3	MATH 441	3	*Take MATH 554
MATH 352	3	STAT 362	3	during the summer
Core (Arts)	3	General Elective	3	between Year 3
ENGH 302	3	General Elective	3	and Year 4.
General Elective	3	General Elective	3	
Total:	15 credits	Total:	15 credits	

FALL YEAR 4	CREDITS	SPRING YEAR 4	CREDITS	NOTES
MATH 442 or 446	3	MATH 551	3	*UL = Upper level
MATH 555	3	MATH 557	3	
General Elective	3	MATH 400 (Synthesis)	3	
General Elective (UL)	3	General Elective (UL)	3	
Total:	12 credits	Total:	12 credits	

*Students must earn 120 credits for graduation; 45 credits must be upper-level (courses 300+).
**Approved science sequences are CHEM 211/213 and CHEM 212/214, GEOL 101 and GEOL 102, or PHYS 160/161 and PHYS 260/261. See catalog for more details.