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) + 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. Students can take up to a maximum of two level 4000 courses, with the remaining courses at level 5000. Level 6000 courses are not part of the programme requirements. Please refer to sampler of courses organised by the different computing fields below.

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

Last updated: April 2024
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