C09119 BACHELOR OF COMPUTING SCIENCE (HONOURS)

Artificial Inteligence and Data Analytics major, Autumn commencing, full time

The program below shows a suggested sequence of subjects for the **Artificial Intelligence and Data Analytics major (MAJ10053)** for a full-time student commencing the course in Autumn session. They are intended as a guide only and do not take into account such factors as recognition of prior learning, changes in attendance mode and subject availability, or satisfactory academic progress.

Students should consult the Timetable Planner to confirm the availability of subjects in the current academic year.

Year 1				
AUTUMN	Mathematics 1 33130 6 CPs	Discrete Mathematics 37181 6 CPs	Programming 1 41039 6 CPs	**CBK92127 Sub-major/Electives Choice** 6 CPs
SPRING	Mathematics 2 33230 6 CPs	Communication for IT Professionals 31265 6 CPs	Business Requirements Modelling 31269 6 CPs	Database Fundamentals 31271 6 CPs
Year 2				
AUTUMN	Network Fundamentals 41092 6 CPs	Web Systems 31268 6 CPs	Programming 2 48024 6 CPs	Computing Science Studio 1 41078 6 CPs
SPRING	Professional Practice in Computing 43030 6 CPs	Theory of Computing Science 41080 6 CPs	Introduction to Data Analytics 31250 6 CPs	Introduction to Artificial Intelligence 41040 6 CPs
Year 3				
AUTUMN	Data Structures and Algorithms 31251 6 CPs	Computing Science Studio 2 41079 6 CPs	MAJ10053 Artificial Intelligence and Data Analytics Options-30CP 6 CPs	**CBK92127 Sub-major/Electives Choice** 6 CPs
SPRING	Technology Research Preparation 32144 6 CPs	MAJ10053 Artificial Intelligence and Data Analytics Options-30CP 12 CPs	**CBK92127 Sub-major/Electives Choice** 6 CPs	
Year 4				
AUTUMN	Technology Research Methods 32931 6 CPs	Project Management and the Professional 31272 6 CPs	AI/Analytics Capstone Project 41004 6 CPs	MAJ10053 Artificial Intelligence and Data Analytics Options-30CP 6 CPs
SPRING	Honours Project 31482 12 CPs	MAJ10053 Artificial Intelligence and Data Analytics Options-30CP 6 CPs	**CBK92127 Sub-major/Electives Choice** 6 CPs	

COURSE STRUCTURE

Core subjects (Computing Science) (STM91173) - 96CP

- **33130 Mathematics 1**
- **33230 Mathematics 2**
- **31265 Communication for IT Professionals**
- **37181 Discrete Mathematics**
- **43030 Professional Practice in Computing**
- **31251 Data Structures and Algorithms**
- **48024 Programming 2**
- **41080 Theory of Computing Science**
- **31268 Web Systems**
- **31272 Project Management and the Professional**
- **31269 Business Requirements Modelling**
- **31271 Database Fundamentals**
- **41078 Computing Science Studio 1**
- **41079 Computing Science Studio 2**
- **41092 Network Fundamentals**
- **41039 Programming 1**

Core Honours subjects (Computing Science) (STM91172) - 24CP

- 32144 Technology Research Preparation
- 32931 Technology Research Methods
- 31482 Honours Project

Major choice (CBK91220) - 48CP

- Artificial Intelligence and Data Analytics major (MAJ10053)
- Business Information Systems Management major (MAJ02080)
- Cybersecurity and Privacy major (MAJ02900)
- Enterprise Software Development major (MAJ03519)
- Interaction Design major (MAJ02092)
- Mathematical Analysis major (MAJ01156)
- Networking and Cybersecurity major (MAJ03445)
- Quantum Information Science major (MAJ02901)

Sub-Major/Electives Choice (CBK92127) - 24CP

Select 24CP of options:

- SMJ10165 Applied and Industrial Optimisation Sub-major
- SMJ10166 Statistical Analysis Sub-major
- SMJ10167 Mathematical Analysis Extension Sub-major
- CBK90783 Electives/Sub-major Choice Block 1

MAJORS

CORE

ARTIFICIAL INTELLIGENCE AND DATA ANALYTICS MAJOR (MAJ10053)

- 31250 Introduction to Data Analytics
- 41004 AI/Analytics Capstone Project
- 41040 Introduction to Artificial Intelligence
- MAJ10053 Artificial Intelligence and Data Analytics Options-30CP

OPTIONS

MAJ10053 Artificial Intelligence and Data Analytics Options-30CP

Select 30 credit points from the options:

- 42913 Social and Information Network Analysis
- 31256 Image Processing and Pattern Recognition
- 32146 Data Visualisation and Visual Analytics
- 42028 Deep Learning and Convolutional Neural Network
- 41077 Data Driven and Intelligent Robotics
- 31005 Machine Learning
- 43025 Introduction to Quantum Computing
- 31243 AI/Analytics Capstone Project B
- 43023 Emerging Topics in Artificial Intelligence
- 43024 Introduction to Computational Intelligence
- 41043 Natural Language Processing
- 42050 SAS Predictive Business Analytics
- 57304 The Ethics of Data and AI