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

Sample Study Plan for Students Admitted in AY2019/2020 or after
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  
       | • CS1010/CS1010E/CS1010S/CS1010FC/CS1010X Programming Methodology |
| 2000  | • MA2101/MA2101S Linear Algebra II  
       | • MA2104 Multivariable Calculus  
       | • MA2108/MA2108S Mathematical Analysis I  
       | • MA2213 Numerical Analysis I  
       | • MA2216/ST2131 Probability  
       | • ST2132 Mathematical Statistics |
| 3000  | • MA3220 Ordinary Differential Equations  
       | • MA3252 Linear and Network Optimization  
       | • MA3269 Mathematical Finance I  
       | • Two* of the following modules:  
         | – MA3210 Mathematical Analysis II  
         | – MA3227 Numerical Analysis II  
         | – MA3236 Nonlinear Programming  
         | – MA3238 Stochastic Process I  
         | – ST3131 Regression Analysis ¹  
       | • Optional unrestrictive elective module:  
         | – QF3101 Investment Instruments: Theory and Computation |

*One may need to take additional Level 3000 modules as unrestrictive elective modules to serve as prerequisites for certain Level 4000 modules.
### Level 4000

- MA4199 Honours Project in Mathematics
- MA4230 Matrix Computation
- MA4254 Discrete Optimization
- MA4255 Numerical Methods in Differential Equations
- MA4269 Mathematical Finance II
- One of the following modules:
  - MA4221 Partial Differential Equations
  - MA4264 Game Theory
  - MA4260 Stochastic Operations Research
  - ST4245 Statistical Methods for Finance

#### Notes:

1 ST4245 requires ST3131 as prerequisite

*Updated 02 July 2019*