

# COMPUTER SCIENCE - STATISTICS JOINT, B.SC. HONOURS

## Degree Requirements

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

Course	Title	Hours
<b>Year 1</b>		
COMP 1010	Introductory Computer Science 1 <sup>1</sup>	3
COMP 1020	Introductory Computer Science 2 (B)	3
STAT 1150	Introduction to Statistics and Computing <sup>1</sup>	3
STAT 2150	Statistics and Computing (B)	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
6 credit hours from the Faculty of Arts, which could include the required 3 credit hour "W" course		6
<b>Hours</b>		<b>30</b>
<b>Year 2</b>		
COMP 2080	Algorithms: Design and Implementation	3
COMP 2140	Data Structures: Analysis and Implementation	3
COMP 2400	Programming Paradigms	3
COMP 2450	Software Development 1	3
COMP 2452	Software Development 2	3
STAT 2400	Introduction to Probability 1	3
MATH 2080	Introduction to Analysis	3
MATH 2150	Multivariable Calculus <sup>1</sup>	3
<b>Hours</b>		<b>24</b>
<b>Years 2-3</b>		
STAT 2300	Principles of Data Collection	3
STAT 2800	Introduction to Probability 2	3
6 credit hours of electives <sup>2</sup>		6
<b>Hours</b>		<b>12</b>
<b>Year 3</b>		
COMP 3170	Analysis of Algorithms and Data Structures	3
COMP 3380	Databases Concepts and Usage	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
6 credit hours of electives <sup>2,3</sup>		6
<b>Hours</b>		<b>24</b>
<b>Years 3-4</b>		
<b>Co-op Requirements (if selected): <sup>4</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 4th work term selected)	0
<b>Hours</b>		<b>0</b>
<b>Year 4</b>		
STAT 4100	Statistical Inference	3
27 credit hours of electives <sup>2,5</sup>		27
<b>Hours</b>		<b>30</b>
<b>Total Hours</b>		<b>120</b>

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

- COMP 1012 may be taken in place of COMP 1010;
- MATH 1500 (B) or MATH 1510 (B) may be taken in place of MATH 1230;
- MATH 1210 (B) or MATH 1300 (C+) may be taken in place of MATH 1220;
- MATH 1700 (B) or MATH 1710 (B) may be taken in place of MATH 1232;
- MATH 2720 may be taken in place of MATH 2150;
- STAT 1000 and STAT 2000 (B) may be taken in place of STAT 1150.

<sup>2</sup> The following courses are not to be used for credit in this program: STAT 3000, STAT 4000.

<sup>3</sup> These must include 3 credit hours of COMP courses at the 3000 level. The following courses are suggested: COMP 3020, COMP 3350, COMP 3490, STAT 3490, STAT 3550, STAT 3690.

<sup>4</sup> Students in the Co-operative Option are required to complete COMP 3380, STAT 2300, STAT 3150, and STAT 3450 before their first employment term.

<sup>5</sup> These must include 3 credit hours of COMP courses at the 3000 or 4000 level, 6 credit hours of COMP courses at the 4000 level, and 9 credit hours of STAT courses at the 4000 level. The following courses are suggested: COMP 4380, COMP 4710, STAT 4150, STAT 4250, STAT 4630.

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