

# B.Sc. & B.Sc. (Hons) with Major in Applied Mathematics (without specialization, but with interest in Operations Research)

## Sample Study Plan for Students Admitted in AY2019/2020 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 Basic Discrete Mathematics</li> <li>• MA1101R Linear Algebra I</li> <li>• MA1102R Calculus</li> <li>• CS1010/CS1010E/CS1010S/CS1010X/CS1101S 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>• MA2214 Combinatorics and Graphs I</li> </ul>
3000	<ul style="list-style-type: none"> <li>• MA3233 Combinatorics and Graphs II</li> <li>• MA3236 Nonlinear Programming</li> <li>• MA3252 Linear and Network Optimization</li> <li>• Two* of the following modules:               <ul style="list-style-type: none"> <li>– MA3210 Mathematical Analysis II</li> <li>– MA3220 Ordinary Differential Equations <sup>1</sup></li> <li>– MA3227 Numerical Analysis II</li> <li>– MA3238 Stochastic Processes I</li> <li>– MA3264 Mathematical Modelling</li> </ul> </li> </ul> <p><i>*One may need to take additional Level 3000 modules as unrestrictive elective modules to serve as prerequisites for certain Level 4000 modules.</i></p>

LEVEL	RECOMMENDED MODULES
4000	<ul style="list-style-type: none"><li>• MA4199 Honours Project in Mathematics</li><li>• MA4230 Matrix Computation</li><li>• MA4254 Discrete Optimization</li><li>• MA4260 Stochastic Operations Research</li><li>• MA4264 Game Theory</li><li>• One of the following modules:<ul style="list-style-type: none"><li>– MA4235 Topics in Graph Theory</li><li>– MA4255 Numerical Methods in Differential Equations <sup>1</sup></li><li>– MA4268 Mathematics for Visual Data Processing</li><li>– MA4270 Data Modelling and Computation</li></ul></li></ul> <p><u>Notes:</u> <sup>1</sup> MA4255 requires MA3220 as prerequisite</p>

*Updated 02 July 2019*