Digital Business
Evolving your digital future

AI for Business

Unlock business innovation with AI and machine learning mastery

Streamline operations with AI strategies and ethical practices

This module equips you with critical skills in AI and machine learning, focusing on innovative applications, ethical considerations, and optimising business processes.

In this AI for Business module, you will explore foundational concepts in artificial intelligence and machine learning. Through a mix of theory and hands-on practice, you'll learn to design, develop and assess advanced machine learning models.

The curriculum covers real-world projects, strategic AI solutions, and emphasises ethical, sustainable AI practices. By mastering these technologies, you'll enhance decision-making, increase efficiency, and gain a competitive advantage in today's business environment. Become a leader in AI-driven business transformation.

Learning objectives

In this AI for Business module, you will gain comprehensive expertise and practical skills in artificial intelligence and machine learning. By applying AI to real-world scenarios, you will drive innovation and implement ethical AI practices, supported by the following key learning outcomes:

Analyse, synthesise, and innovate within artificial intelligence and machine learning, emphasising critical understanding and the capability to advance the field.

Design, train, and critically evaluate advanced machine learning models, focusing on innovative data and optimisation strategies to boost performance in business applications.

Employ innovative techniques for rigorous machine learning model performance assessment, interpret results, and effectively communicate implications across various business contexts and to diverse stakeholders.

Apply strategic thinking in AI and ML for complex applications, assess effectiveness critically, propose innovative solutions or improvements, and improve problem-solving and decision-making skills.

Teamwork to develop AI solutions, enhancing collaboration skills, team competences, and service orientation towards addressing business needs.

Critically explore AI and machine learning's ethical, societal, and environmental impacts, and propose ethical, sustainable development and implementation practices within business environments.

Criteria — are you eligible?

- **Language proficiency:** Minimum B2 English proficiency, or 2 years' work or education in an English-speaking environment. IELTS: 6.0; TOEFL PBT: 600; TOEFL CBT: 200; TOEFL iBT: 100. Alternatively, proficiency may be assessed via a test or interview.

- **Education:** Relevant EQF Level 6 qualification required in a relevant field including but not limited to: computer science, IT, engineering, maths, business, or economics. Without this you will have an interview and assessment to evaluate certifications, qualifications or professional experience.
  *EQF levels explained

- **Residency:** This EU co-funded programme is open to all EU27, EEA, UK and Ukrainian nationals with a passport or valid ID from one of these countries.

AI for Business

open new doors in an AI-powered landscape

This module is tailored for professionals and students in business, computer science, and related fields who want to expand their expertise in AI and machine learning. It equips you for roles in AI development, data analysis, business intelligence, and innovation management. you'll open doors to a range of industries, including technology, finance, healthcare, and the creative sectors.

Engaging online learning with expert support and hands-on activities

This fully online module uses a dynamic learning approach, blending live (synchronous) sessions with self-paced (asynchronous) learning. Tutors guide you through lectures, assignments and practical lab work. The module includes innovative teaching methods like problem-based learning and the flipped classroom model.

Emerging technologies, including AI, are integrated to enrich the learning experience. Formative assessments provide continuous feedback to refine your learning approach. The course assessment is split evenly between a practical project (50%) and a proctored final exam (50%).

Time commitment

- Classroom and demonstrations: 24 hours
- Practical work/tutorials: 36 hours
- Independent learning: 190 hours
- Total: 250 hours

Credit points

- 10 ECTS

Full course content

AI for Business is a 10 ECTS module delivered over 5 hours per week for 12 weeks — 2 hours' live classes and 3 hours of asynchronous study with provided materials. An indicative schedule of topics to be addressed each week is outlined below:

- **Introduction to AI and its history**
  - Overview of AI, significance in today's world, historical development, key milestones
- **Foundational Knowledge for AI**
  - Problemsolving, search algorithms, heuristics, adversarial search, optimisation.
- **Automated Planning**
  - Goal achievement, decision-making, resource allocation, simulation, prediction, learning, adaptation, autonomous systems.
- **Introduction to Machine Learning**
  - Overview of ML, supervised/unsupervised learning, reinforcement learning, introduction to deep learning.
- **Deep Learning**
  - Neural networks, CNNs, RNNs, deep learning applications.
- **Data and Datasets**
  - Importance of data, data types, pre-processing, quality datasets.
- **Reinforcement Learning**
  - Basics of Reinforcement Learning, exploration vs. exploitation, real-world applications.
- **Natural Language Processing (NLP)**
  - NLP fundamentals, text processing, NLP models and techniques.
- **Computer Vision**
  - Basics of computer vision, mage processing, object detection, challenges, and future trends.
- **AI Tools and Platforms**
  - Overview of AI tools/platforms, practical applications, deep learning frameworks.
- **AI and Creativity**
  - AI in creative industries, design, innovation, future prospects, industry speaker session.
- **Ethical and Social Implications in AI**
  - Ethical challenges, societal impacts, AI bias and fairness, privacy, security.

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Thank You!

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