MATHEMATICS (ACTUARIAL SCIENCE AND INSURANCE) - BACHELOR OF SCIENCE

The concentration in Actuarial Science and Insurance draws on courses from mathematics and business to prepare students for a mathematical career in insurance. The coursework in this emphasis focuses on the analysis of risk and its applications to insurance finance. Students fulfilling the requirements for the Actuarial Science and Insurance Concentration earn a minor in Risk Management and Insurance.

Students must complete all University degree requirements, which include: General Education requirements, Viewing a Wider World requirements, and elective credits to total at least 120 credits with 48 credits in courses numbered 300 or above. Developmental coursework will not count towards the degree requirements and/or elective credits, but may be needed in order to take the necessary English and Mathematics coursework.

Prefix	Title	Credits
General Education		
Area I: Communications		
English Composition - Level 1		
ENGL 1110G	Composition I	4
or ENGL 1110H	Composition I Honors	
English Composition - Level 2		
Choose one from the following:		3
ENGL 2130G	Advanced Composition	
ENGL 2210G	Professional and Technical Communication	
or ENGL 2210H	Professional and Technical Communication	
ENGL 2215G	Advanced Technical and Professional Communication	
Oral Communication		
Choose one from the following:		3
ACOM 1130G	Effective Leadership and Communication in Agriculture	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
HNRS 2175G	Introduction to Communication Honors	
Area II: Mathematics		
MATH 1511G	Calculus and Analytic Geometry I (Departmental/College Requirement) [1]	4
or MATH 1511H	Calculus and Analytic Geometry I Honors	
Area III/IV: Laboratory Sciences and Social/Behavioral Sciences		*10*
ECON 2110G	Macroeconomic Principles	
ECON 2120G	Principles of Microeconomics Honors	
Area III: Laboratory Science Course (4 credits) [2]		
Area V: Humanities [2]		*3*
Area VI: Creative and Fine Arts [2]		*3*
General Education Elective		
MATH 1521G	Calculus and Analytic Geometry II (Departmental/College Requirement)	4
or MATH 1521H	Calculus and Analytic Geometry II Honors	
Viewing a Wider World [3]		**3**
Departmental/College Requirements		
MATH 1531	Introduction to Higher Mathematics	3
MATH 2415	Introduction to Linear Algebra	3
MATH 2530G	Calculus III	3
MATH 3110	Introduction to Modern Algebra	3
or MATH 3120	Introduction to Analysis	
STAT 3110	Statistics for Engineers and Scientists	3
STAT 4210	Probability: Theory and Applications	3
STAT 4220	Statistics: Theory and Applications	3
Departmental Electives		
Select at least an additional 9 credits of approved upper-division courses prefixed MATH or STAT (6 credits must be 400-level), excluding the following:		9
MATH 3997	Directed Readings	
MATH 4991	Undergraduate Research	
MATH 4997	Directed Reading	
STAT 400	Undergraduate Research	
Non-Departmental Requirements (in addition to Gen.Ed/VWW) [4]		
ACCT 2110	Principles of Accounting I	3
ACCT 2120	Principles of Accounting II	3
BLAW 316	Legal Environment of Business	3
or BLAW 385V	Employment and Consumer Law	
CSCI 1720	Computer Science I	4
BFIN 322	Principles of Insurance	3
BFIN 341	Financial Analysis and Markets	3
Select one option from the following three:		9
OPTION 1		
BFIN 323	Life/Health/Employee Benefits	
Select two courses from the following:		
BFIN 303V	Personal Financial Planning and Investing in a Global Economy	
or BFIN 452	Personal Financial Planning for Professionals	
BFIN 324	Property and Liability Insurance	
BFIN 391	Finance Internship and Cooperative Education I	
OPTION 2		
BFIN 324	Property and Liability Insurance	
Select two courses from the following:		
BFIN 303V	Personal Financial Planning and Investing in a Global Economy	
or BFIN 452	Personal Financial Planning for Professionals	
BFIN 323	Life/Health/Employee Benefits	
BFIN 391	Finance Internship and Cooperative Education I	
OPTION 3		
Select two courses from the following:		
BFIN 456	Business Risk Management	
BFIN 303V	Personal Financial Planning and Investing in a Global Economy	
or BFIN 452	Personal Financial Planning for Professionals	
BFIN 323	Life/Health/Employee Benefits	
BFIN 324	Property and Liability Insurance	
BFIN 391	Finance Internship and Cooperative Education I	
Second Language Requirement: (not required)		
Electives, to bring the total credits to 120 [5]		**25**
6 credits must be upper division		
Total Credits		**120**

[1] MATH 1511G Calculus and Analytic Geometry I is required for the degree but students may need to take any prerequisites needed to enter MATH 1511G first.

[2] See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.

[3] See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section of the catalog for a full list of courses. Note one of the VWW requirements will be satisfied using the 9 hour rule with the FIN courses that are required for the degree.

[4] A grade of C- or better must be earned.

[5] Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

Second Language Requirement

For the Bachelor of Science with a major in Mathematics with a Concentration in Actuarial Science and Insurance, there is no second language requirement for the degree.

A Suggested Plan of Study for Students

This roadmap assumes student placement in MATH 1511G Calculus and Analytic Geometry I and ENGL 1110G Composition I. The contents and order of this roadmap may vary depending on initial student placement in mathematics and english. It is only a suggested plan of study for students and is not intended as a contract. Course availability may vary from fall to spring semester and may be subject to modification or change.

