NUS National University of Singapore | Department of Mathematics Faculty of Science

B.Sc. & B.Sc. (Hons) with Major in Applied Mathematics with interest in Operations Research

Sample Study Plan for Students Admitted in AY2007/08 to AY2013/14

Occasionally certain modules listed below may not be offered in a particular year.

LEVEL	RECOMMENDED MODULES
1000	• MA1100 Fundamental Concepts of Mathematics • MA1101R Linear Algebra I • MA1102R Calculus • MA1104 Multivariable Calculus • *For students matriculated before AY2010/11*: – CZ1102 Problem Solving and Computation or CS1101/CS1101C/CS1101S Programming Methodology *For students matriculated from AY2010/11 to AY2013/14:* – CS1010/CS1010E/CS1010S Programming Methodology or IT1006 MATLAB Programming for Mathematics
2000	• MA2101/MA2101S Linear Algebra II • MA2108/MA2108S Mathematical Analysis I • MA2213 Numerical Analysis I • MA2216/ST2131 Probability • One of the following modules: – MA2202/MA2202S Algebra I or MA3218 Applied Algebra – MA2214 Combinatorial Analysis (*new title from AY2013/14:* Combinatorics and Graphs I) – ST2132 Mathematical Statistics
3000	• MA3110/MA3110S Mathematical Analysis II • MA3111/MA3111S Complex Analysis I • MA3233 Algorithmic Graph Theory (*new title from AY2013/14*: Combinatorics and Graphs II)[1] • MA3236 Nonlinear Programming • MA3252 Linear and Network Optimization • One of the following modules: – MA3220 Ordinary Differential Equations – MA3227 Numerical Analysis II – MA3238/ST3236 Stochastic Processes I

LEVEL	RECOMMENDED MODULES
	– MA3264 Mathematical Modelling *<u>Note:</u>* *One may need to take additional Level 3000 modules as unrestrictive elective modules to serve as prerequisites for certain Level 4000 modules*
4000	• MA4199 Honours Project in Mathematics • MA4230 Matrix Computation • MA4235 Graph Theory (*new title from AY2014/15:* Topics in Graph Theory) • MA4254 Discrete Optimization • MA4264 Game Theory • Two of the following modules: – MA4221 Partial Differential Equations[2] – MA4255 Numerical Partial Differential Equations (*new title from AY2012/13:* Numerical Methods in Differential Equations)[3] – MA4268 Mathematics for Visual Data Processing

[1] MA3233 requires MA2214 as prerequisite
[2] MA4221 requires MA3220 as prerequisite
[3] MA4255 requires MA3220 as prerequisite

Updated 22 Jul 2014