B.Sc. (Hons) with Major in Mathematics with Specialisation in Operations Research & Data Analytics

Graduation Requirements for students admitted in AY2021/2022 or after

To be awarded a **B.Sc.(Hons) with primary major in Mathematics with Specialisation in Operations Research & Data Analytics (ORDA)**, in addition to the University and College requirements, a candidate must satisfy the following:

Course Level	Major Requirements	Level Units	Cumulative Major Units
1000	1. MA1100/MA1100T Basic Discrete Mathematics	4	4
2000	2. Pass all the following courses: • MA2001 Linear Algebra I • MA2002 Calculus • MA2101/MA2101S Linear Algebra II • MA2104 Multivariable Calculus • MA2108/MA2108S Mathematical Analysis I • MA2116/MA2216/ST2131 Probability 3. Pass two additional courses coded MA22xx/MA32xx/MA42xx (except MAx288/MAx289/MAx288x/MAx289x)	32-36	36-40
3000	4. Pass *five courses coded MA32xx/MA42xx/MA52xx/MA62xx (except MAx288/MAx289/MAx288x/MAx289x) or ST3236 or ST4238 *At most three courses (12 Units) can be coded MA52xx/MA62xx	20-23	56-62
4000	5. Pass MA4198 Mathematics Capstone Project 6. Pass five* additional courses from List ORDA *The five courses used to satisfy item 6 cannot be concurrently used to satisfy item 3 or 4*	24	80-86

List ORDA

- DSA4212 Optimisation for Large Scale Data Driven Inference
- MA4229 Fourier Analysis & Approximation
- MA4230 Matrix Computation
- MA4235 Graph Theory
- MA4251/ST4238 Stochastic Processes II
- MA4254 Discrete Optimisation
- MA4255 Numerical Methods in Differential Equations
- MA4260 Stochastic Operations Research
- MA4261 Information and Coding Theory

- MA4264 Game Theory
- MA4268 Mathematics for Visual Data Processing
- MA4270 Data Modelling & Computation
- MA4288O Undergraduate Project in Mathematics
- QF4103 Mathematical Models of Finance Derivatives

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