COMP H4226: Software Engineering

Module Title:	Software Engineering
Language of Instruction:	English

Credits:	10

NFQ Level:	8

Module Delivered In	No Programmes

Teaching & Learning Strategies:	Lectures, tutorials on specific techniques, continuous assessment, final exam;

Module Aim:	The aim is to give the learners the ability to apply advanced practical skills for the development of software products.

Learning Outcomes	
On successful completion of this module the learner should be able to:	
LO1	Compare software engineering processes and practices by evaluating their applicability in various contexts
LO2	Select and use appropriate tools and technologies for the verification of software
LO3	Apply Object Oriented design patterns on real problems
LO4	Select and use appropriate tools and technologies for the agile development of software
LO5	Reflect on the social and ethical duties of software developers by describing their impact on society.

Pre-requisite learning		
Module Recommendations *This is prior learning (or a practical skill) that is recommended before enrolment in this module.*		
7051	ZCOM H3201	Software Engineering for Web, Cloud and Mobile Apps
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		

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Module Content & Assessment

Indicative Content
Prerequisites 5% Review of module's prerequisites as necessary and working environment
Software Engineering Processes 10% Contemporary developments.
Software Verification 25% Testing, static verification, code reviews, theory and practice, tools.
User eXperience Design 10% UX principles and practice.
Object Oriented Design Patterns 20% Gang of Four patterns.
Agile Practices 10% e.g. Refactoring, Test Driven Development
Software Configuration Management 10% e.g. Git theory and practice
Social and Ethical Issues for Software Developers 5% Contributing and sharing knowledge, data privacy, whistle blowing legislation.
Blank 5% This part of the module is left undecided and will be agreed in conversations with the students.

Assessment Breakdown	%
Continuous Assessment	30.00%
Practical	20.00%
End of Module Formal Examination	50.00%

Continuous Assessment

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Essay	Compare software engineering processes and practices by evaluating their applicability in various contexts	1	10.00	Week 5
Examination	Individual Written Test on Object Oriented design patterns	3	10.00	Week 19
Case Studies	Active Participation	1,2,3,4,5	10.00	n/a

No Project

Practical

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Practical/Skills Evaluation	Individual Practical Take Home on Verification	2	10.00	Week 12
Practical/Skills Evaluation	Individual Practical Test on tool use	4	10.00	Week 25

End of Module Formal Examination

Assessment Type	*Assessment Description*	*Outcome addressed*	*% of total*	*Assessment Date*
Formal Exam	Final Exam	1,2,3,4,5	50.00	End-of-Semester

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

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Module Workload

Workload: Full Time		
Workload Type	*Frequency*	*Average Weekly Learner Workload*
Tutorial	30 Weeks per Stage	2.00
Practicals	30 Weeks per Stage	2.00
Estimated Learner Hours	30 Weeks per Stage	4.00
	Total Hours	240.00