

## PROG C7006: Web Frameworks

Module Details	
Module Code:	PROG C7006
Full Title:	Web Frameworks <b>APPROVED</b>
Valid From:	Semester 1 - 2019/20 ( June 2019 )
Language of Instruction:	English
Duration:	2 Semesters
Credits:	10
Module Owner:::	Tony McCarron
Departments:	Unknown
Module Description:	This module will provide students with the know how to design, implement and deploy a client-server web application based on an appropriate framework. The student will apply their programming knowledge to learning new language, and will learn how to integrate different components in a multi-tiered web architecture.

Module Learning Outcome	
On successful completion of this module the learner will be able to:	
#	Module Learning Outcome Description
MLO1	Apply their existing knowledge to learning a new programming language and development environment, build software clients to consume distributed data in xml and json.
MLO2	Understand and use the components in a web framework.
MLO3	Design, develop, test and deploy a client-server multi-tiered web application that connects to a database.
MLO4	Incorporate best practices in security and authentication.
Pre-requisite learning	
<p><b>Module Recommendations</b>  <i>This is prior learning (or a practical skill) that is strongly recommended before enrolment in this module. You may enrol in this module if you have not acquired the recommended learning but you will have considerable difficulty in passing (i.e. achieving the learning outcomes of) the module. While the prior learning is expressed as named DkIT module(s) it also allows for learning (in another module or modules) which is equivalent to the learning specified in the named module(s).</i></p>	
No recommendations listed	

<b>Module Indicative Content</b>
<b>1. Introduction to backend language</b> Programming in C# - data types, decision structures, repetition structures, classes & objects, data serialization / de-serialization and use of REST Sharp.
<b>2. Introduction to appropriate framework</b> ASP.NET MVC framework, Bootstrap etc.
<b>3. Connecting to a database.</b> Entity Framework ORM in MVC .Net and CRUD.
<b>5. Authentication &amp; Security</b> identity Management, Roles, Cross-Site Request Forgery.
<b>6. Web api controllers</b> building an api returning json and xml.

## Module Assessment

<b>Assessment Breakdown</b>	<b>%</b>
Course Work	100.00%

<b>Module Special Regulation</b>

### Assessments

#### Full Time

<b>Course Work</b>			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	25
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Every Second Week	<b>Learning Outcome</b>	1
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Develop projects to gain expertise in the programming environment and language. use internal and external libraries to consume remote data from apis.			
<b>Assessment Type</b>	Class Test	<b>% of Total Mark</b>	15
<b>Marks Out Of</b>	100	<b>Pass Mark</b>	40
<b>Timing</b>	Week 12	<b>Learning Outcome</b>	1,2,3
<b>Duration in minutes</b>	120		
<b>Assessment Description</b> Practical programming test normally shared with the Web Services module.			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	60
<b>Marks Out Of</b>	100	<b>Pass Mark</b>	40
<b>Timing</b>	Every Second Week	<b>Learning Outcome</b>	1,2,3,4
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Individual projects to incrementally develop and deploy a web-application that connects to a database, facilitates CRUD, uses Social logins and two-factor authentication. The web site will also function as an api and be cloud based.			

No Project
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No Practical
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No Final Examination
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#### Part Time

Course Work			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	25
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Every Second Week	<b>Learning Outcome</b>	1
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Develop projects to gain expertise in the programming environment and language. Use internal and external libraries to consume remote data from apis.			
<b>Assessment Type</b>	Class Test	<b>% of Total Mark</b>	15
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Week 12	<b>Learning Outcome</b>	1,2,3
<b>Duration in minutes</b>	120		
<b>Assessment Description</b> Theory Based Class Test normally shared with the Web Services module.			
<b>Assessment Type</b>	Continuous Assessment	<b>% of Total Mark</b>	60
<b>Marks Out Of</b>	0	<b>Pass Mark</b>	0
<b>Timing</b>	Every Second Week	<b>Learning Outcome</b>	1,2,3,4
<b>Duration in minutes</b>	0		
<b>Assessment Description</b> Individual projects to incrementally develop and deploy a web-application that connects to a database, facilitates CRUD, uses Social logins and two-factor authentication. The web site will also function as an api and be cloud based.			
No Project			
No Practical			
No Final Examination			
Reassessment Requirement			
<b>No repeat examination</b> <i>Reassessment of this module will be offered solely on the basis of coursework and a repeat examination will not be offered.</i>			
<b>Reassessment Description</b> Re-assessment will be an appropriate web application development in a framework. A detailed project report outlining the design / framework / workflow design.			

**Module Workload**

<b>Workload: Full Time</b>					
<i>Workload Type</i>	<i>Contact Type</i>	<i>Workload Description</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>	<i>Hours</i>
Lecture	Contact	Theory content	Every Week	1.00	1
Practical	Contact	Lab based classes	Every Week	3.00	3
Directed Reading	Non Contact	No Description	Every Week	1.00	1
Independent Study	Non Contact	No Description	Every Week	3.00	3
Total Weekly Learner Workload					8.00
Total Weekly Contact Hours					4.00

<b>Workload: Part Time</b>					
<i>Workload Type</i>	<i>Contact Type</i>	<i>Workload Description</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>	<i>Hours</i>
Lecture	Contact	Theory content	Every Week	1.00	1
Practical	Contact	Lab based classes	Every Week	3.00	3
Directed Reading	Non Contact	No Description	Every Week	1.00	1
Independent Study	Non Contact	No Description	Every Week	3.00	3
Total Weekly Learner Workload					8.00
Total Weekly Contact Hours					4.00

## Module Resources

### *Recommended Book Resources*

Jonas Fagerberg. (2017), *Asp.Net Core 2.0 MVC and Razor Pages*, [ISBN: 9781979759953].

Adam Freeman. (2013), *Pro Asp.Net MVC 5.0*, 5th. Apress, New York, [ISBN: 978-143026529].

Rami Vemula. (2017), *Real-Time Web Application Development: With ASP.NET Core, SignalR, Docker, and Azure*, Apress, [ISBN: 9781484232699].

*This module does not have any article/paper resources*

### *Other Resources*

[Website], Microsoft. Microsoft Developer Network,  
<http://msdn.microsoft.com/en-US/>