

# B.Sc. & B.Sc. (Hons) with Major in Applied Mathematics with Specialization in Mathematical Modelling and Data Analytics (MMDA)

## Sample Study Plan for Students Admitted in AY2017/18 or after

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

LEVEL	RECOMMENDED MODULES
1000	<ul style="list-style-type: none"> <li>• MA1100 Fundamental Concepts of Mathematics</li> <li>• MA1101R Linear Algebra I</li> <li>• MA1102R Calculus</li> <li>• CS1010/CS1010E/CS1010S/CS1010FC/CS1010X Programming Methodology</li> </ul>
2000	<ul style="list-style-type: none"> <li>• MA2101/MA2101S Linear Algebra II</li> <li>• MA2104 Multivariable Calculus</li> <li>• MA2108/MA2108S Mathematical Analysis I</li> <li>• MA2213 Numerical Analysis I</li> <li>• MA2216/ST2131 Probability</li> <li>• One of the following modules:               <ul style="list-style-type: none"> <li>– MA2202/MA2202S Algebra I or MA3218 Applied Algebra<sup>1</sup></li> <li>– ST2132 Mathematical Statistics</li> </ul> </li> </ul>
3000	<ul style="list-style-type: none"> <li>• MA3110/MA3110S Mathematical Analysis II</li> <li>• MA3111/MA3111S Complex Analysis I</li> <li>• MA3220 Ordinary Differential Equations</li> <li>• Two of the following modules:               <ul style="list-style-type: none"> <li>– MA3227 Numerical Analysis II</li> <li>– MA3264 Mathematical Modelling</li> <li>– ST3131 Regression Analysis<sup>2</sup></li> </ul> </li> </ul> <p><i>Note:</i> One may need to take additional Level 3000 modules as unrestrictive elective modules to serve as prerequisites for certain Level 4000 modules</p>

LEVEL	RECOMMENDED MODULES
4000	<ul style="list-style-type: none"><li>• MA4199 Honours Project in Mathematics</li><li>• MA4230 Matrix Computation</li><li>• MA4255 Numerical Methods in Differential Equations</li><li>• MA4268 Mathematics for Visual Data Processing</li><li>• MA4270 Data Modelling and Computation</li><li>• One of the following modules:<ul style="list-style-type: none"><li>– MA4229 Approximation Theory</li><li>– MA4261 Coding and Cryptography<sup>1</sup></li><li>– MA4272 Mathematical Tools for Data Science</li><li>– DSA4211 High-Dimensional Statistical Analysis<sup>2</sup></li></ul></li></ul>

<sup>1</sup> MA4261 requires MA3218 as prerequisite

<sup>2</sup> DSA4211 requires ST3131 as prerequisite

*Updated 30 June 2017*