

Module Title:	Web and Cloud Applications
Language of Instruction:	English
Credits:	5
NFQ Level:	7
Module Delivered In	2 programme(s)
Teaching & Learning Strategies:	Students will learn from lectures, lab work and projects. These will enable the student to learn and practice the various Database concepts, Web technologies and Cloud technologies presented.
Module Aim:	To broaden the student's understanding of the use and administration of databases in Web applications with expansion to Cloud technologies. Students will gain competency in developing full stack applications that incorporate database access.
Learning Outcomes	
<i>On successful completion of this module the learner should be able to:</i>	
LO1	Setup, install and operate multiuser DBMS and their components both at GUI and command line;
LO2	Construct and deploy a web application based on the client/server application model;
LO3	Identify key concepts and technologies used in Cloud Computing environments
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>	
2nd year Web Programming & Databases or equivalent	

Module Content & Assessment

Indicative Content

Review : Database Theory and Objects

Relational model (components and constraints), Data Modelling, Views

Database DBMS

Installation; Tools; Extended SQL (for data manipulation, data definition, data control); Catalog and data dictionary

Data Security

Access Controls, Cryptography ,Data Integrity & Verification, Vulnerabilities (SQL Injection, XSS)

Database Concurrency

Transactions, Concurrency Issues

Web Development Infrastructure

Client, server, content, protocol, client-side programming, server-side programming, Dynamic applications

Data Management in the Cloud

Cloud concepts, Services, Deployment, Examples

Convergence of Web, Cloud & Database technologies

XML, AJAX, JSON, APIs, Cloud based databases

Assessment Breakdown

%

Project

100.00%

No Continuous Assessment

Project

Assessment Type	Assessment Description	Outcome addressed	% of total	Assessment Date
Project	Build a locally-hosted web application with database backend	1,2	30.00	Week 5
Project	Take Home sheet : solve problems which will involve both application of material covered and further research	1,2,3	30.00	Week 8
Project	Design, construct and deploy a Full stack application with API integration	1,2,3	40.00	Week 12

No Practical

No End of Module Formal Examination

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	12 Weeks per Stage	2.00
Laboratory	12 Weeks per Stage	2.00
Estimated Learner Hours	15 Weeks per Stage	5.13
Total Hours		125.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KCCIT_B	Bachelor of Science (Honours) in Information Technology Management	5	Mandatory
CW_KCCSY_D	Bachelor of Science in Information Technology Management	5	Mandatory