

# Handbook 2020

**Coursecode**

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G1082

GRADUATE DIPLOMA IN DATA SCIENCE

**Murdoch University**

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#### **Cancellation of Courses, Majors, Minors and Units**

The University reserves the right to cancel, without notice, any course, major, minor or unit if the number of students enrolled falls below limits set by the University or in other unforeseen circumstances.

#### **Alternative Formats**

Handbook home page:

<http://handbook.murdoch.edu.au>

This publication can also be provided in alternative formats by contacting the Equity and Social Inclusion Office at Murdoch University

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<http://goto.murdoch.edu.au/EquitySocialInclusion>

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Group	Course	Offerings
<b>Graduate Coursework Degrees and Professional Doctorates</b>		
Information Technology	Graduate Diploma in Data Science (GradDipDataSci)	• Murdoch campus (internal)

## INFORMATION TECHNOLOGY

### GRADUATE DIPLOMA IN DATA SCIENCE (GRADDIPDATASCI)

**The Graduate Diploma in Data Science is designed to provide graduates in information technology related disciplines with knowledge and skills in the area of data science. The course emphasises data and business analysis as well as data resources management. This skill set is needed to work with what is commonly known as 'big data'.**

Restriction: All graduate courses are subject to restriction.

#### Availability:

- Murdoch campus (internal)

Course Codes: G1082

#### Employment Prospects:

Commerce, telecommunications, health, education, architecture, mining, engineering, law and government and non-government organisations

#### Online Study:

Murdoch units normally include an online component comprising materials, discussions, lecture recordings and assessment activities. All students, regardless of their location or mode of study, need to have access to and be able to use computing devices with browsing capability and a connection to the Internet via Broadband (Cable, ADSL or Mobile) or Wireless. The Internet connection should be readily available and allow large amounts of data to be streamed or downloaded (approximately 100MB per lecture recording). Students also need to be able to enter into online discussions and submit assignments online.

#### Admission Requirements (Onshore):

Recognised Australian Computer Society (ACS) Bachelor's degree in IT (AQF Level 7);

OR recognised Bachelor's degree (AQF Level 7) plus an approved qualification in IT (AQF Level 8);

OR recognised Bachelor's degree (AQF Level 7) plus two years of relevant IT experience;

OR recognised Honours degree (AQF Level 8) plus relevant IT experience.

Recognition of relevant and current informal or non-formal learning may be used for entry requirements, and should be discussed with the Academic Chair.

Graduate Diploma in Data Science (GradDipDataSci)

#### Main Research Areas:

machine learning, data mining

Duration: 1 year full-time or part-time equivalent

Mathematics and Statistics

#### Special Requirements:

The course is available by on-campus attendance only.

#### Further Study:

Students who successfully complete the Graduate Diploma may apply for admission to the Master of Information Technology.

### Course Structure - 24 credit points

#### Core Units - 15 credit points

ICT521 IT Professional Practice - 3 points  
MURDOCH: S1-internal, S2-internal

ICT515 Foundations of Data Science - 3 points  
MURDOCH: S2-internal

ICT508 Information Technology Project Management - 3 points  
MURDOCH: S1-internal

ICT619 Artificial Intelligence - 3 points  
MURDOCH: S1-internal

ICT616 Data Resources Management - 3 points  
MURDOCH: S1-internal, S2-internal

#### Specified Electives - 9 credit points

TLC501 Communication Skills for Postgraduate Study - 3 points  
MURDOCH: S1-internal, S2-internal

ICT501 Business Analysis and Systems Development Approaches - 3 points  
MURDOCH: S2-internal, S2-external

ICT505 Knowledge Management - 3 points  
MURDOCH: S2-internal

ICT513 Data Analytics - 3 points  
MURDOCH: S2-internal, S2-external

ICT546 Local Area Network Design and Implementation - 3 points  
MURDOCH: S1-internal, S2-internal

ICT601 Business Analytics - 3 points  
MURDOCH: S2-internal

ICT602 Advanced Data Analysis - 3 points  
MURDOCH: S1-internal

ICT603 Wireless Data Communications - 3 points  
MURDOCH: S2-internal

ICT622 Information Technology Strategy - 3 points  
MURDOCH: S2-internal

## PREREQUISITES

#### Advanced Data Analysis (ICT602)

ICT515 Foundations of Data Science or ICT513 Data Analytics.

#### Artificial Intelligence (ICT619)

Enrolment in a graduate-level IT course.

#### Business Analysis and Systems Development Approaches (ICT501)

Enrolment in a graduate IT course or in G1074 Graduate Diploma in Games and App Production or permission of the Academic Chair.

#### Business Analytics (ICT601)

Enrolment in a graduate-level Information Technology course. No specific unit prerequisites, but some familiarity with fundamentals of programming and database theory and practice would be helpful.

#### Communication Skills for Postgraduate Study (TLC501)

Nil.

#### Data Analytics (ICT513)

Prior studies equivalent to MAS183 Statistical Data Analysis and enrolment in a Graduate IT course or permission of the Academic Chair.

#### Data Resources Management (ICT616)

Enrolment in a graduate-level IT course.

#### Foundations of Data Science (ICT515)

Enrolment in an IT graduate course or permission of the Academic Chair.

#### IT Professional Practice (ICT521)

Enrolment in a graduate-level IT course or permission of the Academic Chair.

#### Information Technology Project Management (ICT508)

Enrolment in a graduate IT course or permission of the Academic Chair.

**Information Technology Strategy (ICT622)**

Enrolment in a graduate IT course.

**Knowledge Management (ICT505)**

Enrolment in a graduate-level IT course or permission of the Academic Chair.

**Local Area Network Design and Implementation (ICT546)**

Enrolment in a graduate-level IT course.

**Wireless Data Communications (ICT603)**

ICT546 Local Area Network Design and Implementation and completion of 12 or more points in an IT graduate course.