Overview

The Master of Artificial Intelligence prepares you for the AI transformation and professional employment across sectors in industry, academia, R&D, government, defence, medicine and finance. The degree provides you with modern knowledge and skills to effectively build AI-based products and intelligent systems. The course includes topics in deep learning, knowledge... For more content click the Read More button below.

The Master of Artificial Intelligence prepares you for the AI transformation and professional employment across sectors in industry, academia, R&D, government, defence, medicine and finance. The degree provides you with modern knowledge and skills to effectively build AI-based products and intelligent systems. The course includes topics in deep learning, knowledge representation and reasoning, modern optimisation techniques, language understanding, roles of AI, its ethics and impact in organisation, society and the world.

The course will contain a broad range of units related to fundamental knowledge and applied artificial intelligence skills.

You will be able to apply your learning, knowledge and skills in your contexts as part of the assessment process and have the opportunity to complete either a research project or an industry experience studio project.

Read Less

about Overview

Mode and location

Collapse all

On campus

keyboard_arrow_down

Malaysia, Clayton

Learning outcomes

These course outcomes are aligned with the Australian Qualifications Framework and Monash Graduate Attributes.

Upon successful completion of this course it is expected that you will be able to:

Collapse all

1.

analyse the lifecycle of an AI and machine learning system in relation to data and computing resources through an organisation.

keyboard_arrow_down

2.

apply the major theories and innovation in the field of artificial intelligence, machine learning and data analysis to selected characteristic problems with an emphasis on social good.

keyboard_arrow_down

3.

plan an AI-based project on a new application area demonstrating knowledge of the lifecycle of AI systems and their requirements.

keyboard_arrow_down

4.

investigate, analyse, document and communicate the core issues and requirements in developing AI capability in a global organisation.

keyboard_arrow_down

5.

demonstrate applications of AI to a level of depth and sophistication consistent with senior professional practice.

keyboard_arrow_down

6.

review, manage and evaluate AI-based projects and complete projects through teamwork.

keyboard_arrow_down

7.

review, synthesise, apply and evaluate contemporary Artificial Intelligence theories.

keyboard_arrow_down

8.

document ethics in AI and communicate ethical and legal issues and norms in privacy and security, and other areas of community impact with regards to the practice of applying and developing artificial intelligence.

keyboard_arrow_down

Professional recognition

This course is provisionally accredited by the Australian Computer Society (ACS) as meeting the standard of knowledge for professional-level membership. The Faculty is in the process of obtaining full accreditation.

Structure

The course comprises 96 credit points structured into three parts: Part A. Foundation studies, Part B. Core studies, and Part C. Applied studies.

Part A. Foundation studies

These studies will provide an orientation to the field of artificial intelligence at graduate level. They are intended for students whose previous qualification is not in a cognate field.

Part B. Core studies

These studies will provide an orientation and draw on best practices within the broad field of artificial intelligence practice and research. You will gain a critical understanding of theoretical and practical issues related to artificial intelligence. Your studies will focus on fundamentals, core knowledge as well as application in artificial intelligence.

Part C. Applied studies

The focus of these studies is professional or scholarly work that can contribute to the portfolio of professional development in AI. You will have two options:

- A program of coursework involving advanced study and an industry experience studio project.
- A research pathway including a thesis. If you wish to use this master’s course as a pathway to a higher degree by research you should take this option.

Master's entry points

Depending on prior qualifications you may receive entry level credit which determines your point of entry to the course:

- If you are admitted at entry level 1 you complete 96 credit points, comprising Part A, Part B and Part C.
- If you are admitted at entry level 2 you complete 72 credit points, comprising Part B and Part C.

Note: If you are eligible for credit for prior studies you may elect not to receive the credit and complete one of the higher credit-point options.

Course progression map

The course progression map (Clayton) and(Malaysia)provides guidance on unit enrolment for each semester of study.

Requirements
96 credit points

Collapse all

Part A. Foundation studies24 credit points

keyboard_arrow_down

You must complete the following four units

FIT9132

6 CP

Introduction to databases

FIT9136

6 CP

Introduction to Python programming

FIT9137

6 CP

Introduction to computer architecture and networks

MAT9004

6 CP

Mathematical foundations for data science and AI

Part B. Core studies48 credit points

keyboard_arrow_down

You must complete 48 credit points, comprising:
- the following seven units (42 credit points); and
- one further unit (6 credit points) from Specified elective studies.

FIT5047

6 CP

Fundamentals of artificial intelligence

FIT5057

6 CP

Project management

FIT5125

6 CP

IT research and innovation methods

FIT5201

6 CP

Machine learning

FIT5215

6 CP

Deep learning

FIT5222

6 CP

Planning and automated reasoning

FIT5226

6 CP

Multi agent systems and collective behaviour

Specified elective studies6 credit points

keyboard_arrow_down

You must complete one of the following units (6 credit points)

FIT5216

6 CP

Modelling discrete optimisation problems

FIT5217

6 CP

Natural language processing

FIT5221

6 CP

Intelligent image and video analysis

FIT5230

6 CP

Malicious AI

Part C. Applied studies24 credit points

keyboard_arrow_down

You must complete either the Industry experience pathway or Research pathway.

Industry experience pathway24 credit points

keyboard_arrow_down

You must complete the following units (18 credit points) plus one FIT-coded Level 5 unit (6 credit points). You must have the required prerequisites for the unit you choose.

FIT5120

12 CP

Industry experience studio project

FIT5122

6 CP

Professional practice

Research pathway24 credit points

keyboard_arrow_down

You must complete the following units.

Note 1: Enrolment in the research units is dependent on available supervisors and projects. Eligible students will be ranked based on their entire academic record and assessed for suitability to undertake the research component of this program.

Note 2: To be eligible for the research pathway:

You must have successfully completed at least 24 credit points of level 5 FIT-coded units; and have an overall average of at least 80% across all Level 5 units; and must have have achieved at least a distinction (75%) in FIT5125 IT research methods; and achieved an overall course WAM of 70%.

If you have a WAM between 75-79% across all Level 5 units you must have successfully completed at least 24 credit points of level 5 FIT-coded units; and demonstrated research capability with written support from a prospective supervisor; and must have achieved at least a distinction (75%) in FIT5125 IT research methods; and achieved an overall course WAM of 70%.

FIT5126

6 CP

Masters thesis part 1

FIT5127

6 CP

Masters thesis part 2

FIT5128

6 CP

Masters thesis final

FIT5122

6 CP

Professional practice

Alternative exit(s)

You may exit this course early and apply to graduate with one of the following awards, provided you have satisfied the requirements indicated for that award during your enrolment in this master's course:

- Graduate Certificate of Artificial Intelligence (C4008) after successful completion of 24 credit points of study including FIT5047 Fundamentals of artificial intelligence, and three units (18 credit points) from Part A or Part B with a maximum of 6 credit points from Part A.

- Graduate Diploma of Artificial Intelligence (C5007) after successful completion of 48 credit points of study including all core studies units in Part B and one unit (6 credit points) from Part A or Part B Specified elective studies.

Progression to further studies

Successful completion of this course may provide a pathway to a graduate research degree.

Progression will be conditional on you completing the minor research pathway (as described in Part C, Research pathway) and achieving the minimum entry requirements for either Master of Philosophy (3337) or the Doctor of Philosophy (0190).