Module Specification

Artificial Intelligence

Version: 2026-27, v1.0, Approved

Contents

Module Specification 1

Part 1: Information 2

Part 2: Description 2

Part 3: Teaching and learning methods 4

Part 4: Assessment 5

Part 5: Contributes towards 6

Part 1: Information

Module title: Artificial Intelligence

Module code: UFCEY7-10-1

Level: Level 4

For implementation from: 2026-27

UWE credit rating: 10

ECTS credit rating: 5

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: UWE Bristol International College

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module introduces the students to the fundamental concepts and techniques used in Artificial Intelligence, through the study of the underlying computer science and ethics paradigms.

Features: UWEBIC Module Code: IY496

Educational aims: This module aims to introduce students to the foundational principles, techniques, and ethical considerations of Artificial Intelligence (AI). It

provides a broad overview of AI systems, including both human-designed and machine-learned models, and explores core problem-solving strategies such as search algorithms and neural networks. Through a combination of theoretical learning and practical application, students will develop the ability to identify appropriate contexts for AI deployment, understand the mechanics behind AI decision-making, and critically evaluate the ethical implications of AI technologies.

The module is designed to foster computational thinking, analytical reasoning, and ethical awareness, equipping students with the skills to design basic AI systems and assess their societal impact. It supports the development of transferable skills such as critical analysis, collaborative learning, and autonomous study, laying a strong foundation for further study in computer science and software engineering.

Outline syllabus: Introduction to AI and definition of its scope: anatomy of an AI-based system.

Types of problems, problem solving and its specificities to AI.

The importance of modelling in problems.

Models in AI: Human provided models.

Models in AI: Trained models.

Search algorithm: depth-first.

Search algorithm: Hill-climbing.

Search algorithm: Optimisation and introduction/extension to graph theory (Dijkstra’s shortest path, leaf marking, pruning…).

Constraints and domain reduction.

Learning: identification trees.

Learning: Neural networks.

Ethics of AI: bias and limitations.

Part 3: Teaching and learning methods

Teaching and learning methods: Teaching on this module will combine tutor-led classroom input with substantial practical work and collaborative research activities. Classroom sessions will introduce core AI concepts, algorithms, and ethical considerations, providing the theoretical foundation for applied learning. These sessions will be interactive, using worked examples and discussions to help students understand when and how AI techniques should be deployed.

Practical work will form a significant part of the module, enabling students to implement and experiment with AI models and problem-solving strategies. Through hands-on exercises, learners will apply search algorithms, explore neural networks, and evaluate ethical implications in realistic contexts. Group-based research and problem-solving activities will encourage collaboration, critical thinking, and peer learning, as students work together to design solutions and prepare their final poster presentation.

Formative feedback will be embedded throughout the module, particularly during practical sessions and group activities. Tutors will provide real-time guidance and support, ensuring students can refine both their technical knowledge and their implementation skills. Structured checkpoints for poster development will offer additional opportunities for feedback, supporting continuous progress toward the summative assessment and helping students build confidence in their knowledge and presentation skills.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Apply knowledge gained during this module to build a basic AI-based system on paper or on code.

MO2 Decide when AI is needed and when typical decision-making algorithms are needed.

MO3 Explain the underlying concepts and algorithms that enables AI-based systems.

MO4 Describe the inherent ethical problems of AI-based systems, their limitations and bias.

Hours to be allocated: 100

Contact hours:

Independent study/self-guided study = 70 hours

Face-to-face learning = 30 hours

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://uwe.rl.talis.com/index.html

Part 4: Assessment

Assessment strategy: Students are required to complete a series of formative tasks designed to support progress toward the final poster presentation. Formative activities will include structured checkpoints for poster development—such as initial outline, algorithm explanation, and ethical analysis—providing timely feedback linked to the module learning outcomes. The summative assessment consists of a collaborative poster presentation event, requiring clear technical explanation, appropriate algorithm choice, and consideration of ethical issues. This approach ensures alignment with all learning outcomes and promotes continuous engagement throughout the module.

Students undertaking reassessment will complete an equivalent assessment, reduced in scope if group size requires, but still enabling participating students to demonstrate attainment of all learning outcomes.

Assessment tasks:

Poster (First Sit)
Description: Poster presentation event (Based on groups of 3 students: each group produces a 1500-word poster with 15 mins presentation and questions).
Weighting: 100 %
Final assessment: Yes
Group work: Yes
Learning outcomes tested: MO1, MO2, MO3, MO4

Poster (Resit)
Description: Poster presentation event (Based on groups of 3 students: each group produces a 1500-word poster with 15 mins presentation and questions).
Weighting: 100 %
Final assessment: Yes
Group work: Yes
Learning outcomes tested: MO1, MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Computer Science {with International Year One} [UWEBIC] BSc (Hons) 2026-27

Software Engineering {with International Year One} [UWEBIC] BSc (Hons) 2026-27