H7AIT: Advanced Internet Technologies

Module Code:	H7AIT
Long Title	Advanced Internet Technologies APPROVED
Title	Advanced Internet Technologies
Module Level:	LEVEL 7
EQF Level:	6
EHEA Level:	First Cycle
Credits:	5
Module Coordinator:	MICHAEL BRADFORD
Module Author:	MICHAEL BRADFORD
Departments:	School of Computing
Specifications of the qualifications and experience required of staff	

Learning Outcomes	
On successful completion of this module the learner will be able to:	
#	**Learning Outcome Description**
LO1	Describe and use platforms and frameworks for distributed applications
LO2	Program and develop n-tier web applications with supporting framework technologies
LO3	Create and consume Web Services
LO4	Integrate databases into web applications

Dependencies
Module Recommendations
No recommendations listed
Co-requisite Modules
No Co-requisite modules listed

Entry requirements	

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Module Content & Assessment

Indicative Content

Platforms and Frameworks
• Modern frameworks and platforms for distributed and web computing. • Runtime environments. • Library support. • Compilation and build processes. • Bytecode and intermediary language. • Emergent technologies/languages

Programming Models
• Core features and programming languages • OO programming language syntax and features • Generics • Reflection

Developing Web Applications
• Framework support for web application development • Architectural approaches for web development • Application configuration • Caching • AJAX

Web services
• Defining Web Services • Creating Web Services • Web Services Programming Language Support • Integrating data • Publishing Web Services • Using Web Services for Interoperability • OData & RESTful web services

Data storage
• Component models for database integration • Implementing a Data Access Layer • The Object-Relational Impedance Mismatch • Using an Object-Relational Mapper

Mobile Development
• Browser and device detection • Mobile specific pages

Deploying Web Applications
• Target web servers • Packaging web application for deployment • Deploying to the Cloud

Teaching Methodology
The learning strategy involves the use of lectures and assessments involving tutorials, mid-term exam and a project. Students will also have access to web based support.

Assessment Breakdown	%
Coursework	100.00%

Assessments

Full Time

Coursework

Assessment Type:	Project	**% of total:**	60
Assessment Date:	n/a	**Outcome addressed:**	2,3,4
Non-Marked:	No		

Assessment Description:
Sample Project – ASP.NET Project. You are required to choose an area of interest to develop a web application using the ASP.NET Web-Forms framework.

Assessment Type:	Continuous Assessment (0200)	**% of total:**	40
Assessment Date:	n/a	**Outcome addressed:**	1,2,3,4
Non-Marked:	No		

Assessment Description:
2 x 20% in class Moodle based assessments.

No End of Module Assessment

No Workplace Assessment

Reassessment Requirement

Repeat examination
Reassessment of this module will consist of a repeat examination. It is possible that there will also be a requirement to be reassessed in a coursework element.

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Module Workload

Module Target Workload Hours 0 Hours

Workload: Full Time

Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	No Description	2	Every Week	2.00
Lab	No Description	1	Every Week	1.00
Independent Learning	No Description	7.5	Every Week	7.50
			Total Weekly Contact Hours	3.00

Workload: Part Time

Workload Type	Workload Description	Hours	Frequency	Average Weekly Learner Workload
Lecture	No Description	2	Every Week	2.00
			Total Weekly Contact Hours	2.00

Module Resources

Recommended Book Resources

Imar Spaanjaars. (2014), Beginning ASP.NET 4.5: In C# and VB, Wiley.

Andrew Troelsen. (2012), Pro C# and the .NET 4.5 Framework, Apress, p.1600, [ISBN: 978-1430242338].

Supplementary Book Resources

Bart De Smet. (2013), C# 5.0 Unleashed, Sams Publishing.

Martin Fowler. (2003), Patterns of enterprise application architecture, Addison-Wesley, Boston, MA, [ISBN: 0321127420].

Mueller J. P.. (2013), Microsoft ADO.NET Entity Framework Step by Step, Microsoft Press, [ISBN: 073566416].

This module does not have any article/paper resources

This module does not have any other resources

Discussion Note:	