

Handbook 2020

Coursecode

M1294

MASTER OF SCIENCE IN INFORMATION TECHNOLOGY

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

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Group	Course	Offerings
Graduate Coursework Degrees and Professional Doctorates		
Information Technology	Master of Science in Information Technology (MScIT)	• Murdoch campus (internal)

INFORMATION TECHNOLOGY

MASTER OF SCIENCE IN INFORMATION TECHNOLOGY (MSCIT)

Employment Prospects:

There is a critical need for modern IT professionals responsible for establishing, maintaining and developing information systems in a wide variety of sectors including commerce, telecommunications, health, education, architecture, mining, engineering, law and government and non-government organisations.

Availability:

- Murdoch campus (internal)

Course Codes: M1294

This course is a professional qualification in Information Technology, designed to provide candidates with appropriate practical understanding, skills and knowledge for managing IT use, change and development. The primary aim is to allow IT professionals the opportunity for professional upgrading or an extension of their qualifications and experience.

The degree may be completed in one of two ways:

- Coursework: students complete 36 credit points of coursework.
- Coursework and Dissertation: students complete 24 credit points of coursework units and a 12-credit point dissertation for a total of 36 points. The Coursework and Dissertation option is only available to students who have completed 12 credit points of coursework with a GPA of 2.5 or greater.

Students may exit after one year of full-time study (24 points), to complete the Graduate Diploma in Information Technology Management or the Graduate Diploma in Internetworking and Security or the Graduate Diploma in Data Science, depending on unit selection. The Graduate Diploma in Information Technology Management forms two thirds of the (IT Management major), the Graduate Diploma in Internetworking and Security forms two thirds of the (Internetworking and Security major), while the Graduate Diploma in Data Science forms two thirds of the (Data Science major).

Restriction: All graduate courses are subject to restriction.

Duration: 1.5 years full-time or part-time equivalent

Admission Requirements (Onshore):

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

OR

Recognised Bachelors' degree (AQF Level 7) plus an approved qualification in IT (AQF Level 8);

OR

Recognised Honours degree (AQF Level 8) plus 5 or more years of relevant 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.

Master of Science in Information Technology (MSCIT)

Mathematics and Statistics

Course Structure - 36 credit points

Core Units - 9 credit points

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

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

ICT615 Information Technology Research Methods - 3 points
MURDOCH: S1-internal

Major - 27 credit points

MJ-ITMA Information Technology Management - 27 points

OR

MJ-ITMDA Information Technology Management (with Dissertation) - 27 points

OR

MJ-INSA Internetworking and Security - 27 points

OR

MJ-INSDA Internetworking and Security (with Dissertation) - 27 points

OR

MJ-DSA Data Science - 27 points

OR

MJ-DSDA Data Science (with Dissertation) - 27 points

Major

Information Technology Management - 27 credit points

Core Unit - 18 credit points

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

ICT502 Applied Information Security Management - 3 points
MURDOCH: S2-internal, S2-external

ICT505 Knowledge Management - 3 points
MURDOCH: S2-internal

ICT601 Business Analytics - 3 points
MURDOCH: S2-internal

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

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

Specified Electives - 9 credit points

Select from the following:

ICT621 IT Group Project - 6 points
MURDOCH: S1-internal, S2-internal

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

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

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

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

ICT612 Human Factors in Information Technology - 3 points
MURDOCH: S1-internal

ICT631 Advanced IT Study Project - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

ICT619 Artificial Intelligence - 3 points
MURDOCH: S1-internal

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

Major

Information Technology Management (with Dissertation) - 27 credit points

Core Unit - 27 credit points

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

ICT502 Applied Information Security Management - 3 points

MURDOCH: S2-internal, S2-external

ICT505 Knowledge Management - 3 points
MURDOCH: S2-internal

ICT601 Business Analytics - 3 points
MURDOCH: S2-internal

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

ICT678 Information Technology Research Dissertation - 12 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external,
Y-internal, Y-external

Major

Internetworking and Security - 27 credit points

Core Unit - 15 credit points

ICT502 Applied Information Security Management - 3 points
MURDOCH: S2-internal, S2-external

ICT535 Advanced Business Data Communications - 3 points
MURDOCH: S1-internal, S2-internal

