# 62530 MASTER OF DATA SCIENCE (MDSc)

## 2 Year Course Study Guide (96 points) – Commencing Semester 2, 2019

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Semester 2, 2019</th>
<th>RECOMMENDED CONVERSION</th>
<th>RECOMMENDED CONVERSION</th>
<th>CITS4009*</th>
<th>OPTION</th>
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<tbody>
<tr>
<td></td>
<td>CITS1402</td>
<td>CITS1401*</td>
<td>STAT1400*</td>
<td>Introduction to Data Science</td>
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<td></td>
<td>Relational Database Management Systems</td>
<td>Computational Thinking with Python</td>
<td>Statistics for Science</td>
<td>CITS5504 Data Warehousing</td>
<td>OPTION</td>
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<td>Prereq: CITS1402</td>
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<td></td>
<td>Prereq: STAT1400 or STAT1520 or MATH1002</td>
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<td></td>
<td>or MATH1012 or MATH1020</td>
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<tr>
<td>Year 2</td>
<td>Semester 1, 2020</td>
<td>STAT4064*</td>
<td>CITS5503</td>
<td>OPTION</td>
<td>OPTION</td>
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<tr>
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<td></td>
<td>Applied Predictive Modelling</td>
<td>Cloud Computing</td>
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<td></td>
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<td>Prereq: STAT2401 or STAT2402 or STAT2062</td>
<td>Prereq: 24 points of L4/L5 units</td>
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<td>Semester 2, 2021</td>
<td>STAT4066</td>
<td>CITS5508*</td>
<td>OPTION</td>
<td>OPTION</td>
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<td>Bayesian Computing and</td>
<td>Machine Learning</td>
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<td>Statistics</td>
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<td>Prereq: 12 points of programming-based units*</td>
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= Unit offered in Semester 1 and Semester 2  
★ = Unique unit  
◆ = Programming-based units are CITS1001, CITS1401, CITS2002, CITS2200, CITS2401 & CITS4009 or equivalent.
CONVERSION UNITS

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 from this group as advised by the Faculty:

<table>
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<tr>
<th>Conversion Units</th>
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| **CITS1401** Computational Thinking with Python (S1, S2)  
  Prereq: Mathematics Applications ATAR or WACE Mathematics 2C/2D or MATH1120 or equivalent or higher  |
| **CITS1402** Relational Database Management Systems (S2, SUM)  
  Prereq: Mathematics Applications ATAR or WACE Mathematics 2C/2D or MATH1120 or equivalent or higher  |
| **STAT1400** Statistics for Science (S1, S2)  
  Prereq: Mathematics Applications ATAR or Mathematics Methods ATAR or WACE Mathematics 2C/2D or MATH1120 or equivalent or higher  |
| **STAT2401** Analysis of Experiments (S1)  
  Prereq: STAT1400 or STAT1520 or MATH11002 or MATH11012 or MATH11020  |
| **STAT2402** Analysis of Observations (S2)  
  Prereq: STAT1400 or STAT1520 or MATH11002 or MATH11012 MATH11020  |

OPTIONAL UNITS

Students take six units to the value of 36 points including a minimum of 18 points at Level 5 from this group:

<table>
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<tr>
<th>Group A</th>
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| **CITS4402** Computer Vision (S1)  
  Prereq: CITS2401 & MATH1001  |
| **CITS4403** Computational Modelling (S1)  
  Prereq: 12 points of programming-based units*  |
| **CITS4404** Artificial Intelligence and Adaptive Systems (S2)  
  Prereq: 12 points of programming-based units*  |
| **CITS4407** Open Source Tools and Scripting (S1)  |
| **CITS4419** Mobile and Wireless Computing (S2)  
  Prereq: CITS1001, (CITS1002 or CITS2002) & CITS3002  |
| **CITS5011** Data Science Research Project Part 1 (S1, S2)  
  Prereq: 48 points of Level 4/Level 5 units  |
| **CITS5012** Data Science Research Project Part 2 (S1, S2)  
  Prereq: CITS3011  |
| **CITS5013** Data Science Research Project Part 3 (S1, S2)  
  Prereq: 12 points of programming-based units*  |
| **CITS5505** Agile Web Development (S1)  
  Coreq: CITS55012  |
| **CITS5506** The Internet of Things (S2)  
  Prereq: 12 points of programming-based units*  |
| **CITS5507** High Performance Computing (S2)  
  Prereq: 12 points of programming-based units*  |
| **GENG5505** Project Management and Engineering Practice (S1, S2)  
  Prereq: ENSC1001  |
| **INMT5526** Business Intelligence (S2)  |
| **MGMT5504** Data Analysis and Decision Making (S1, S2)  |
| **PUBH5769** Biostatistics II (S2)  
  Prereq: PUBH4401 or equivalent training/experience  |
| **PUBH5802** Advanced Analysis of Linked Health Data (TS-Y-9)  
  Prereq: PUBH5785 or equivalent training/experience  |
| **STAT4063** Computationally Intensive Methods in Statistics (S2)  
  Prereq: STAT3002 or STAT2401 or STAT2042  |
| **STAT4065** Multilevel and Mixed-Effects Modelling (S1)  
  Prereq: STAT2401 & STAT2042 or STAT3405  |
| **STAT4067** Applied Statistics and Data Visualisation (S2)  
  Prereq: STAT1400 or STAT1520 or MATH11002  |

Note: Units that are indicated as N/A may be available in 2020 or 2021.
More information on Intensive Mode Learning (IML) in the non-standard teaching period can be found at: ems-students/IML.

If you need to discuss your study plan further, please contact the EMS Student Office at enquiries-ems@uwa.edu.au.

Information in this study guide is correct as at 19 November 2018, but is subject to change from time to time. In particular, the University reserves the right to change the unit availability and unit rules. Information about unit availability should be checked at the beginning of each semester and can be found at Timetables: timetable.uwa.edu.au or Handbooks: handbook.uwa.edu.au. The Rules for the Master of Data Science can be found at: handbook.uwa.edu.au/courses/MDSc/rules.