

MSc in Data Science and Machine Learning (MDSML)

COURSE LIST for AY2025 & AY2026 Intake

| Course Code and Title | No. of Units | Remarks [#] | |
|--|--|----------------------|----------------|
| Core Courses - Students must complete five core courses (total 20units) | | | |
| DSA5101 | Introduction to Big Data for Industry | 4 | |
| DSA5103 | Optimization Algorithms for Data Modelling | 4 | |
| DSA5104 | Principles of Data Management and Retrieval | 4 | |
| DSA5105 | Principles of Machine Learning | 4 | |
| DSA5106 | Deep Learning: Foundations and Techniques | 4 | |
| Elective Courses - Students are required to complete five courses from the following list (total 20units) | | | |
| <u>Courses offered by the Department of Mathematics</u> | | | |
| DSA5201 | DSML Industry Consulting and Applications Project | 4 | |
| DSA5202 | Advanced Topics in Machine Learning (TGS-2024050005) | 4 | SSG subsidised |
| DSA5203 | Visual Data Processing and Interpretation (TGS-2020502798) | 4 | SSG subsidised |
| DSA5205 | Data Science in Quantitative Finance | 4 | |
| DSA5206 | Advanced Topics in Data Science | 4 | |
| DSA5207 | Text Processing & Interpretation with Machine Learning | 4 | |
| DSA5208 | Scalable Distributed Computing for Data Science | 4 | |
| DSA5209 | Stochastic Methods and Inferences for Big Data | 4 | |
| DSA5210 | AI for Mathematics NEW | 4 | |
| MA4230 | Matrix Computation | 4 | |
| MA5232 | Modelling and Numerical Simulations | 4 | |
| MA5270 | Game Theory and Applications | 4 | |
| QF5204 | Numerical Methods in Quantitative Finance | 4 | |
| <u>Courses offered by other departments</u> | | | |
| CS4248 | Natural Language Processing (TGS-2021008669) | 4 | SSG subsidised |
| CS5224 | Cloud Computing | 4 | |
| CS5228 | Knowledge Discovery and Data Mining | 4 | |
| CS5344 | Big-Data Analytics Technology (TGS-2021008668) | 4 | SSG subsidised |
| ST5201 | Statistical Foundations of Data Science | 4 | |
| ST5202 | Applied Regression Analysis | 4 | |
| ST5225 | Statistical Analysis of Networks (TGS-2020507587) | 4 | SSG subsidised |

[#]SSG funding for courses is limited in duration and subject to availability.

NOTE:

- a) Enrollment in the courses from other departments will be subjected to the specific quotas from the corresponding department.
- b) As the course list could be updated from time to time, please check back on a regular basis to ensure that you are referring to the most updated version.