NUS School of Computing
Master of Computing (General Track) - Programme Requirements
(with effect from AY2024/2025, Semester 1)

1. Essential Courses (24 Units)

Students are only required to complete a total of six essential courses.

Complete both of the following courses:
IT5001 Software Development Fundamentals
IT5003 Data Structures and Algorithms

Complete any four of the following courses:
IT5002 Computer Systems and Applications
IT5004 Enterprise Systems Architecture Fundamentals
IT5005 Artificial Intelligence
IT5006 Fundamentals of Data Analytics
IT5007 Software Engineering on Application Architecture
IT5008 Database Design and Programming

2. Capstone Project (12 Units)

Choose one of the following options:
CP5105 Computing Capstone Project (12 Units)
CP5106 Computing Capstone Project (with Internship) (8 Units) + 2 Industry Readiness Courses (4 Units)

3. Elective Courses (16 Units)

Students may select any **four** level 4000/5000 **CS/IS** courses offered by the School of Computing as elective courses. A maximum of two level 4000 courses may be taken, with the remaining courses at level 5000. Level 6000 courses are not included in the programme requirements. Please note that students are not allowed to enrol in courses offered by other Schools or Faculties.

Students must not take precluded courses. Such courses, if taken, will not count towards fulfilling the graduation requirements.

Please refer to the sample of courses organised by the different computing fields below. This list is intended as an illustration only and is not exhaustive.

Courses offered, course titles, descriptions and schedules are subject to change without prior notice.

i. Computing Systems
CS5222 Advanced Computer Architecture
CS5223 Distributed Systems
CS5224 Cloud Computing
CS5229 Advanced Computer Networks
CS5239 Computer System Performance Analysis

ii. Cybersecurity
CS5231 Systems Security
CS5321 Network Security

CS5331 Web Security
CS5439 Software Security
IS5151 Information Security Policy and Management
IS4234 Governance, Regulation, and Compliance Technology

iii. Data Analytics

CS5228 Knowledge Discovery and Data Mining
CS5425 Big Data Systems for Data Science
IS5126 Hands-on with Applied Analytics
IS5152 Data-Driven Decision Making

iv. Enterprise IT

IS5003 Platform Design and Economy
IS5004 Enterprise Architecture
IS5005 Digital Engagement
IS5128 Digital Innovation
IS4301 Agile IT with DevOps

v. Financial Technology (FinTech)

IS5002 Digital Transformation
IS5006 Human-Centred Intelligent Systems
IS5008 Technology Risk & Cyber Resilience
IS5009 Topics in Financial Technology Solutions
IS4302 Blockchain and Distributed Ledger Technologies

vi. Robotics

CS5340 Uncertainty Modelling in AI
CS5446 AI Planning and Decision Making
CS5477 3D Computer Vision
CS5478 Intelligent Robots: Algorithms and Systems

vii. Software Methodology

CS4218 Software Testing
CS5214 Design of Optimising Compilers
CS5218 Principles and Practice of Program Analysis
CS5219 Automated Software Validation
CS5232 Formal Specification and Design Techniques