

# PRE-ACTUARIAL MATHEMATICS CONCENTRATION

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

Code	Title	Credits
<b>GENERAL EDUCATION REQUIREMENTS - 46 Hours Required</b>		
Minimum of "C-" required		
<b>Fundamental Academic Skills</b>		<b>15</b>
ENGL 1150	ENGLISH COMPOSITION I	
ENGL 1160	ENGLISH COMPOSITION II	
Writing in the Discipline Course		
CMST 1110	PUBLIC SPEAKING FUNDS	
or CMST 2120	ARGUMENTATION AND DEBATE	
MATH 1120	INTRODUCTION TO MATHEMATICAL AND COMPUTATIONAL THINKING	
or MATH 1100	DATA LITERACY AND VISUALIZATION	
or MATH 1130	QUANTITATIVE LITERACY	
or MATH 1140	QUANTITATIVE REASONING FOR HEALTHCARE PROFESSIONALS	
or MATH 1300	COLLEGE ALGEBRA WITH SUPPORT	
or STAT 1100	DATA LITERACY AND VISUALIZATION	
or STAT 1530	ELEMENTARY STATISTICS	
<b>Distribution Requirements</b>		<b>31</b>
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		
<b>MAJOR REQUIREMENTS</b>		
**Course will satisfy UNO's General Education requirement		
^Course requires pre-requisite(s)		
<b>Mathematics Major with a Concentration in Pre-Actuarial Mathematics - 46 Hours Required</b>		
<b>Required Coursework</b>		<b>25</b>
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	
<b>Select one of the following</b>		<b>3</b>
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	PROBABILISTIC OPERATIONS RESEARCH MODELS
or STAT 4430	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 Arts Language Requirement - 16 Hours Required

FREN, GERM, Or SPAN, 1110\*\*, 1120, 2110, 2120

### ELECTIVES

Elective hours as required to reach a total of 120 hours

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

### Freshman

Fall		Credits
CMST 1110	PUBLIC SPEAKING FUNDS	3
or CMST 2120	or ARGUMENTATION AND DEBATE	
MATH 1950	CALCULUS I (*)	5
ENGL 1150	ENGLISH COMPOSITION I (**)	3
Foreign Language Course 1110***		5

\*MATH 1950: Requires placement exam

\*\*ENGL 1150: Requires placement exam

\*\*\*Level 1110 foreign language courses count as a Humanity/Fine Arts course, Global Diversity, and toward the student's BA requirement. If student is fulfilling the BA requirement via alternative methods, then 16 additional credits including a HFA and Global Diversity will need to be factored in to this degree plan.

**Credits 16**

### Spring

MATH 1960	CALCULUS II	4
ENGL 1160	ENGLISH COMPOSITION II	3
Foreign Language Course 1120		5
Social Science		3

**Credits 15**

**Sophomore**

<b>Fall</b>			
MATH 1970	CALCULUS III		4
MATH 2230	INTRODUCTION TO ABSTRACT MATH		3
Humanities & Fine Arts Course/U.S. Diversity			3
Foreign Language Course 2110			3

**Credits 13**

**Spring**

MATH 2050	APPLIED LINEAR ALGEBRA		3
MATH 3230	INTRODUCTION TO ANALYSIS (*)		3
Social Science			3
Foreign Language Course 2120			3
Optional VEE Elective			3

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

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

**Credits 15**

**Junior**

<b>Fall</b>			
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 Sciences Course must be in a 2nd discipline.

**Credits 15**

**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
Coding Course 2***			3
Natural & Physical Science			3
Optional VEE Elective			3

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

\*\*MATH 4750: Requires MATH 4740

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

**Credits 18**

**Senior**

<b>Fall</b>			
HIST 1010 or Course toward Minor/2nd Major*			3
STAT 4430	LINEAR MODELS (**)		3
Additional HFA Course for A&S or Course toward Minor/2nd Major***			3
Natural & Physical Science, with lab^			4
Humanities/Fine Arts Course#			3

\*A&S College Requirement Options

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

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

^N&PS Course must be in a 2nd discipline.

#HFA must be in a 2nd discipline

**Credits 16**

**Spring**

HIST 1000 or Course for Minor/2nd Major*			3
STAT 4440	TIME SERIES ANALYSIS (**)		3
Additional Social Science Course for A&S or Course for Minor/2nd Major***			3
Advanced Writing Requirement^			3

\*A&S College Requirement Options.

\*\*STAT 4440: Requires MATH 4750

\*\*\*A&S College Requirement Options. Additional Social Sciences Course must be in a 3rd discipline

^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.

NOTE: 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 to reach the 27 credit minimum.

**Credits 12**

**Total Credits 120**

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