MASTER OF DATA SCIENCE (C6004)
– 2018 COURSE MAP –

1. FOUNDATION UNITS (24 PTS)

Students must complete:

a) four foundation units (24 points):

- ☐ FIT9133 Programming foundations in Python (S1, S2)
- ☐ MAT9004 Mathematical foundations for data science (S1, S2)
- ☐ FIT9132 Introduction to databases (S1, S2)

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

- ☐ FIT9123 Introduction to business information systems (S1, S2)
- ☐ 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:

- ☐ FIT5145 Introduction to data science (S1, S2)
- ☐ FIT5197 Modelling for data analysis (S1, S2)
- ☐ FIT5196 Data wrangling (S1, S2)

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

ADVANCED DATA ANALYTICS STREAM

- ☐ FIT5147 Data exploration and visualisation (S1)
- ☐ FIT5149 Applied data analysis (S2)
- ☐ FIT5201 Data analysis algorithms (S1, S2)
- ☐ FIT5148 Distributed databases and big data (S1)
  OR FIT5202 Data processing for big data (S2)

AND one elective unit (6 points) selected from approved Data Science elective list below or any FIT-coded level 5 units or level 5 units offered by any other faculty of the University with course director approval, if you have the required prerequisites and there are no restrictions on enrolment.

OR

DATA SCIENCE STREAM

- ☐ FIT5097 Business intelligence modelling (S2)
- ☐ FIT5147 Data exploration and visualisation (S1)
- ☐ FIT5149 Applied data analysis (S2)
- ☐ FIT5205 Data in society (S1)
- ☐ FIT5146 Data curation and management (S2)
- ☐ FIT5148 Distributed databases and big data (S1)
- ☐ FIT5202 Data processing for big data (S2)
- ☐ FIT5206 Digital continuity (S1)

AND one further unit (6 points) selected from the Data Science stream above, or one elective unit (6 points) selected from approved Data Science elective list below or any FIT-coded level 5 units or level 5 units offered by any other faculty of the University with course director approval, if you have the required prerequisites and there are no restrictions on enrolment.

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

- ☐ FIT5046 Mobile and distributed computing systems (S1)
- ☐ FIT5057 Project management (S1, S2)
- ☐ FIT5097 Business intelligence modelling (S2)
- ☐ FIT5107 Managing business records (S2)
- ☐ FIT5109 Research topic (S1, S2)
- ☐ FIT5142 Advanced data mining (S2)
- ☐ FIT5166 Information retrieval systems (S2)
- ☐ FIT5047 Intelligent systems (S1)
- ☐ FIT5088 Information and knowledge management systems (S1)
- ☐ FIT5106 Information organisation (S2)
- ☐ FIT5108 Reading unit (approval required) (S1, S2)
- ☐ FIT5139 Advanced distributed and parallel systems (S1)
- ☐ FIT5146 Data curation and management (S2)
- ☐ FIT5195 Business intelligence and data warehousing (S1)

☐	FIT5201 Data analysis algorithms (S1, S2)	☐	FIT5202 Data processing for big data (S2)
☐	FIT5204 Digital heritage (not offered in 2018)	☐	FIT5205 Data in society (S1)
☐	FIT5206 Digital continuity (S1)	☐	FIT5207 Data for sustainability (not offered in 2018)
☐	FIT5211 Algorithms and data structures (S1, S2)	☐	FIT5212 Data analysis for semi-structured data (not offered in 201

3. ADVANCED PRACTICE (24 PTS)

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

RESEARCH UNITS†

- ☐ FIT5125 IT Research methods (S1, S2)
- ☐ FIT5126 Masters thesis part 1 (S1, S2)
- ☐ FIT5127 Masters thesis part 2 (S1, S2)
- ☐ FIT5128 Masters thesis final (S1, S2)

INDUSTRY UNITS‡

- ☐ FIT5120 Industry experience studio project **(12 points)** (S1, S2)
- ☐ FIT5122 Professional practice (S1, S2)
- ☐ **Data science stream:** one unit from the approved Data Science list
- ☐ OR **Advanced Data Analytics stream:** FIT5213 Advanced data analytics case study

† Research component to be completed across final two semesters: To be eligible to undertake a research unit, you must have successfully completed 24 points of level five FIT-coded units and have achieved an average of 75 per cent across all these units.

‡ Industry component to be completed in final semester

NOTES:

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 completed prior to enrolling in subsequent unit(s)
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, Sum = Summer
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/2018handbooks/courses/index-byfaculty-it.html