NUS National University of Singapore | Department of Mathematics
Faculty of Science

Second Major in Mathematics

Graduation Requirements for students admitted from AY2019/2020

To be awarded a 2nd major in Mathematics, candidates must satisfy at least 40 MCs from non-overlapping modules of the following:

Module Level	2nd Major Requirements	Cumulative Major MCs
1000 (12-14 MCs)	Pass • MA1100/MA1100T Basic Discrete Mathematics or CS1231/CS1231S Discrete Structures • MA1101R/MA2001 Linear Algebra I or MA1506 Mathematics II or MA1508 Linear Algebra with Applications or MA1508E Linear Algebra for Engineering or (MA1513 Linear Algebra with Differential Equations and one additional module from List II) • MA1102R/MA2002 Calculus or MA1505 Mathematics I or MA1507 Advanced Calculus or MA1521 Calculus for Computing or (MA1511 Engineering Calculus and MA1512 Differential Equations for Engineering)	12-14
2000 (16-18 MCs)	Pass • MA2101/MA2101S Linear Algebra II • MA2104 Multivariable Calculus or MA2501 Differential Equations and Systems • MA2108/MA2108S Mathematical Analysis I • MA2216/MA2116/ST2131 Probability or ST2334 Probability and Statistics	28-32
3000 (12-15 MCs)	Pass • Three modules from List III, IV, where at least two of which are MA-coded or ST3236 or ST4238	40-47

List II
• All MA modules at level 2000, except those coded MA23XX • PC2130 Quantum Mechanics I • PC2132 Classical Mechanics • ST2132 Mathematical Statistics • EC2101 Microeconomic Analysis I

List III
• All MA modules at level 3000, except those coded MA33XX • BSE3703 Econometrics for Business I • CS3230 Design & Analysis of Algorithms • CS3231 Theory of Computation • CS3234 Logic and Formal Systems • DSA3102 Essential Data Analytics Tools: Convex Optimisation • EC3101 Microeconomic Analysis II • EC3303 Econometrics I • PC3130 Quantum Mechanics II • PC3236 Computational Methods in Physics • PC3238 Fluid Dynamics • ST3131 Regression Analysis • ST3236 Stochastic Processes I
List IV
• All MA modules at level 4000 or higher • CS4232 Theory of Computation • CS4234 Optimisation Algorithms • CS4236 Cryptography Theory and Practice • CS5230 Computational Complexity • CS5237 Computational Geometry and Applications • DSA4211 High-Dimensional Statistical Analysis • DSA4212 Optimisation for Large-Scale Data-Driven Inference • EC4101 / EC4301 Microeconomic Analysis III • EC5104 / EC5104R Mathematical Economics • PC4248 Relativity • PC4274 Mathematical Methods in Physics III • PC5274 Advanced Mathematical Methods in Physics • ST4238 Stochastic Processes II • ST4245 Statistical Methods for Finance

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