

Module Specifications

Year/Level: 6
Programme: AI

Module:	Social and Collective Artificial Intelligence	Module Code:	6FTC2086	Credits:	15
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Module Description:

Mandatory

The aims of this module are to enable students to...

- Understand different ways in which (natural and artificial) intelligence goes beyond single agents.
- Develop theoretical and practical knowledge and understanding of AI systems/agents, and their underlying algorithms, with social cognition and intelligence, i.e., with cognitive and interactional capabilities and skills allowing them to know about and interact with other agents.

Module:	Robotics	Module Code:	6FTC2091	Credits:	15
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Module Description:

Optional

The aims of this module are to enable students to:

- Develop knowledge of control architectures for intelligent robotics.
- Gain an understanding of the core elements that underpin the design and implementation of cognitive robotic architectures.
- Explore how robot and AI based control architectures can be implemented in an appropriate programming language.

Module:	Intelligent Adaptive Systems	Module Code:	6FTC2088	Credits:	15
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Module Description:

Mandatory

The aims of this module are to enable students to...

1. Understand the notion of adaptation, its multiple forms, and its roles in natural and artificial intelligence.
2. Develop theoretical and practical knowledge of a variety of Intelligent Adaptive Systems as AI systems.
3. Design, implement and evaluate concrete examples of Intelligent Adaptive Systems.

Module:	Artificial Intelligence Project	Module Code:	6FTC2089	Credits:	30
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Module Description:

Mandatory

The aims of this module are to enable students to...

- Undertake a complex individual project answering a real-world, Artificial Intelligence related problem.
- Plan, undertake and evaluate a practical solution or solutions to an AI problem, designed to extend and deepen their knowledge in this specific area relevant to their studies.
- Plan, produce and refine a significant technical report describing and reflecting upon the program of work undertaken to solve a real-world problem.

Module:	Advanced Artificial Intelligence	Module Code:	6FTC2085	Credits:	15
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Module Description:

Mandatory

The aims of this module are to enable students to...

1. Develop in-depth theoretical and practical knowledge of complex advanced notions, methods and algorithms of (reasoning-based and embodied) Artificial Intelligence.
2. Understand and implement the algorithms underlying key advanced AI notions, allowing AI systems to reason and act in uncertain, complex and dynamic conditions and environments.

Module:	Software Architecture	Module Code:	6FTC2084	Credits:	15
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Module Description:

Mandatory

This module aims to enable students to understand the different ways to structure large software systems and be able to design systems using common architectural patterns.

Module:	Responsible Computing	Module Code:	6FTC2087	Credits:	15
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Module Description:

Mandatory

This module aims to enable students to articulate the social, ethical, and legal issues and commercial risks together with the opportunities inherent in the use of computing technologies and the deployment of computer-based systems. Have a detailed awareness of the professional issues around current computing and Information Technology (IT) practice. Be able to produce outputs and documentation that demonstrate compliance with legal, ethical, and professional standards and principles of ethical design.

Module:	Machine Learning and Neural Computation	Module Code:	6FTC2090	Credits:	15
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Module Description:

Optional

This module aims to enable students to understand and apply machine learning techniques and neural networks to analyse both labelled and unlabelled data. Understand and use data visualisation techniques to further analyse data. Understand how computational models can capture some aspects of brain function.