

PRE-ACTUARIAL MATHEMATICS CONCENTRATION

Mathematics, Bachelor of Science with a Concentration in Pre-Actuarial Mathematics Requirements

Code	Title	Credits
GENERAL EDUCATION REQUIREMENTS - 46 Hours Required		
Minimum of "C-" required		
Fundamental Academic Skills		15
ENGL 1150	ENGLISH COMPOSITION I	
ENGL 1160	ENGLISH COMPOSITION II	
Writing in the Discipline Course		
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS ARGUMENTATION AND DEBATE	
MATH 1120 or MATH 1100 or MATH 1130 or MATH 1140 or MATH 1300 or STAT 1100 or STAT 1530	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING DATA LITERACY AND VISUALIZATION QUANTITATIVE LITERACY QUANTITATIVE REASONING FOR HEALTHCARE PROFESSIONALS COLLEGE ALGEBRA WITH SUPPORT DATA LITERACY AND VISUALIZATION ELEMENTARY STATISTICS	
Distribution Requirements		31
Natural Science - From two disciplines and at least one lab - 7 hrs		
Social Science - From two disciplines - 9 hrs		
Humanities and Fine Arts - From two disciplines- 9 hrs		
Global Diversity - 3 hrs		
US Diversity - 3 hrs		
MAJOR REQUIREMENTS		
**Course will satisfy UNO's General Education requirement		
^Course requires pre-requisite(s)		
Mathematics Major with a Concentration in Pre-Actuarial Mathematics - 46 Hours Required		
Required Coursework		25
MATH 1950	CALCULUS I (^)	
MATH 1960	CALCULUS II	
MATH 1970	CALCULUS III	
MATH 2050	APPLIED LINEAR ALGEBRA	
MATH 2230	INTRODUCTION TO ABSTRACT MATH	
MATH 2350	DIFFERENTIAL EQUATIONS	
MATH 3230	INTRODUCTION TO ANALYSIS	
Select one of the following		3
CIST 1400	INTRODUCTION TO COMPUTER SCIENCE I	
MATH 2200	MATHEMATICAL COMPUTING I	
MATH 3250	INTRODUCTION TO NUMERICAL METHODS	

Select all of the following Pre-Actuarial Mathematics Concentration courses 18

MATH 3200	MATHEMATICAL COMPUTING II (^)
MATH 3400	THEORY OF INTEREST
MATH/CSCI 4310 or STAT 4430	PROBABILISTIC OPERATIONS RESEARCH MODELS LINEAR MODELS
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II
STAT 4440	TIME SERIES ANALYSIS

College Breadth (choose one option) 15-30+

Option 1: Complete any UNO minor or undergraduate certificate - 15+ hours

Option 2: Additional General Education Requirements - 19+ hours

Additional quantitative literacy - 3 hours

Additional Social Science Gen. Ed. from 3rd Discipline - 3 hours

Additional Humanities Gen. Ed. from 3rd Discipline - 3 hours

HIST 1000 and HIST 1010 - 6 hours

Additional Nat. and Physical Science w/ Lab - 4-5 hours

Option 3: CAS comprehensive major (50+ hours) OR any second UNO major (30+ hours)

Bachelor of Science Cognate Requirement 15

The Bachelor of Science Degree requires at least 15 hours of related Cognate coursework that must be approved by the Mathematics Academic Advisor/Coordinator. Students can also choose a UNO Minor to satisfy their cognate requirement; however, this Cognate minor cannot double-count as the Option 1 minor for the College of Arts & Sciences College Breadth Requirement. A Computer Science Minor cannot satisfy the Cognate requirement for Mathematics. No more than 6 credits of cognate coursework may double-count within the general education requirements.

ELECTIVES

Elective hours as required to reach a total of 120 hours

Mathematics, Bachelor of Science with a Concentration in Pre-Actuarial Mathematics Four Year Plan

Freshman

Fall	Credits	
CMST 1110 or CMST 2120	PUBLIC SPEAKING FUNDS or ARGUMENTATION AND DEBATE	3
ENGL 1150	ENGLISH COMPOSITION I (^)	3
MATH 1950	CALCULUS I (**)	5
Humanities/Fine Arts Course with Global Diversity		3
Elective		1
*ENGL 1150: Requires placement.		
**MATH 1950: Requires placement.		

