

## Second Major in Data Analytics

### Requirements for Cohorts AY2021/2022 and after

Levels	Second Major Requirements	Cumulative Major Units
Level 1000 (4 Units)	Pass: <ul style="list-style-type: none"> <li>• DSA1101 Introduction to Data Science</li> </ul>	4
Level 2000 (22-24 Units)	Pass: <ul style="list-style-type: none"> <li>• CS2040/CS2040C/CS2040S/CS2040DE Data Structures and Algorithms</li> <li>• ST2131/MA2116/MA2116T Probability</li> <li>• ST2132 Mathematical Statistics</li> <li>• <b>One</b> of the following courses:               <ul style="list-style-type: none"> <li>○ DSA2101 Essential Data Analytics Tools: Data Visualisation</li> <li>○ DSA2102 Essential Data Analytics Tools: Numerical Computation</li> </ul> </li> <li>• <b>One</b> of the following courses:               <ul style="list-style-type: none"> <li>○ MA1312 Calculus with Applications</li> <li>○ MA1505 Mathematics I <sup>1</sup></li> <li>○ MA1511 Engineering Calculus (2 Units) <sup>1</sup> <b>and</b> MA1512 Differential Equations for Engineering (2 Units) <sup>1</sup></li> <li>○ MA1521 Calculus for Computing</li> <li>○ MA2002 Calculus</li> </ul> </li> <li>• <b>One</b> of the following courses:               <ul style="list-style-type: none"> <li>○ MA1508E Linear Algebra for Engineering <sup>1</sup></li> <li>○ MA1513 Linear Algebra with Differential Equations (2 Units) <sup>1</sup></li> <li>○ MA1522 Linear Algebra for Computing</li> <li>○ MA2001 Linear Algebra I</li> </ul> </li> </ul>	26-28
Level 3000 and 4000 (12-16 Units)	Pass: <ul style="list-style-type: none"> <li>• <b>One</b> of the following courses:               <ul style="list-style-type: none"> <li>○ DBA3701 Introduction to Optimisation <sup>2</sup></li> <li>○ DSA3102 Essential Data Analytics Tools: Convex Optimisation <sup>2</sup></li> <li>○ MA3236 Non-linear Programming <sup>2</sup></li> <li>○ MA3252 Linear and Network Optimisation <sup>2</sup></li> </ul> </li> <li>• <b>Two (or three <sup>3</sup>)</b> of the following courses:               <ul style="list-style-type: none"> <li>○ CS3244 Machine Learning</li> <li><b>or</b> CS3264 Foundations of Machine Learning</li> <li>○ DSA4211 High-Dimensional Statistical Analysis</li> <li>○ DSA4212 Optimisation for Large-Scale Data-Driven Inference <sup>2</sup></li> <li>○ ST3131 Regression Analysis</li> </ul> </li> </ul>	40-42

**Notes:**

The Second Major in Data Analytics is **not** offered to students with a Primary Major in Business Analytics, Data Science and Analytics, Data Science and Economics, or a Minor in Data Analytics.

1. MA1505, MA1508E, MA1511, MA1512 and MA1513 are only offered to Engineering students.
2. Students who wish to read these courses may have to read additional pre-requisite courses.
3. Applicable only to students who use MA1513 Linear Algebra with Different Equations (2 Units) to fulfil the second major requirements.