



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Quality and Configuration Management		
Module Code	UFCFRD-15-M	Level	Level 7
For implementation from	2019-20		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Module type:	Standard		
Pre-requisites	None		
Excluded Combinations	None		
Co- requisites	Requirements Engineering 2019-20		
Module Entry requirements	None		

Part 2: Description
<p><b>Educational Aims:</b> See Learning Outcomes.</p> <p><b>Outline Syllabus:</b> The syllabus includes:</p> <p>Software quality and the process of software quality management including the activities of quality assurance, quality planning, and quality control.</p> <p>Software Process and Product Quality Standards with reflection on problems with standards.</p> <p>The relationship between software quality and configuration management, and the associated overall software development process model.</p> <p>The quality of the software development process and its impact on the quality of the developed software product.</p> <p>Software quality reviews and inspections.</p> <p>Software Measurement and Metrics including static/dynamic metrics and industrial issues with metrics.</p> <p>The Process of Change Management including change management, version management, system building, and release management.</p> <p>Software Configuration Identification: establishing the product breakdown structure, configuration items and standards for naming versions, and releases.</p> <p>The Change Control Process: identify both the change management process and the documents</p>

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to be formalised and managed at a configuration control board.  
 Factors in change analysis, deviations, waivers, concessions etc. support the asbuilt and as-designed configuration state.  
 Configuration status accounting and auditing.  
 Codelines, baselines and system building.  
 Release planning and factors affecting release planning.  
 Change management and agile development methods.

### **Teaching and Learning Methods:** Scheduled learning:

This module will be taught by a mixed combination of lecturing and tutoring in every weekly session. Students will be receiving learning material ahead in reasonable time of the lectures and thus paving the ground for increased interaction during lecture/tutorials in addition to raising potential knowledge exchange between students with industrial background and tutors.

### Independent learning:

Students will be expected to learn independently by carrying out directed readings ahead of subsequent weekly-taught sessions in addition to consulting the module's on-line forums. Supportive guidance will be provided to students regarding the most appropriate sources of information such as books, research and practical articles, lectures notes, and requirements specifications templates that will be made available, where possible, via the Blackboard VLE. Such independent learning will yield two outcomes: (1) contribute to higher quality independent learning and hence enhance guiding and enriching the student learning experience, and (2) reinforcing higher interactivity (with critical appraisal) in the module's key areas initiated by individuals in lectures and the module's online forum, and hence improving the quality of the anticipated module's learning outcomes.

These are comprised of a combined weekly two contact hours for both lecture and tutorial.

### **Part 3: Assessment**

The assessment strategy for this module comprises a written examination. The written examination comprises 100% of the module's assessment and is of three hours duration covering key aspects of the learning outcomes in relation to software quality and configuration management.

First Sit Components	Final Assessment	Element weighting	Description
Examination - Component A	✓	100 %	Final written examination
Resit Components	Final Assessment	Element weighting	Description
Examination - Component A	✓	100 %	Final written examination

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<b>Part 4: Teaching and Learning Methods</b>																	
Learning Outcomes	<p>On successful completion of this module students will achieve the following learning outcomes:</p> <table border="1"> <thead> <tr> <th style="text-align: left;"><b>Module Learning Outcomes</b></th> <th style="text-align: left;"><b>Reference</b></th> </tr> </thead> <tbody> <tr> <td>Understand the importance and benefits of Software Configuration Management (CM), its principles and be able to apply CM principles based on known CM processes and standards</td> <td>MO1</td> </tr> <tr> <td>Understand the relationship between CM, Quality Management and the overall activities of the software development process</td> <td>MO2</td> </tr> <tr> <td>Describe the role of configuration management in relation to software change management</td> <td>MO3</td> </tr> <tr> <td>Demonstrate critical understanding of the software quality management process</td> <td>MO4</td> </tr> <tr> <td>Understand the importance of software quality standards and their roles in quality assurance</td> <td>MO5</td> </tr> <tr> <td>Show detailed understanding of software quality metrics, their role in assessing software quality attributes and their current limitations</td> <td>MO6</td> </tr> <tr> <td>Provide a critical understanding of the SEI CMMI Process Improvement Framework and its implications on improvement of the software development process</td> <td>MO7</td> </tr> </tbody> </table>	<b>Module Learning Outcomes</b>	<b>Reference</b>	Understand the importance and benefits of Software Configuration Management (CM), its principles and be able to apply CM principles based on known CM processes and standards	MO1	Understand the relationship between CM, Quality Management and the overall activities of the software development process	MO2	Describe the role of configuration management in relation to software change management	MO3	Demonstrate critical understanding of the software quality management process	MO4	Understand the importance of software quality standards and their roles in quality assurance	MO5	Show detailed understanding of software quality metrics, their role in assessing software quality attributes and their current limitations	MO6	Provide a critical understanding of the SEI CMMI Process Improvement Framework and its implications on improvement of the software development process	MO7
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Reading List	<p>The reading list for this module can be accessed via the following link:</p> <p><a href="https://uwe.rl.talis.com/modules/ufcfrd-15-m.html">https://uwe.rl.talis.com/modules/ufcfrd-15-m.html</a></p>																

<b>Part 5: Contributes Towards</b>
<p>This module contributes towards the following programmes of study:</p> <p>Software Engineering [Sep][PT][Frenchay][2yrs] MSc 2018-19</p>