Credits

15

Spring

ENGL 1160	ENGLISH COMPOSITION II	3
MATH 1960	CALCULUS II	4
Humanities/Fine Arts Course		3

Natural & Physical Science with lab	4
Credits	14

Sophomore**Fall**

MATH 1970	CALCULUS III	4
MATH 2230	INTRODUCTION TO ABSTRACT MATH	3
Humanities & Fine Arts/U.S. Diversity Course*		3
Natural & Physical Science**		3
Cognate Course		3

*Must be in a 2nd discipline.

**N&PS course should be in a 2nd discipline.

Credits	16
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Spring

HIST 1000 or Minor/2nd Major Course*		3
MATH 2050	APPLIED LINEAR ALGEBRA	3
MATH 3230	INTRODUCTION TO ANALYSIS (**)	3
Social Science		3
Social Science		3

*A&S College Requirement Options

**MATH 2230 feeds right into MATH 3230, do your best to keep them in back-to-back semesters.

Student should consider taking the Exam FM through the Society of Actuaries the summer following this semester.

Credits	15
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Junior**Fall**

MATH 2200	MATHEMATICAL COMPUTING I	3
MATH 2350	DIFFERENTIAL EQUATIONS	3
MATH 3400	THEORY OF INTEREST (*)	3
MATH 4740	INTRODUCTION TO PROBABILITY AND STATISTICS I (**)	3
Social Science***		3

*MATH 3400: Requires MATH 1970

**MATH 4740: Requires MATH 2230

***Social Science Course must be in a 2nd discipline.

Credits	15
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Spring

MATH 3200	MATHEMATICAL COMPUTING II	3
MATH 4310 or CSCI 4310	PROBABILISTIC OPERATIONS RESEARCH MODELS (*) or PROBABILISTIC OPERATIONS RESEARCH MODELS	3
MATH 4750	INTRODUCTION TO PROBABILITY AND STATISTICS II (**)	3
Cognate Course		3
Additional Social Science Course for A&S or Minor/2nd Major Course^		3

*MATH 4310: Requires MATH 4740 and MATH 2050. IMPORTANT: Student only needs to take MATH/CSCI 4310 OR STAT 4430, not both.

**MATH 4750: Requires MATH 4740

***A&S College Requirement Options. Additional SS must be in a 3rd discipline.

Student should consider taking Exam P through the Society of Actuaries the summer following this semester.

Credits	15
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Senior**Fall**

STAT 4430	LINEAR MODELS (*)	3
Advanced Writing Requirement**		3
Additional Humanities and Fine Arts Course for A&S or Minor/2nd Major Course***		3
Cognate Course		3
Cognate Course		3

*STAT 4430: Requires MATH 4750. IMPORTANT: Student only needs to take MATH/CSCI 4310 OR STAT 4430, not both.

**Advanced Writing Requirement can be: CIST 3000 Advanced Composition for IS&T, ENGL 3050 Writing for the Workplace, ENGL 3980 Technical Writing Across the Discipline, or PHIL 3000 Philosophy Writing Seminar.

***A&S College Requirement Options. Additional HFA must be in 3rd discipline.

Credits	15
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Spring

HIST 1010 or Minor/2nd Major Course*		3
STAT 4440	TIME SERIES ANALYSIS (**)	3
Cognate Course***		3
Cognate Course***		3
Elective at 3000-4000L***		3

*A&S College Requirement Options

**STAT 4440: Requires MATH 4750

***Students need at least 120 credits and a minimum of 27 upper level credits throughout the entire degree, with at least 18 credits of upper level coursework taken within the major/concentration. May need to select 3000/4000 level free electives and/or cognate courses to reach the 27 credit minimum.

Credits	15
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Total Credits	120
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This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

This plan is not a contract and curriculum is subject to change

Additional Information About this Plan:

University Degree Requirements: The minimum number of hours for a UNO undergraduate degree is 120 credit hours. Please review the requirements for your specific program to determine all requirements for the program. In order to graduate on-time (four years for an undergraduate degree), you need to take 30 hours each year.

Placement Exams: For Math, English, Foreign Language, a placement exam may be required. More information on these exams can be found at <https://www.unomaha.edu/enrollment-management/testing-center/placement-exams/information.php>

**Transfer credit or placement exam scores may change suggested plan of study