

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 April 2016 Version No. 7
Keywords Information Collection, Information Retrieval, Intelligent, Agents, Web Intelligence	

This Version is No Longer Current

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

Prerequisites for Module

CM2015 Object-oriented Software Design or equivalent.

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.

Mode of Delivery

Lectures are used to deliver the main principles and techniques underlying intelligent web-based systems development. Computing 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	3,4
Component 2	1,2,5

Learning Outcomes for Module

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

1. Discuss the key concepts of current and intelligent technologies for information search and retrieval applications.
2. Analyse and evaluate the effectiveness of Web-based information systems.
3. Select and apply appropriate intelligent agent technologies.
4. Analyse and discuss an intelligent agent scenario.
5. Design and/or implement intelligent web-based systems.

Indicative Module Content

Information collection: crawling and document preprocessing.

Information retrieval: indexing and retrieval.

Agents, multi-agent systems, intelligent agents, agent architecture, group decisions, forming coalitions, agent communication.

Component 1 - This is a closed book examination worth 50% of the total module assessment.

Component 2 - Coursework worth 50% of the total module assessment.

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
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 978-0-262-01889-0

Indicative Student Workload

Contact Hours Full Time

Laboratories 24

Lectures 24

Directed Study

Directed
Reading 57

Private Study

Private Study 45