

Module Title Intelligent Web Technologies	Reference CM4007 SCQF SCQF Level 10 SCQF Points 15 ECTS Points 7.5 Created May 2003 Approved April 2005 Amended September 2012 Version No. 4
Keywords Web services, Web mining, Web ontologies, Intelligent Agents, Personalisation	

This Version is No Longer Current

The latest version of this module is available [here](#)

Prerequisites for Module

CMM504 Object Oriented Programming or equivalent.

Web ontologies:XML, RDF, OWL.

Corequisite Modules

None.

Precluded Modules

None.

Aims of Module

To introduce the student to the fundamental roles as well as the practical impacts of Artificial Intelligence and advanced Information Technology on the next generation of Web-based products, systems, services, and activities.

Indicative Student Workload

<i>Contact Hours</i>	Full Time
Assessment	3
Laboratories	24
Lectures	24

Directed Study

Coursework preparation	5
Directed Study	40

Private Study

Private Study	54
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Mode of Delivery

Lectures are used to deliver the main principles and techniques underlying intelligent web-based systems development. Computing

Learning Outcomes for Module

On completion of this module, students are expected to be able to:

- 1.Explain the main concepts of intelligent technologies for "smart" applications and repositories for the Web.
- 2.Analyse a Web application and discuss the potential and added benefit of incorporating suitable AI techniques.
- 3.Select and apply appropriate intelligent techniques to address web-based system design problems.
- 4.Compare and contrast different Semantic Web/ontologies/ mining tasks and solutions.
- 5.Design and/or implement intelligent web-based systems.

Indicative Module Content

Information collection: crawling and document preprocessing.

Information retrieval:indexing and retrieval.

Web mining: mining from text, classification techniques, clustering techniques.

laboratories will be used to examine case studies which reinforce the material covered in the lectures and to design and implement prototype intelligent web-based systems. The understanding of the student is further enhanced through directed reading.

Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2,3,4,5
Component 2	3,5

Component 2 - Coursework

Component 1 - This is a closed book examination.

Indicative Bibliography

- 1.GOKER,A. and DAVIES J., 2009. Searching in the 21st Century. Wiley. ISBN: 978-0-470-02762-2,
- 2.WOOLDRIDGE,M.,2009. An Introduction to Multi-Agent Systems. 2nd Ed. Wiley.
- 3.RUSSEL, S. and NORVIG, R., 2010. Artificial Intelligence: A Modern Approach, 3rd Ed., Prentice Hall
- 4.WEISS, G., 2013. Multiagent Systems (Intelligent Robotics & Autonomous Agents Series), MIT Press

Agent-based web intelligence:
agents, multi-agent systems,
agent architecture, group
decisions, coalitions, intelligent
agents.

5.GOELFORD,M.,KAHL, Y.2014
Knowledge Representation,
reasoning and the design of
Intelligent Agents: The
Answer-Set Programming
Approach, Cambridge University
Press.

6.WEISS, G (ed), 2013 Multiagent
Systems (2nd Ed) MIT Press ISBN
970-0-262-01889-0