APPLIED MATHEMATICS WITH ECONOMICS OPTION, B.SC. MAJOR

Degree Requirements

Four Year Major (Including Co-operative Option if Selected)

Course	Title	Hours
Year 1		
MATH 1220	Linear Algebra 1 [1]	3
MATH 1230	Differential Calculus [1]	3
MATH 1232	Integral Calculus (C+) [1]	3
MATH 1240	Elementary Discrete Mathematics	3
One of the following:		6
ECON 1010 & ECON 1020	Introduction to Microeconomic Principles and Introduction to Macroeconomic Principles	
ECON 1210 & ECON 1220	Introduction to Canadian Economic Issues and Policies and Introduction to Global and Environmental Economic Issues and Policies	
9 credit hours of electives [2]		9
	Hours	**27**
Years 1-2		
3 credit hour "W" course must be taken in Year 1 or Year 2		3
	Hours	**3**
Year 2		
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
	Hours	**15**
Years 2-4		
STAT 1150	Introduction to Statistics and Computing [1]	3
STAT 2150	Statistics and Computing	3
COMP 1010	Introductory Computer Science 1 [1]	3
ECON 2030	Mathematical Economics 1	3
ECON 3030	Mathematical Economics 2	3
6 credit hours from:		6
MATH 2030	Combinatorics 1	
MATH 2040	Curves and Surfaces	
MATH 2170	Number Theory 1	
Any 3000/4000 level MATH course		
6 credit hours from:		6
ECON 2010	Microeconomic Theory 1	
ECON 2020	Macroeconomic Theory 1	
ECON 3010	Microeconomic Theory 2	
ECON 3020	Macroeconomic Theory 2	
24 credit hours of electives [2]		24
	Hours	**51**
Years 3-4		
MATH 2070	Graph Theory 1	3
MATH 3340	Complex Analysis 1	3
MATH 3420	Numerical Analysis 2	3
MATH 3440	Ordinary Differential Equations	3
MATH 3460	Partial Differential Equations	3
MATH 3474	Real Analysis 2	3
MATH 3610	Introduction to Mathematical Modelling	3
MATH 4370	Linear Algebra and Matrix Analysis	3
Co-op Requirements (if selected):		
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
	Hours	**24**
	Total Hours	**120**

[1] Students are strongly advised to take MATH 1220, MATH 1230 and MATH 1232.

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

- MATH 1210 (B) or MATH 1300 (C+) 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 (C) and STAT 2000 (B) in place of STAT 1150.

COMP 1012 may be used in place of COMP 1010.

[2] These courses may not be used for credit in this program: MATH 1010, MATH 1018, MATH 1020, FA 1020, MATH 1080, MATH 1090.

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