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 AY2016/17
Occasionally certain modules listed below may not be offered in a particular year.

<table>
<thead>
<tr>
<th>LEVEL</th>
<th>RECOMMENDED MODULES</th>
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| 1000  | • MA1100 Fundamental Concepts of Mathematics  
       | • MA1101R Linear Algebra I  
       | • MA1102R Calculus  
       | • MA1104/MA2104 Multivariable Calculus  
       | • CS1010/CS1010E/CS1010S/CS1010FC/CS1010X Programming Methodology |
| 2000  | • MA2101/MA2101S Linear Algebra II  
       | • MA2108/MA2108S Mathematical Analysis I  
       | • MA2213 Numerical Analysis I  
       | • MA2216/ST2131 Probability  
       | • MA2214 Combinatorics and Graphs I |
| 3000  | • MA3110/MA3110S Mathematical Analysis II  
       | • MA3111/MA3111S Complex Analysis I  
       | • MA3236 Nonlinear Programming  
       | • MA3252 Linear and Network Optimization  
       | • One of the following modules:  
       |   – MA3220 Ordinary Differential Equations²  
       |   – MA3227 Numerical Analysis II  
       |   – MA3233 Combinatorics and Graphs II¹  
       |   – MA3264 Mathematical Modelling |

Note: One may need to take additional Level 3000 modules as unrestrictive elective modules to serve as prerequisites for certain Level 4000 modules.
<table>
<thead>
<tr>
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| 4000  | • MA4199 Honours Project in Mathematics  
         • MA4230 Matrix Computation  
         • MA4254 Discrete Optimization  
         • MA4260 Stochastic Operations Research  
         • MA4264 Game Theory  
         • One of the following modules:  
           – MA4235 Topics in Graph Theory\(^1\)  
           – MA4255 Numerical Methods in Differential Equations\(^2\)  
           – MA4268 Mathematics for Visual Data Processing  
           – MA4270 Data Modelling and Computation |

\(^1\) MA4235 requires MA3233 as prerequisite  
\(^2\) MA4255 requires MA3220 as prerequisite  

*Updated 30 June 2017*