62530 Master of Data Science

1.5 Year Course Study Plan – Commencing Semester 2, 2021

Year 1				
Semester 2, 2021	**CITS4009** Computational Data Analysis	**OPTION**	**STAT4064** Applied Predictive Modelling *Prereq: (STAT2401 and STAT2402) or STAT2062*	**OPTION**
Semester 1, 2022	**CITS5504** Data Warehousing *Prereq: CITS1402*	**CITS5508** Machine Learning *Prereq: 12 points of programming-based units◆*	**STAT4066** Bayesian Computing and Statistics *Prereq: STAT1400 or STAT1520 or MATH1012 or STAT2401 or STAT2402*	**CITS4407** Open Source Tools and Scripting
Year 1.5				
Semester 2, 2022	**CITS5503** Cloud Computing *Prereq: 12 points of programming-based units◆*	**OPTION**	**CITS5553** Data Science Capstone Project *Prereq: 24 points of L4/L5 units*	**OPTION**

** 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*
CITS5015 Data Science Research Project Part 2 (S1, S2) *Prereq: CITS5014*	**PUBH5785** Introductory Analysis of Linked Health Data (NSTP)
CIT5505 Agile Web Development (S1) *Prereq: 6 points of programming-based units◆ and familiarity with the contents of CITS1402 and CITS1401*	**PUBH5802** Advanced Analysis of Linked Health Data (NA 2021) *Prereq: PUBH5785 or equivalent training/experience*
CIT5506 The Internet of Things (S2) *Prereq: 6 points of programming-based units◆*	**STAT4063** Computationally Intensive Methods in Statistics (S2) *Prereq: STAT3062 or STAT2401 or STAT2402 or STAT2062*

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CIT5507 High Performance Computing (S2) *Prereq: 12 points of programming-based units*	**STAT4065** Multilevel and Mixed-Effects Modelling (S1) *Prereq: (STAT2401 and STAT2402) and (STAT3405 or STAT4066)*
GENG5505 Project Management and Engineering Practice (S1, S2) *Prereq: ENSC1001 or ENSC1003*	**STAT4067** Applied Statistics and Data Visualisation (NA 2021) *Prereq: STAT1400 or STAT1520 or STAT2401 or STAT2402 or STAT2062 or MATH1012*

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

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