

62530 Master of Data Science

2 Year Course Study Plan – Commencing Semester 2, 2021

Students who have completed degree studies in a non-cognate area, or equivalent as recognised by the Faculty, must complete relevant conversion units up to the value of 24 points, as advised by the Faculty.

Year 1				
Semester 2, 2021	CITS1402 Relational Database Management Systems Note: Conversion Unit	STAT2402 Analysis of Observations Note: Conversion Unit	CITS4009 Computational Data Analysis	OPTION
Semester 1, 2022	CITS1401* Computational Thinking with Python Note: Conversion Unit	STAT2401 Analysis of Experiments Note: Conversion Unit	OPTION	CITS4407 Open Source Tools and Scripting
Year 2				
Semester 2, 2022	OPTION	STAT4064 Applied Predictive Modelling Prereq: (STAT2401 and STAT2402) or STAT2062	CITS5503 Cloud Computing Prereq: 12 points of programming-based units*	CITS5553 Data Science Capstone Project Prereq: 24 points of L4/L5 units
Semester 1, 2023	STAT4066 Bayesian Computing and Statistics Prereq: STAT1400 or STAT1520 or MATH1012 or STAT2401 or STAT2402	CITS5508 Machine Learning Prereq: 12 points of programming-based units*	OPTION	CITS5504 Data Warehousing Prereq: CITS1402

* unit is available in Semester 1 and Semester 2; * programming-based units are: CITS1001 Software Engineering with Java; CITS1401 Computational Thinking with Python; CITS2002 Systems Programming and CITS2200 Data Structures and Algorithms; CITS2401 Computer Analysis and Visualisation; CITS2402 Introduction to Data Science; CITS4009 Computational Data Analysis. Students enrolled in the 62510 Master of Information Technology already meet the required "12 points of programming-based units" prerequisite.

Optional Units: Students take units to the value of 24 points, including a minimum of 12 points at Level 5 from this group:

CITS4402 Computer Vision (S1) Prereq: CITS2401 and MATH1012 (Note: Students must have the ability to program in a high-level programming language and the ability to reason in linear algebra and calculus.)	INMT5526 Business Intelligence (S2)
CITS4403 Computational Modelling (S1) Prereq: 6 points of programming-based units*	MGMT5504 Data Analysis and Decision Making (S1, S2)
CITS4404 Artificial Intelligence and Adaptive Systems (S2) Prereq: 12 points of programming-based units*	PHYS4021 Frontiers in Quantum Computation (S1) Prereq: MATH1012 or equivalent or higher
CITS4419 Mobile and Wireless Computing (S2) Prereq: CITS1001 and CITS2002 and CITS3002	PUBH4401 Biostatistics I (S1, S2) Prereq: knowledge of basic algebra, familiarity with handheld calculators and familiarity with computing in the Windows environment
CITS5014 Data Science Research Project Part 1 (S1, S2) Prereq: 18 points of L4/L5 units completed within the course with the equivalent of a UWA weighted average mark (WAM) of at least 70 percent. Note: Enrolment in the Data Science Research Project is by invitation only.	PUBH5769 Biostatistics II (S1, S2) Prereq: knowledge of basic algebra, familiarity with handheld calculators and familiarity with computing in the Windows environment

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CITS5015 Data Science Research Project Part 2 (S1, S2) <i>Prereq: CITS5014</i>	PUBH5785 Introductory Analysis of Linked Health Data (NSTP)
CIT5505 Agile Web Development (S1) <i>Prereq: 6 points of programming-based units* and familiarity with the contents of CITS1402 and CITS1401</i>	PUBH5802 Advanced Analysis of Linked Health Data (NA 2021) <i>Prereq: PUBH5785 or equivalent training/experience</i>
CIT5506 The Internet of Things (S2) <i>Prereq: 6 points of programming-based units*</i>	STAT4063 Computationally Intensive Methods in Statistics (S2) <i>Prereq: STAT3062 or STAT2401 or STAT2402 or STAT2062</i>
CIT5507 High Performance Computing (S2) <i>Prereq: 12 points of programming-based units*</i>	STAT4065 Multilevel and Mixed-Effects Modelling (S1) <i>Prereq: (STAT2401 and STAT2402) and (STAT3405 or STAT4066)</i>
GENG5505 Project Management and Engineering Practice (S1, S2) <i>Prereq: ENSC1001 or ENSC1003</i>	STAT4067 Applied Statistics and Data Visualisation (NA 2021) <i>Prereq: STAT1400 or STAT1520 or STAT2401 or STAT2402 or STAT2062 or MATH1012</i>

Optional Specialisation Streams:

If you prefer some level of coherence between the optional units, we would like to suggest the following streams:

- **Business Intelligence Stream:** CITS5505 Agile Web Development; GENG5505 Project Management and Engineering Practice; INMT5526 Business Intelligence and MGMT5504 Data Analysis and Decision Making.
- **Population Health Stream:** PUBH4401 Biostatistics I; PUBH5769 Biostatistics II; PUBH5785 Introductory Analysis of Linked Health Data and PUBH5802 Advanced Analysis of Linked Health Data.
- **Advanced Statistics Stream + Research:** Data Science Research Project Part 1 and 2 [12 Points] and 12 points from: STAT4063 Computationally Intensive Methods in Statistics; STAT4065 Multilevel and Mixed-Effects Modelling; STAT4067 Applied Statistics and Data Visualisation.
- **Artificial Intelligence Stream + Research:** Data Science Research Project Part 1 and 2 [12 Points] and 12 points from: CITS4402 Computer Vision; CITS4403 Computational Modelling; CITS4404 Artificial Intelligence and Adaptive Systems; CITS5507 High Performance Computing.
- **Systems Stream + Research:** Data Science Research Project Part 1 and 2 [12 Points] and 12 points from: CITS4419 Mobile and Wireless Computing; CITS5506 The Internet of Things; CITS5507 High Performance Computing.

The Rules for the 62530 Master of Data Science can be found at: handbooks.uwa.edu.au/rules-62530-MDSc

All units have a value of six points unless otherwise stated.

Information about unit availability should be checked at the beginning of each semester and can be found at: timetable.uwa.edu.au or [Handbooks](#).

Further Help!

Refer to the UniStart website for your step-by-step guide on planning your enrolment: uwa.edu.au/unistart. If you need to discuss your study plan further, please contact the EMS Student Service and Engagement Office: enquiries-ems@uwa.edu.au