

Module Title:	Advanced User Interface Programming
Language of Instruction:	English
Credits:	10
NFQ Level:	7
Module Delivered In	No Programmes
Teaching & Learning Strategies:	There will be two 1-hour lectures and four hours laboratory work per week. The laboratory sessions will provide students with the opportunity to work on problems and assessments. They will implement (a) the theory presented in lectures and (b) practical material presented during laboratory sessions. These supervised lab sessions will involve the use of appropriate database and programming tools and packages. Students can access notes and resource materials including self-test quizzes, sample databases etc. through a MLE. The students will be expected to participate actively in lectures and lab sessions.
Module Aim:	To have students produce dynamic Web applications using client side and server side technologies, with an appreciation of security issues, the User Experience and the importance of testing these web applications.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Create an interactive programmed user interface for client server and internet connected devices including IoT technologies
LO2	Create an ER model for systems
LO3	Create SQL queries (DML) for systems
LO4	Integrate a back-end database with client server technologies
LO5	Understand the usability issues involved in human computer interaction including Virtual, Augmented and Mixed Reality devices
LO6	Design interfaces that will give a high level of user satisfaction and maximise user productivity allowing for alternative input mechanisms
LO7	Understand the security issues involved when developing websites.
LO8	Test user interfaces and analyse and use the results of the tests
Pre-requisite learning	
Module Recommendations	
<i>This is prior learning (or a practical skill) that is recommended before enrolment in this module.</i>	
No recommendations listed	
Incompatible Modules	
<i>These are modules which have learning outcomes that are too similar to the learning outcomes of this module.</i>	
No incompatible modules listed	
Co-requisite Modules	
No Co-requisite modules listed	
Requirements	
<i>This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.</i>	
No requirements listed	

Module Content & Assessment

Indicative Content

Developing Dynamic client-side websites

Developing Dynamic client-side websites using client side coding including HTML5, Javascript and CSS

Database Theory

Introduction to Database concepts : ER Modelling; SQL

Developing Dynamic Web Sites with Database Integration

Developing Dynamic Web Sites with Database Integration using PHP and MySQL with an awareness of potential security issues. Testing these websites for functionality and usability.

User Experience

Developing an understanding of the user, Designing interfaces using a selection of prototyping, concept development, building scenarios etc. Consideration of interaction styles, visual issues. Balancing function and fashion. Usability testing using field tests, usability labs and heuristic evaluation

Assessment Breakdown

	%
Project	25.00%
Practical	25.00%
End of Module Formal Examination	50.00%

No Continuous Assessment

Project

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Complete a client server integration project	1,2,3,4,5,6,7,8	25.00	n/a

Practical

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Practical/Skills Evaluation	Complete a series of practical projects which will enable students to become familiar with client server, visualisation and alternative user input mechanism which support user experience	1,2,3,4,5,6,7,8	25.00	n/a

End of Module Formal Examination

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Formal Exam	No Description	2,3,4,5,6,7	50.00	End-of-Semester

SETU Carlow Campus reserves the right to alter the nature and timings of assessment

Module Workload

Workload: Full Time		
<i>Workload Type</i>	<i>Frequency</i>	<i>Average Weekly Learner Workload</i>
Lecture	Every Week	1.00
Laboratory	Every Week	4.00
Estimated Learner Hours	Every Week	2.00
Total Hours		7.00

