

MASTER OF DATA SCIENCE (C6004) – 2017 COURSE MAP –

1. FOUNDATION UNITS (24 PTS)

Students must complete:

a) four foundation units (24 points):

- | | | | |
|--------------------------|--|--------------------------|--|
| <input type="checkbox"/> | FIT9133 Programming foundations in Python (S1, S2) | <input type="checkbox"/> | FIT9132 Introduction to databases (S1, S2) |
| <input type="checkbox"/> | MAT9004 Mathematical foundations for data science (S1, S2) | | |

b) one unit (6 points) from the list below:

- | | |
|--------------------------|---|
| <input type="checkbox"/> | FIT9123 Introduction to business information systems (S1, S2) |
| <input type="checkbox"/> | FIT9134 Computer architecture and operating systems (S1, S2) |

2. CORE UNITS (48 PTS)

Students must complete:

a) three units (18 points) from the list below:

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|--------------------------|---|--------------------------|---------------------------------|
| <input type="checkbox"/> | FIT5145 Introduction to data science (S1, S2) | <input type="checkbox"/> | FIT5196 Data wrangling (S1, S2) |
| <input type="checkbox"/> | FIT5197 Modelling for data analysis (S1, S2) | | |

b) four units (24 points) from either the Advanced Data Analytics Stream or the Data Science Stream:

ADVANCED DATA ANALYTICS STREAM

- | | | | |
|--------------------------|---|--------------------------|---|
| <input type="checkbox"/> | FIT5147 Data exploration and visualisation (S1) | <input type="checkbox"/> | FIT5148 Distributed databases and big data (S1) |
| <input type="checkbox"/> | FIT5149 Applied data analysis (S2) | <input type="checkbox"/> | FIT5201 Data analysis algorithms (S1, S2) |

DATA SCIENCE STREAM

- | | | | |
|--------------------------|---|--------------------------|---|
| <input type="checkbox"/> | FIT5097 Business intelligence modelling (S2) | <input type="checkbox"/> | FIT5146 Data curation and management (S2) |
| <input type="checkbox"/> | FIT5147 Data exploration and visualisation (S1) | <input type="checkbox"/> | FIT5148 Distributed databases and big data (S1) |
| <input type="checkbox"/> | FIT5149 Applied data analysis (S2) | <input type="checkbox"/> | FIT5202 Data processing for big data (S2) |
| <input type="checkbox"/> | FIT5205 Data in society (S1) | <input type="checkbox"/> | FIT5206 Digital continuity (S1) |

c) one unit (6 points) selected from the approved Data Science elective list below.

DATA SCIENCE ELECTIVES LIST (note: not all units will be offered every year)

- | | | | |
|--------------------------|--|--------------------------|---|
| <input type="checkbox"/> | FIT5046 Mobile and distributed computing systems (S1) | <input type="checkbox"/> | FIT5047 Intelligent systems (S1) |
| <input type="checkbox"/> | FIT5057 Project management (S1, S2) | <input type="checkbox"/> | FIT5088 Information and knowledge management systems (S1) |
| <input type="checkbox"/> | FIT5097 Business intelligence modelling (S2) | <input type="checkbox"/> | FIT5106 Information organisation (S2) |
| <input type="checkbox"/> | FIT5107 Managing business records (S2) | <input type="checkbox"/> | FIT5108 Reading unit (approval required) (S1, S2) |
| <input type="checkbox"/> | FIT5139 Advanced distributed and parallel systems (S1) | <input type="checkbox"/> | FIT5146 Data curation and management (S2) |
| <input type="checkbox"/> | FIT5166 Information retrieval systems (S2) | <input type="checkbox"/> | FIT5195 Business intelligence and data warehousing (S1) |
| <input type="checkbox"/> | FIT5201 Data analysis algorithms (S1, S2) | <input type="checkbox"/> | FIT5202 Data processing for big data (S2) |
| <input type="checkbox"/> | FIT5204 Heritage informatics (W) | <input type="checkbox"/> | FIT5205 Data in society (S1) |
| <input type="checkbox"/> | FIT5206 Digital continuity (S1) | <input type="checkbox"/> | FIT5207 Data for sustainability (not offered in 2017) |
| <input type="checkbox"/> | FIT5211 Algorithms and data structures (S1, S2) | | |

3. ADVANCED PRACTICE (24 PTS)

Students must complete 24 points of either research† or industry‡ units, as follows:

RESEARCH UNITS†

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|--------------------------|--|
| <input type="checkbox"/> | FIT5125 IT Research methods (S1, S2) |
| <input type="checkbox"/> | FIT5126 Masters thesis part 1 (S1, S2) |
| <input type="checkbox"/> | FIT5127 Masters thesis part 2 (S1, S2) |
| <input type="checkbox"/> | FIT5128 Masters thesis final (S1, S2) |

INDUSTRY UNITS‡

| | |
|--------------------------|--|
| <input type="checkbox"/> | FIT5120 Industry experience studio project (12 points) (S1, S2) |
| <input type="checkbox"/> | FIT5122 Professional practice (S1, S2) |
| <input type="checkbox"/> | one unit from the approved Data Science elective list above |

† **Research component to be completed across final two semesters:** To enrol in the research units, students must have successfully completed 24 points of level five units and have achieved an overall average of at least 75% across all units.

‡ **Industry component to be completed in final semester**

NOTES:

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|-----------------------------------|--|
| Credit Points | Unless specified, all units are worth 6 credit points. Master of Data Science is a total of 96 credit points |
| Unit Requisites | All pre-requisite and co-requisite requirements must be undertaken in order to be able to enrol into a specific unit |
| Degree Duration | 1, 1.5, or 2 years full-time, 2, 3, or 4 years part-time |
| Time Limit | Time limit = (Degree Duration x 2) + 2 = 4, 5, or 6 years in which to complete this award from the time they first commence. Periods of intermission are counted toward the time limit. |
| Key | S1 = Semester 1, S2 = Semester 2, W = Winter |
| Monash University Handbook | Students should follow course map in conjunction with the course requirements for the year the course was commenced http://monash.edu/pubs/2017handbooks/courses/index-byfaculty-it.html |