Module Title:	Systems Analysis and Testing
Language of Instruction:	English

Credits:	10

NFQ Level:	6

Module Delivered In	3 programme(s)

Teaching & Learning Strategies:	Mix of lectures, tutorials and workshops. Formative and summative assessments. A suitable case study will be selected and used throughout the course.

Module Aim:	To introduce students to the principles and practice of object-oriented systems analysis and testing.

Learning Outcomes
On successful completion of this module the learner should be able to:

LO1	Understand the principal software development processes.
LO2	Apply objected-oriented techniques to the analysis of a software system.
LO3	Use the principal UML diagramming techniques.
LO4	Understand and apply software testing techniques.

Pre-requisite learning
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*
No recommendations listed
Incompatible Modules *These are modules which have learning outcomes that are too similar to the learning outcomes of this module.*
No incompatible modules listed
Co-requisite Modules
No Co-requisite modules listed
Requirements *This is prior learning (or a practical skill) that is mandatory before enrolment in this module is allowed.*
No requirements listed

Module Content & Assessment

Indicative Content
Approaches to Systems Analysis & Design Overview - structured, object-oriented, soft system, other.
Object Oriented Concepts Objects. Classes. Relationships - association, aggregation, inheritance. Encapsulation. Polymorphism.
Software Development Processes Waterfall vs Agile. Unified Process - iterative, evolutionary development; phases - inception, elaboration, construction, transition.
Requirements Fact-finding techniques - functional & non-functional requirements, FURPS+. Use Cases - brief and detailed formats. Use case diagrams. Tool (e.g. UMLet). System sequence diagrams. Collaboration diagrams. Domain Models - domain classes, attributes and associations. CRC cards. Animate using object diagrams.
Implementation System testing. Data conversion. User manuals. Training. Changeover strategies - direct, parallel, phased, pilot.
Review & Maintenance System review. Evaluation Report. Amendment procedures.
Testing White-box and black-box methods. Levels of testing - unit, integration, system, acceptance. Test plans, schedules & reports. Testing tools.

Assessment Breakdown	%
Continuous Assessment	50.00%
End of Module Formal Examination	50.00%

Continuous Assessment				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Examination	Individual Written Exam	1,2	20.00	Week 5
Case Studies	Take-home Case Study Exercise	2,3,4	30.00	Week 10

No Project

No Practical

End of Module Formal Examination				
Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	Terminal Examination	1,2,3,4	50.00	End-of-Semester

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

Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Lecturer Supervised Learning	12 Weeks per Stage	6.00
Estimated Learner Hours	15 Weeks per Stage	11.87
	Total Hours	250.00

Module Delivered In

Programme Code	Programme	Semester	Delivery
CW_KCSOF_B	Bachelor of Science (Honours) in Software Development	3	Mandatory
CW_KCSOF_D	Bachelor of Science in Software Development	3	Mandatory
CW_KCCOM_C	Higher Certificate in Science in Computing Programming	3	Mandatory