

Requirements for Major in Data Science and Economics

Applicable to cohorts AY2021/2022 and after

Levels	Major Requirements	Cumulative Major Units
Level 1000 (8 Units)	Pass - DSE1101 Introductory Data Science for Economics ¹ - EC1101E Introduction to Economic Analysis	8
Level 2000 (40 Units)	Pass - CS2040 Data Structures and Algorithms ² - DSA2101 Essential Data Analytics Tools: Data Visualisation - DSA2102 Essential Data Analytics Tools: Numerical Computation - EC2101 Microeconomic Analysis I - EC2102 Macroeconomic Analysis I - MA2001 Linear Algebra I - MA2002 Calculus - MA2311 Techniques in Advanced Calculus or MA2104 Multivariable Calculus - ST2131/MA2116/MA2216 Probability - ST2132 Mathematical Statistics	48
Level 3000 (24 Units)	Pass - DSA3102 Essential Data Analytics Tools: Convex Optimisation - DSE3101 Practical Data Science for Economics - EC3101 Microeconomic Analysis II - EC3102 Macroeconomic Analysis II - EC3304 Econometrics II - ST3131 Regression Analysis	72
Level 4000 (24 Units)	Pass - DSE4101 Capstone Project in Data Science and Economics I - EC4305 Applied Econometrics - Four additional courses from the following: + DSA4264 Sense-Making Case Analysis: Public Policy and Society or DSA4265 Sense-Making Case Analysis: Economics and Finance + DSE4201 Capstone Project in Data Science and Economics II ³ + DSE4211 / QF4211 Digital Currencies + DSE4212 / QF4212 Data Science in FinTech + DSE4231 Topics in Data Science and the Digital Economy + EC4308 Machine Learning and Economic Forecasting	96

¹ DSE1101 will be read in fulfilment of the Data Literacy requirement under the CHS Common Curriculum.

² CS1010S Programming Methodology, the pre-requisite of CS2040, will be read in fulfilment of the Digital Literacy requirement under the CHS Common Curriculum.

³ The scope of DSE4101 can be optionally extended by 4 Units using DSE4201 Capstone Project in Data Science and Economics II, subject to the approval of the DSE programme committee.

Sample Study Plan — Data Science and Economics

Year 1		Year 2		Year 3		Year 4	
Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2	Sem 1	Sem 2
Humanities	Social Sciences	Writing	Communities and Engagement	EC3101 Microeconomic Analysis II <u>or</u> EC3102	EC3102 Macroeconomic Analysis II <u>or</u> EC3101	EC4305 Applied Econometrics	DSE4101 Capstone Project in Data Science and Economics I
Asian Studies	Scientific Inquiry I	Scientific Inquiry II	Artificial Intelligence	MA2311 Techniques in Advanced Calculus/ MA2104 <u>or</u> CS2040	EC3304 Econometrics II	Major 21	Major 23
Digital Literacy (CS1010S)	Design Thinking	MA2001 Linear Algebra I	CS2040 Data Structures and Algorithms <u>or</u> MA2104 Multivariable Calculus	DSA2102 Essential Data Analytics Tools: Numerical Computation <u>or</u> DSA2101	DSE3101 Practical Data Science for Economics	Major 22	Major 24
DSE1101* Introductory Data Science for Economics	MA2002 Calculus	ST2131 Probability	DSA2101 Essential Data Analytics Tools: Data Visualisation <u>or</u> DSA2102	ST3131 Regression Analysis <u>or</u> ST2132	DSA3102 Essential Data Analytics Tools: Convex Optimisation	UE 3	UE 5
EC1101E Introduction to Economic Analysis	EC2101 Microeconomic Analysis I <u>or</u> EC2102	EC2102 Macroeconomic Analysis I <u>or</u> EC2101	ST2132 Mathematical Statistics <u>or</u> ST3131	UE 1	UE 2	UE 4	UE 6

* DSE1101 fulfils the Data Literacy requirement.

Note on CHS Common Curriculum courses:

1) Students are strongly encouraged to complete all CHS Common Curriculum courses in their first two years except for the following 3 courses:

- Communities and Engagement course – can be taken from Years 2 to 4*
- Two Interdisciplinary courses – can be taken in Years 3 and 4*

2) The actual pre-allocation may differ from the sample study plan. For the actual pre-allocation pairings, please click [here](#).