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 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  
      | • One of the following modules:  
        - MA2202/MA2202S Algebra I or MA3218 Applied Algebra¹  
        - ST2132 Mathematical Statistics |
| 3000  | • MA3110/MA3110S Mathematical Analysis II  
      | • MA3111/MA3111S Complex Analysis I  
      | • MA3220 Ordinary Differential Equations  
      | • Two of the following modules:  
        - MA3227 Numerical Analysis II  
        - MA3264 Mathematical Modelling  
        - ST3131 Regression Analysis² |

*Note: One may need to take additional Level 3000 modules as unrestrictive elective modules to serve as prerequisites for certain Level 4000 modules*
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| 4000  | - 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:  
         |   - MA4229 Approximation Theory  
         |   - MA4261 Coding and Cryptography\(^1\)  
         |   - MA4272 Mathematical Tools for Data Science  
         |   - DSA4211 High-Dimensional Statistical Analysis\(^2\)  |

\(^1\) MA4261 requires MA3218 as prerequisite  
\(^2\) DSA4211 requires ST3131 as prerequisite

*Updated 30 June 2017*