

# STATISTICS - ACTUARIAL JOINT, B.SC. HONOURS

## Statistics - Actuarial Mathematics Joint Honours Entrance, Continuation, and Graduation Requirements

The Department of Statistics and the Warren Centre for Actuarial Studies and Research offer a joint Honours program for students wishing in depth study in Statistics and Actuarial Mathematics.

**To enter** the Joint Honours program, students must have completed 24 credit hours with a minimum DGPA of 3.00. Students must also obtain a minimum grade of "B" in STAT 2150. 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 Joint Honours Statistics - Actuarial Mathematics 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 and a minimum grade of "C+" on all required Actuarial Mathematics (ACT) courses and a grade of "C" on all remaining courses that contribute to the 120 credit hours of the degree.

### Recommended Electives

Course	Title	Hours
FIN 3410	Investments	3
FIN 4240	Financial Modeling	3
COMP 1010	Introductory Computer Science 1	3

## Degree Requirements

### Joint Honours

Course	Title	Hours
<b>Year 1</b>		
STAT 1150	Introduction to Statistics and Computing <sup>1</sup>	3
STAT 2150	Statistics and Computing (B)	3
ECON 1010	Introduction to Microeconomic Principles	3
ECON 1020	Introduction to Macroeconomic Principles	3
MATH 1220	Linear Algebra 1 <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
One "W" course		3
3 credit hours of electives		3
<b>Hours</b>		<b>30</b>
<b>Year 2</b>		
STAT 2300	Principles of Data Collection	3
STAT 2400	Introduction to Probability 1	3
STAT 2800	Introduction to Probability 2	3
ACT 2020	Economic and Financial Applications	3
ACT 2120	Interest Theory	3
ACT 2210	Introduction to Risk Management	3

ACC 1100	Introductory Financial Accounting <sup>2</sup>	3
FIN 2200	Corporate Finance <sup>2</sup>	3
MATH 2720	Multivariable Calculus	3
3 credit hours of electives		3
<b>Hours</b>		<b>30</b>
<b>Year 3</b>		
STAT 3030	Introduction to Stochastic Processes	3
STAT 3100	Introduction to Statistical Inference	3
STAT 3450	Linear Models	3
ACT 3340	Financial Derivatives for Actuarial Practice	3
One of:		6
ACT 3630	Models for Life Contingencies	
ACT 3130 & ACT 3230	Actuarial Models 1 and Actuarial Models 2	
3 credit hours of Statistics electives <sup>3</sup>		3
9 credit hours of electives		9
<b>Hours</b>		<b>30</b>
<b>Year 4</b>		
STAT 4100	Statistical Inference	3
ACT 4060	Actuarial Aspects of Investment Practice	3
ACT 4160	Introduction to Property and Casualty Insurance Industry	3
ACT 4020	Short Term Actuarial Mathematics I <sup>4</sup>	3
ACT 4030	Short Term Actuarial Mathematics II <sup>4</sup>	3
MSCI 2150	Introduction to Management Sciences	3
9 credit hours of Statistics electives <sup>3</sup>		9
3 credit hours of electives		3
<b>Hours</b>		<b>30</b>
<b>Total Hours</b>		<b>120</b>

- The following substitutions are allowed:
    - MATH 1300 or MATH 1310 in place of MATH 1220,
    - MATH 1500 (B) or MATH 1510 (B) in place of MATH 1230,
    - MATH 1700 (B) or MATH 1710 (B) in place of MATH 1232.
    - STAT 1000 and STAT 2000 (B) in place of STAT 1150.
  - Students are strongly urged to complete ACC 1100 in Year 1 when possible. FIN 2200 may be taken in Year 2, 3 or 4; however, it is strongly recommended that it be completed in Year 2. Note that ACC 1100 is a prerequisite for FIN 2200.
  - The 12 credit hours of electives in Statistics in Years 3 and 4 must all be at the 3000 level or higher, at least 9 of which must be at the 4000 level. The following courses are recommended: STAT 3150, STAT 3490, STAT 3550, STAT 3690, STAT 4150, STAT 4250, STAT 4630.
  - ACT 4020 and ACT 4030 may be taken in Year 3 or 4.
- (Letters in brackets indicate minimum prerequisite standing for further study.)