

# ACTUARIAL MATHEMATICS, B.SC. HONOURS

## Actuarial Mathematics Honours Entrance, Continuation, and Graduation Requirements

**To enter** the program, a student must have completed a minimum of 24 credit hours with a minimum DGPA of 3.00, and also obtained a minimum grade of "B" in one of the courses listed in Year 1 of the program grid. All of the courses listed in Year 1 of the program grid are program requirements and students are strongly urged to take them in the first year.

**To continue** in the Actuarial Mathematics Honours program, students must maintain a minimum DGPA of 3.00 and complete a minimum of 9 credit hours during each Fall and Winter Term.

**To graduate** with the B.Sc. Honours degree, a student must achieve a minimum DGPA of 3.00, a minimum grade of "C+" in each of ACT 2120, ACT 2210, ACT 3130, ACT 3230, ACT 3340, ACT 4010, ACT 4020, ACT 4030, ACT 4040, ACT 4060, ACT 4160, FIN 2010, and a minimum grade of "C" on all remaining courses that contribute to the 120 credit hours of the degree.

## Degree Requirements

### Honours

Course	Title	Hours
<b>Year 1</b>		
For entry to this program a student requires a minimum grade of "B" in one of the courses below (excluding elective credits).		
ECON 1010	Introduction to Microeconomic Principles	3
ECON 1020	Introduction to Macroeconomic Principles	3
MATH 1220	Linear Algebra <sup>1</sup>	3
MATH 1230	Differential Calculus <sup>1</sup>	3
MATH 1232	Integral Calculus <sup>1</sup>	3
MATH 1240	Elementary Discrete Mathematics	3
STAT 1150	Introduction to Statistics and Computing <sup>1</sup>	3
STAT 2150	Statistics and Computing	3
6 credit hours of electives		6
<b>Hours</b>		<b>30</b>
<b>Year 2</b>		
GMGT 1000	Writing Skills for Business	1.5
IDM 1020	Data Software for Business	1.5
ACT 2120	Interest Theory <sup>2</sup>	3
STAT 2400	Introduction to Probability 1	3
STAT 2800	Introduction to Probability 2	3
ACC 1100	Introductory Financial Accounting	3
FIN 2010	Introduction to Finance <sup>2</sup>	3
MATH 2720	Multivariable Calculus <sup>1</sup>	3
GMGT 2010	Business Communications <sup>3</sup>	3
IDM 2020	Introduction to Business Analytics	3
3 credit hours of electives <sup>4</sup>		3
<b>Hours</b>		<b>30</b>

### Year 3

ACT 2210	Introduction to Risk Management <sup>2</sup>	3
ACT 3130	Actuarial Models I <sup>2</sup>	3
ACT 3340	Valuations for Actuarial Practice <sup>2</sup>	3
ACT 4010	Regression Modeling and Time Series in Actuarial Science <sup>2</sup>	3
ACT 4020	Short Term Actuarial Mathematics I <sup>2</sup>	3
STAT 3100	Introduction to Statistical Inference	3
STAT 3150	Statistical Computing	3
9 credit hours of electives <sup>4</sup>		9
<b>Hours</b>		<b>30</b>

### Year 4

ACT 3230	Actuarial Models 2 <sup>2</sup>	3
ACT 4030	Short Term Actuarial Mathematics II <sup>2, 5</sup>	3
ACT 4040	Statistical Learning in Actuarial Science <sup>2</sup>	3
ACT 4060	Actuarial Aspects of Investment Practice <sup>2</sup>	3
ACT 4160	Introduction to Property and Casualty Insurance Industry <sup>2</sup>	3
15 credit hours of electives <sup>4</sup>		15
<b>Hours</b>		<b>30</b>
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> The following substitutions are allowed:

- MATH 1210 (B), or MATH 1300 (C+) in place of MATH 1220 (C),
- MATH 1500 (B) or MATH 1510 (B) in place of MATH 1230 (C),
- MATH 1700 (B) or MATH 1710 (B) in place of MATH 1232 (C),
- STAT 1000 (C) and STAT 2000 (B) in place of STAT 1150,
- MATH 2150 in place of MATH 2720.

<sup>2</sup> A minimum grade of "C+" is required in this course to graduate.

<sup>3</sup> GMGT 2010 fulfills the written English requirement.

<sup>4</sup> 18 credit hours of the elective requirements must be taken from the following: FIN 2420, and 3000 or 4000 level courses from ACT, ACC, ENTR, FIN, GMGT, HRIR, IDM, INTB, LEAD, MIS, MKT, MSCI, OPM, SCM, SGMT, COMP, ECON, MATH or STAT.

<sup>5</sup> ACT 4030 may be taken in Year 3 or 4.