

# STATISTICS - MATHEMATICS JOINT, B.SC. HONOURS

## Degree Requirements

### Joint Honours (Including Co-operative Option if Selected)

Course	Title	Hours
<b>Year 1</b>		
MATH 1220	Linear Algebra 1 <sup>1</sup>	3
MATH 1230	Differential Calculus <sup>1</sup>	3
MATH 1232	Integral Calculus (B) <sup>1</sup>	3
MATH 1240	Elementary Discrete Mathematics	3
<b>Hours</b>		<b>12</b>

#### Years 1-2

The following courses must be taken in Year 1 or Year 2:		
STAT 1150	Introduction to Statistics and Computing <sup>1</sup>	3
STAT 2150	Statistics and Computing (B)	3
COMP 1010	Introductory Computer Science 1 <sup>1</sup>	3
6 credit hours from the Faculty of Arts, which should include the required "W" course		6
9 credit hours of electives <sup>2</sup>		9
<b>Hours</b>		<b>24</b>

#### Year 2

STAT 2400	Introduction to Probability 1	3
STAT 2800	Introduction to Probability 2	3
MATH 2020	Algebra 1	3
MATH 2080	Introduction to Analysis	3
MATH 2090	Linear Algebra 2	3
MATH 2150	Multivariable Calculus	3
MATH 2160	Numerical Analysis 1	3
MATH 2180	Real Analysis 1	3
<b>Hours</b>		<b>24</b>

#### Year 3

STAT 3030	Introduction to Stochastic Processes	3
STAT 3100	Introduction to Statistical Inference	3
STAT 3150	Statistical Computing	3
STAT 3450	Linear Models	3
<b>Hours</b>		<b>12</b>

#### Years 3-4

MATH 2030	Combinatorics 1	3
MATH 3320	Algebra 2	3
MATH 3340	Complex Analysis 1	3
MATH 3440	Ordinary Differential Equations	3
MATH 3460	Partial Differential Equations	3
MATH 3474	Real Analysis 2	3
MATH 3476	Real Analysis 3	3
3 credit hours from:		3
MATH 2070	Graph Theory 1	
MATH 2170	Number Theory 1	
Any 3000/4000 level Mathematics courses		

3 credit hours from any 3000/4000 level Mathematics courses	3
3 credit hours from any 4000 level Mathematics courses	3
6 credit hours from any 4000 level Statistics courses <sup>2</sup>	6
9 credit hours of electives <sup>2</sup>	9

<b>Co-op Requirements (if selected): <sup>3</sup></b>		
SCI 3980	Co-operative Education Work Term 1	0
SCI 3990	Co-operative Education Work Term 2	0
SCI 4980	Co-operative Education Work Term 3	0
SCI 4990	Co-operative Education Work Term 4 (if a 4th work term is selected)	0
<b>Hours</b>		<b>45</b>

#### Year 4

STAT 4100	Statistical Inference	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>120</b>

<sup>1</sup> Students are strongly advised to take MATH 1220, MATH 1230, MATH 1232.

The following substitutions are allowed (but not advised), provided the grades indicated in brackets are achieved:

- COMP 1012 in place of COMP 1010;
- MATH 1210 (A) or MATH 1300 (A) in place of MATH 1220;
- MATH 1500 (A) or MATH 1510 (A) in place of MATH 1230;
- MATH 1700 (A) or MATH 1710 (A) in place of MATH 1232;
- STAT 1000 and STAT 2000 (B) in place of STAT 1150.

<sup>2</sup> The following courses are not to be used for credit in this program: FA 1020, MATH 1010, MATH 1018, MATH 1020, MATH 1080, MATH 1090, STAT 3000, STAT 4000.

<sup>3</sup> Students in the Co-operative Option are required to complete MATH 2020, MATH 2150, MATH 2180, STAT 3150, and STAT 3450 before their first employment term.

(Letters in brackets indicate minimum prerequisite standing for further study.)