



MSc AI Engineering



INFORMATICS
INSTITUTE OF
TECHNOLOGY



ROBERT GORDON
UNIVERSITY ABERDEEN



Why Follow This Programme

The MSc AI Engineering programme is designed to equip graduates with the technical and research expertise required to design, build, and deploy AI-driven systems at scale. As organisations increasingly integrate artificial intelligence into products, services, and operations, there is a growing demand for professionals who possess both AI and data engineering capabilities.

The programme combines rigorous theoretical foundations with practical, industry-focused learning, enabling students to develop skills across the entire AI engineering life cycle. Students will gain expertise in data foundations, machine learning, natural language processing, MLOps, cloud-based AI infrastructure, and production-grade AI deployment.

Built upon ten years of industry-proven curriculum from the MSc Big Data Analytics programme, this degree has evolved to meet the demands of modern AI and intelligent systems development. It is particularly suitable for software engineers, data professionals, and technology practitioners seeking to enhance their expertise in AI from research foundations through to real-world deployment.

The programme offers flexibility through both online and physical lecture delivery modes. All coursework submissions and project defences are conducted remotely, providing students with a convenient and accessible learning experience while maintaining academic rigour.

Aim of the programme

The MSc AI Engineering programme aims to develop highly skilled AI engineering professionals capable of designing, deploying, and managing intelligent systems within modern organisations.

Graduates of the programme will be able to:

- Critically evaluate the principles, theories, and technologies that underpin Artificial Intelligence.
- Apply statistical, computational, and engineering techniques to solve complex real-world problems.
- Design and develop machine learning and AI solutions using industry-standard tools and methodologies.
- Build scalable data pipelines and engineering infrastructures that support AI systems.
- Deploy, monitor, and manage AI models within production environments using modern MLOps practices.
- Apply natural language processing and text analytics techniques to unstructured data.
- Conduct independent research and apply appropriate methodologies to investigate AI-related challenges.
- Demonstrate professional, ethical, and responsible approaches to the development and deployment of AI systems.
- Communicate technical concepts effectively to both technical and non-technical stakeholders.

Course Structure - Core Modules

Module Title	Core/Optional	Credits
Semester 1		
Principles of Artificial Intelligence	Core	15
Data Analysis	Core	15
Semester 2		
Data Mining	Core	15
Research Methods	Core	15
AI Systems Deployment - MLOps	Core	15
Semester 3		
Data Engineering	Core	15
Advanced Databases	Core	15
Text Analytics	Core	15
Semester 4 - 6		
MSc Project	Core	60



Core Modules

01 Principles of Artificial Intelligence (15 Credits)

Covers the foundations of Artificial Intelligence including search techniques, knowledge representation, planning, reasoning, and intelligent agent architectures.

02 Data Analysis (15 Credits)

Introduces statistical foundations, data preparation techniques, regression analysis, ANOVA, clustering methods, and analytical approaches required for AI and data-driven decision making.

03 Data Mining (15 Credits)

Explores fundamental and advanced machine learning algorithms, support vector machines, deep learning concepts, meta-learning approaches, and model evaluation techniques.

04 Research Methods (15 Credits)

Develops skills in literature review, research design, ethics, project management, critical analysis, and academic report writing.

05 AI Systems Deployment - MLOps (15 Credits)

Focuses on the deployment and management of AI systems in production environments, including CI/CD pipelines, containerisation, model monitoring, version control, and operational best practices.

06 Data Engineering (15 Credits)

Introduces big data programming, distributed systems, cloud technologies, and scalable data pipeline design for AI applications.

07 Advanced Databases (15 Credits)

Covers relational and non-relational database technologies, ER modelling, XML, cloud databases, and data management strategies for AI workloads.

08 Text Analytics (15 Credits)

Examines natural language processing techniques including text extraction, tokenisation, word embeddings, sentiment analysis, named entity recognition, and document classification.

09 MSc Project (60 Credits)

An independent research or industry-based project that enables students to apply programme knowledge and skills to address a substantial AI or data engineering challenge.

Teaching and Assessment

The MSc AI Engineering is delivered with the option to choose between **online and on-campus lectures**, complemented by **independent learning, practical activities, and project-based work**. This flexible learning approach is designed to equip students with a strong theoretical foundation while developing the practical, industry-relevant skills required to succeed in the rapidly evolving field of Artificial Intelligence.

Assessment is **100% coursework-based**, ensuring a practical and application-focused learning experience. Each module is assessed through a **single coursework component**, allowing students to demonstrate their knowledge through real-world projects and assignments rather than traditional written examinations.

Delivery Modes

Part Time

- Weekdays (Physical) – 6.00 p.m. – 9.00 p.m. (Monday to Wednesday)
- Weekend (Online) – 9.00 a.m. – 9.00 p.m. (Saturday and Sunday)

Students may choose a maximum of three subjects, each a 3-hour session within the scheduled time frame.

Students can join lectures in one of the two modes: Online or Physical.

All coursework submissions and project defences are conducted entirely online.

Duration

1 year and 8 months

(expandable to 2 years with one more semester for project).

Admission Requirement

Applicants should possess:

First Class or Second Upper Division in a first degree (Subject to Desk Review),

OR

Second Class Lower, Third Class, or General Degree with more than 3 years of relevant work experience. The student must also pass an academic interview,

OR

A recognised Diploma or Advanced Diploma with a minimum of 5 years of relevant work experience. The student must also pass an academic interview.

Employability and Work Placement Opportunities

Graduates will be well positioned for opportunities across a wide range of industries including technology, financial services, consulting, telecommunications, healthcare, and digital transformation sectors.

Potential Career Roles

AI Solutions Architect

AI Product Manager

Data Analytics Lead

AI / Machine Learning Engineer

Data Engineer

MLOps Engineer

NLP Engineer

Data Scientist

Academic and Research Positions

Scholarships Available

UGC
Recognized

BCS Accredited
Degree