Some students may be able to bypass one or more courses in the calculus sequence MATH 1511G - MATH 1521G - MATH 2530G. The calculus sequence, Introduction to Higher Mathematics, and Linear Algebra provide knowledge that is basic to further work, and students are advised to complete them or their equivalent as early as possible.

First Year		Credits
ENGL 1110G or ENGL 1110H	Composition I (C- or better) or Composition I Honors	4
MATH 1511G or MATH 1511H	Calculus and Analytic Geometry I (C- or better) [1] or Calculus and Analytic Geometry I Honors	4
Area III: Laboratory Science Course [2]		4
CSCI 1720	Computer Science I	4
Choose one from the following:		3
ENGL 2130G	Advanced Composition	
ENGL 2210G or ENGL 2210H	Professional and Technical Communication or Professional and Technical Communication	
ENGL 2215G	Advanced Technical and Professional Communication	
Choose one from the following:		3
ACOM 1130G	Effective Leadership and Communication in Agriculture	
COMM 1115G	Introduction to Communication	
COMM 1130G	Public Speaking	
HNRS 2175G	Introduction to Communication Honors	
MATH 1521G or MATH 1521H	Calculus and Analytic Geometry II (C- or better) or Calculus and Analytic Geometry II Honors	4
Area V: Humanities Course [2]		3
ECON 2110G	Macroeconomic Principles	3
	Credits	**32**
Second Year		
ACCT 2110	Principles of Accounting I	3
MATH 1531	Introduction to Higher Mathematics (C- or better)	3
MATH 2530G	Calculus III (C- or better)	3
ECON 2120G	Principles of Microeconomics Honors (C- or better, and will count towards Area IV, Gen.Ed))	3
BFIN 322	Principles of Insurance (C- or better)	3
Area VI: Creative and Fine Arts Course [2]		3
MATH 2415	Introduction to Linear Algebra (C- or better)	3
STAT 3110	Statistics for Engineers and Scientists (C- or better)	3
ACCT 2120	Principles of Accounting II	3
BFIN 341	Financial Analysis and Markets	3
	Credits	**30**
Third Year		
VWW - Viewing a Wider World [3]		3
MATH 3110 or MATH 3120	Introduction to Modern Algebra (C- or better, Fall Only) [4] or Introduction to Analysis	3
OPTION 1,2 or 3 Course (C- or better) [5]		6
Elective Course(s) [6]		12
MATH/STAT Elective Course: 300/3000-level or higher (C- or better) [7,8]		3
MATH/STAT Elective Course: 400/4000-level (C- or better) [8]		3
	Credits	**30**
Fourth Year		
MATH/STAT Elective Course: 400/4000-level (C- or better) [8]		3
Option 1,2 or 3 Course (C- or better) [5]		3
STAT 4210	Probability: Theory and Applications (C- or better)	3
BLAW 316 or BLAW 385V	Legal Environment of Business (C- or better in either) or Employment and Consumer Law	3
Elective Course(s) [6]		7-9
STAT 4220	Statistics: Theory and Applications (C- or better)	3
Elective Course - Upper Division [6]		6
	Credits	**28-30**
	Total Credits	**120-122**

[1] Math Placement: MATH 1511G Calculus and Analytic Geometry I is the starting Math course for the degree, however, students may need to complete any prerequisites prior to enrolling into this course.

[2] See the General Education (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/) section of the catalog for a full list of courses.

[3] See the Viewing a Wider World (https://catalogs.nmsu.edu/nmsu/general-education-viewing-wider-world/#viewingawiderworldtext) section for a full list of courses. Please note that the second VWW requirement will be satisfied by the 9 hour rule using the FIN courses that are required for the degree.

[4] MATH 3110 Introduction to Modern Algebra is only offered in the Fall semesters, however MATH 3120 Introduction to Analysis is taught in the Spring and may be used as a substitute.

[5] Do not mix options; pick one throughout.
OPTION 1: BFIN 323 Life/Health/Employee Benefits; two courses from (BFIN 303V Personal Financial Planning and Investing in a Global Economy OR BFIN 452 Personal Financial Planning for Professionals); BFIN 324 Property and Liability Insurance; BFIN 391 Finance Internship and Cooperative Education I.
OPTION 2: BFIN 324 Property and Liability Insurance; two courses from (BFIN 303V Personal Financial Planning and Investing in a Global Economy OR BFIN 452 Personal Financial Planning for Professionals); BFIN 323 Life/Health/Employee Benefits; BFIN 391 Finance Internship and Cooperative Education I.
OPTION 3: BFIN 456 Business Risk Management; two courses from (BFIN 303V Personal Financial Planning and Investing in a Global Economy OR BFIN 452 Personal Financial Planning for Professionals); BFIN 323 Life/Health/Employee Benefits; BFIN 324 Property and Liability Insurance; BFIN 391 Finance Internship and Cooperative Education I.

[6] Elective credit may vary based on prerequisites, dual credit, AP credit, double majors, and/or minor coursework. The amount indicated in the requirements list is the amount needed to bring the total to 120 credits and may appear in variable form based on the degree. However students may end up needing to complete more or less on a case-by-case basis and students should discuss elective requirements with their advisor.

[7] MATH/STAT 300/3000-level courses that cannot be taken to fulfill this requirement: MATH 3997 Directed Readings.

[8] MATH/STAT 400/4000-level courses that cannot be taken to fulfill this requirement: MATH 4991 Undergraduate Research, MATH 4997 Directed Reading, STAT 400 Undergraduate Research.