

APPLIED FINANCIAL MATHEMATICS (MS)

The Master of Science in Applied Financial Mathematics is a professional degree that focuses on rigorous mathematical modeling in finance, investment and risk management to prepare a graduate for analytic work across a wide spectrum of the financial services industry. It includes a practical component often fulfilled by an internship. The Master of Science in Applied Financial Mathematics with concentration in Actuarial Science includes a component of study directed towards actuarial science.

Requirements

Applied Financial Math (MSAFM)

Course	Title	Credits
Core Courses		
Students pass five core courses:		
MATH 5600	Fundamentals of Financial Mathematics	3
MATH 5620	Financial Mathematics I	3
MATH 5650	Financial Mathematics II	4
MATH 5660	Advanced Financial Mathematics	3
STAT 5361	Statistical Computing	3-4
or MATH 5637	Statistics for Actuarial Modeling	
Finance Focused Courses		
Select at least two finance focused courses from the following:		6
ACCT 5327	Financial Statement Analysis and Business Valuation	
FNCE 5202	Investment and Security Analysis	
FNCE 5504	Options and Futures	
FNCE 5512	Fixed Income Instruments and Markets	
FNCE 5532	Real Estate Investment and Portfolio Management	
FNCE 5533	Real Estate Capital Markets	
FNCE 6201	Introduction to Finance Theory and Evidence	
FNCE 6203	Theory of Financial Markets and Valuation	
MATH 5661	Yield Curve Models	
Practicum Courses		
Select at least six credits of practicum courses from: ¹		6
GRAD 5900	Special Topics in Graduate Education	
MATH 5600	Fundamentals of Financial Mathematics	
MATH 5661	Yield Curve Models	
MATH 5670	Financial Programming and Modeling	
MATH 5671	Financial Data Mining and Big Data Analytics	
MATH 5850	Graduate Field Study Internship	
Electives		
The remaining courses must be chosen from a list of elective courses approved by the department.		

In addition, the student is required either to pass an Exit Project or to pass two Society of Actuaries examinations. The format and structure of the exit project is determined by the student in collaboration with their advisor and must be approved by the advisor. The actuarial examinations may be passed prior to admission.

Applied Financial Math (MSAFM) With Concentration in Actuarial Science

The MSAFM with concentration in Actuarial Science has the same requirements as the MSAFM degree except the student is only required to take one finance focused course and must take at least one advanced actuarial course from:

Course	Title	Credits
MATH 5630	Long-Term Actuarial Mathematics I	4
MATH 5631	Long-Term Actuarial Mathematics II	4
MATH 5637	Statistics for Actuarial Modeling	4
MATH 5638	Predictive Analytics for Actuaries	3
MATH 5639	Actuarial Loss Models	3
MATH 5640	Short-Term Insurance Ratemaking	3
MATH 5641	Short-Term Insurance Reserving	3

¹ At least one of these credits in MATH 5850 Graduate Field Study Internship for an internship