MATHEMATICS – SPECIALIZATION (SCIENCE) – BACHELOR OF SCIENCE (HONOURS)

Subject: Administered by the Department of Mathematics and Statistics.
Plan: Consists of 36.00 core units and 24.00 units in one Sub-Plan, as described below.
Plan Code: MATH-S [----]-O (where [----] is a Mathematics Sub-Plan)
Program: The Plan, alone, or in combination with a Minor in another subject, and with sufficient electives to total 120.00 units, will lead to a Bachelor of Science (Honours) Degree.

Code	Title	Units
1. Core		
A. Complete the following:		
MATH 110	Linear Algebra	6.00
MATH 120	Differential and Integral Calculus	6.00
B. Complete the following:		
MATH 210	Rings and Fields	3.00
MATH 225	Ordinary Differential Equations	3.00
MATH 280	Advanced Calculus	3.00
MATH 281	Introduction to Real Analysis	3.00
C. Complete the following:		
STAT 268	Statistics and Probability I	3.00
STAT 269	Statistics and Probability II	3.00
D. Complete the following:		
MATH 326	Functions of a Complex Variable	3.00
MATH 328	Real Analysis	3.00
2. Sub-Plans		
A. Complete one of the following Sub-Plans:		**24.00**
i. Pure Mathematics (PURE-O)		
ii. Applied Mathematics (APPL-O)		
Electives and/or Other Plan Requirements		**60.00**
Total Units		**120.00**

Sub-Plans

i. Pure Mathematics (PURE-O)

Code	Title	Units
1. Core		
a. Complete the following:		
MATH 310	Group Theory	3.00
b. Complete 3.00 units from the following:		**3.00**
MATH 341	Differential Geometry	
MATH 347	Introduction to Topology	
2. Option		
a. Complete 6.00 units from the following:		**6.00**
MATH at the 400-level or above		
b. Complete 9.00 units from the following:		**9.00**
MATH at the 400-level or above		
MATH_List_B		
c. Complete 3.00 units from the following course list:		**3.00**
MATH_List_A		
Total Units		**24.00**

ii. Applied Mathematics (APPL-O)

Code	Title	Units
1. Core		
a. Complete the following:		
MATH 331	Ordinary Differential Equations II	3.00
STAT 353	Probability II	3.00
b. Complete 3.00 units from the following:		**3.00**
MATH 300	Modeling Techniques in Biology	
MATH 337	Stochastic Models in Operations Research	
MATH 339	Game Theory	
2. Option		
a. Complete 6.00 units from the following:		**6.00**
MATH at the 400-level or above		
b. Complete 6.00 units from the following:		**6.00**
MATH at the 400-level or above		
MATH_List_B		
c. Complete 3.00 units from the following course list:		**3.00**
MATH_List_A		
Total Units		**24.00**

3. Notes

A. The same course cannot be used to satisfy multiple requirements in one plan.

B. A maximum of 6.00 units from courses offered by other Faculties and Schools may be counted toward the program and/or Plan requirements. This includes courses in BMED, COMM, GLPH, HSCI, LAW, NURS, and courses offered by Smith Engineering.

Mathematics Course Lists

The following lists may contain courses offered through other Departments. In accordance with Academic Regulation **2.6** (Access to Classes), students do not have enrolment priority in all of these courses. Access to these courses may only be

made available during the Open Enrolment period, and then only if space permits.

MATH_List_B

Code	Title	Units
MATH 300	Modeling Techniques in Biology	3.00
MATH 310	Group Theory	3.00
MATH 314	Representations of the Symmetric Group	3.00
MATH 331	Ordinary Differential Equations II	3.00
MATH 335	Mathematics of Engineering Systems	3.00
MATH 337	Stochastic Models in Operations Research	3.00
MATH 339	Game Theory	3.00
MATH 341	Differential Geometry	3.00
MATH 347	Introduction to Topology	3.00
STAT 353	Probability II	3.00

MATH_List_A

Code	Title	Units
MATH 300	Modeling Techniques in Biology	3.00
MATH 311	Elementary Number Theory	3.00
MATH 381	Mathematics with a Historical Perspective	3.00
MATH 382	Mathematical Explorations	3.00