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

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

ICT611 Advanced Routing - 3 points
MURDOCH: S2-internal
OR

ICT613 Router and Firewall Security - 3 points
MURDOCH: S1-internal

Specified Electives - 12 credit points

Select from the following:

ICT621 IT Group Project - 6 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

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

ICT601 Business Analytics - 3 points
MURDOCH: S2-internal

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

ICT612 Human Factors in Information Technology - 3 points
MURDOCH: S1-internal

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

ICT631 Advanced IT Study Project - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

ICT619 Artificial Intelligence - 3 points
MURDOCH: S1-internal

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

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

Internetworking and Security (with Dissertation) - 27 credit points

Core Unit - 27 credit points

ICT502 Applied Information Security Management - 3 points
MURDOCH: S2-internal, S2-external

ICT535 Advanced Business Data Communications - 3 points
MURDOCH: S1-internal, S2-internal

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

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

ICT611 Advanced Routing - 3 points
MURDOCH: S2-internal
OR

ICT613 Router and Firewall Security - 3 points
MURDOCH: S1-internal

ICT678 Information Technology Research Dissertation - 12 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external,
Y-internal, Y-external

Data Science - 27 credit points

Core Unit - 21 credit points

ICT502 Applied Information Security Management - 3 points
MURDOCH: S2-internal, S2-external

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

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

ICT601 Business Analytics - 3 points
MURDOCH: S2-internal

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

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

ICT619 Artificial Intelligence - 3 points
MURDOCH: S1-internal

Specified Electives - 6 credit points

Select from the following:

ICT621 IT Group Project - 6 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

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

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

ICT612 Human Factors in Information Technology - 3 points
MURDOCH: S1-internal

ICT631 Advanced IT Study Project - 3 points
MURDOCH: S1-internal, S1-external, S2-internal, S2-external

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

MAS352 Time Series Analysis - 3 points
MURDOCH: S1-internal, S1-external

TLC501 Communication Skills for Postgraduate Study - 3 points

MURDOCH: S1-internal, S2-internal

Data Science (with Dissertation) - 27 credit points

Core Unit - 27 credit points

ICT513 Data Analytics - 3 points

MURDOCH: S2-internal, S2-external

ICT515 Foundations of Data Science - 3 points

MURDOCH: S2-internal

ICT601 Business Analytics - 3 points

MURDOCH: S2-internal

ICT616 Data Resources Management - 3 points

MURDOCH: S1-internal, S2-internal

ICT619 Artificial Intelligence - 3 points

MURDOCH: S1-internal

ICT678 Information Technology Research Dissertation - 12 points

MURDOCH: S1-internal, S1-external, S2-internal, S2-external, Y-internal, Y-external

ICT508 Information Technology Project Management and ICT521 IT Professional Practice; a minimum of 24 points; and a minimum GPA of 2.8 out of 4; 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 Research Dissertation (ICT678)

Enrolment in Master of Science in Information Technology (Coursework and Dissertation).

Students must have achieved a GPA of 2.5 out of 4.

Information Technology Research Methods (ICT615)

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.

Router and Firewall Security (ICT613)

ICT535 Advanced Business Data Communications; enrolment in a graduate IT course or permission of the Academic Chair.

Time Series Analysis (MAS352)

MAS222/MAS278 Probability and Statistical Inference OR MAS223 Applied Statistics OR MAS224/MAS230 Biostatistical Methods OR MAS284 Applied Statistics and Process Management or enrolment in a postgraduate IT course. In addition students must have a calculus background equivalent to at least either MAS161 Calculus and Matrix Algebra OR MAS221/MAS208 Mathematical Modelling.

Wireless Data Communications (ICT603)

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

PREREQUISITES

Advanced Business Data Communications (ICT535)

ICT546 Local Area Network Design and Implementation and enrolment in a graduate-level IT course.

Advanced Data Analysis (ICT602)

ICT515 Foundations of Data Science or ICT513 Data Analytics.

Advanced IT Study Project (ICT631)

Completion of 24 points in a graduate level IT course and a minimum GPA of 2.8 out of 4, or permission of the Academic Chair.

Advanced Routing (ICT611)

ICT535 Advanced Business Data Communications; enrolment in a graduate IT course or permission of the Academic Chair.

Applied Information Security Management (ICT502)

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

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.

Human Factors in Information Technology (ICT612)

Enrolment in a graduate-level IT course.

IT Group Project (ICT621)