

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 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"> MA1100 Basic Discrete Mathematics MA1101R Linear Algebra I MA1102R Calculus CS1010/CS1010E/CS1010S/CS1010X/CS1101S Programming Methodology
2000	<ul style="list-style-type: none"> MA2101/MA2101S Linear Algebra II MA2104 Multivariable Calculus MA2108/MA2108S Mathematical Analysis I MA2213 Numerical Analysis I MA2216/ST2131 Probability One of the following modules: <ul style="list-style-type: none"> MA2214 Combinatorics and Graph I ¹ ST2132 Mathematical Statistics
3000	<ul style="list-style-type: none"> MA3220 Ordinary Differential Equations MA3227 Numerical Analysis II MA3264 Mathematical Modelling Two* of the following modules: <ul style="list-style-type: none"> MA3210 Mathematical Analysis II MA3233 Combinatorics and Graph II ¹ MA3252 Linear and Network Optimization ² MA3259 Mathematical Methods in Genomics ST3131 Regression Analysis ⁴ <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">• MA4199 Honours Project in Mathematics• MA4230 Matrix Computation• MA4255 Numerical Methods in Differential Equations• MA4268 Mathematics for Visual Data Processing• MA4270 Data Modelling and Computation• One of the following modules:<ul style="list-style-type: none">– MA4229 Fourier Analysis and Approximation– MA4254 Discrete Optimization ²– MA4261 Coding and Cryptography ³– DSA4211 High-Dimensional Statistical Analysis ⁴ <p><u>Notes:</u> ¹ MA3233 requires MA2214 as prerequisite ² MA4254 requires MA3252 as prerequisite ³ The prerequisites of MA4261 are MA3201 or MA3218 or MA3265 which may be revised in the near future. ⁴ DSA4211 requires ST3131 as prerequisite</p>

Updated 02 July 2019