H7ALC: Application Lifecycle

Module Code:	H7ALC
Long Title	Application Lifecycle APPROVED
Title	Application Lifecycle
Module Level:	LEVEL 7
EQF Level:	6
EHEA Level:	First Cycle
Credits:	10
Module Coordinator:	ORLA LAHART
Module Author:	Padraig De Burca
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 the theory, concepts and methods pertaining to Business Analysis.
LO2	Create requirements using use case modelling and requirements engineering concepts.
LO3	Design and implement effective data models.
LO4	Investigate and utilise relational and non-relational databases for optimised storage, retrieval, and organisation of data.
LO5	Describe the theory and concepts of data warehousing and online analytical processing techniques.
LO6	Describe the theory and concepts of Project Management, focusing on IT Project Management.
LO7	Have an understanding of application & data security.

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
Use case modelling 10% • Actors. • Use Cases. • Anatomy of use cases. • Advanced Use Case Concepts.
Databases and Storage 20% • Relational Databases. • Collecting and storing Data • Data Modelling: ERDs & Normalisation • DBMS. • Indexing and Hashing. • Query processing and optimisation. • Database Performance Evaluation.
SQL for Data Retrieval 10% • Outputting Data Streams • Complex Joins / Multi-Joins Sub/Correlated Queries • Views
Non-relational Databases 10% • NoSQL • Types of non-relational databases. • CAP Theorem.
Data Warehousing 10% • Introduction to Data Warehousing. • Data Warehousing Concepts. • Types of Data Warehouse. • On-line analytical processing (OLAP). • Data-mining.
Testing 15% • Software testing strategies such as System test, Integration test and unit test. • Software Testing Techniques. • Usability testing. • Black box and White box testing. • Basis path testing. • Cyclomatic complexity.
Application and Data Security 10% • Threats • Computer-Based Countermeasures • Non-Computer-Based Countermeasures • Risk Analysis • Data Protection
Project Management 15% • Projects V Operations • Triple Constraint • Process Groups • Traditional PM v IT PM • Scheduling: Gantt & network diagrams

Assessment Breakdown	%
Coursework	100.00%

Assessments

Full Time

Coursework

Assessment Type:	Continuous Assessment (0200)	**% of total:**	100
Assessment Date:	n/a	**Outcome addressed:**	1,2,3,4,5,6,7
Non-Marked:	No		

Assessment Description:
Sample Assessment would be a project: This project counts for 100% of the overall marks for the module. •Project deliverables should be completed individually •The main objective of this project is the development of a database for a game rental shop.•The project is composed of multiple sections or deliverables.•The project work should be carried out in as homework. •You may use any CASE tool / diagramming tool (Rational Rose, Visio, Gliffy, Creately, Smartdraw etc.) to carry out the diagramming but the final work must be presented on paper. •The database construction portion of the project must be completed using MySQL.

No End of Module Assessment

No Workplace Assessment

Reassessment Requirement

Coursework Only
This module is reassessed solely on the basis of re-submitted coursework. There is no repeat written examination.

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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
Tutorial	No Description	2	Every Week	2.00
Independent Learning	No Description	17	Every Week	17.00
			Total Weekly Contact Hours	4.00

Workload: Part Time

Workload Type	*Workload Description*	*Hours*	*Frequency*	*Average Weekly Learner Workload*
Lecture	No Description	2	Every Week	2.00
Tutorial	No Description	2	Every Week	2.00
Independent Learning	No Description	17	Every Week	17.00
			Total Weekly Contact Hours	4.00

Module Resources

Recommended Book Resources

Thomas M. Connolly, Carolyn E. Begg. (2010), Database systems, Boston ; Addison-Wesley, c2010., [ISBN: 0321523067].

Roger S. Pressman. Software Engineering, McGraw Hill Higher Education, p.928, [ISBN: 9780071267823].

Supplementary Book Resources

Gordon S. Linoff. Data Analysis Using SQL and Excel, Wiley, p.645, [ISBN: 0470099518].

This module does not have any article/paper resources

Other Resources

[Website], http://www.mysql.com,
http://www.mysql.com

[Website], http://www.mongodb.org,
http://www.mongodb.org

Discussion Note:	