



## MODULE SPECIFICATION

Part 1: Information			
Module Title	Object-Oriented Analysis, Design and Programming		
Module Code	UFCFPD-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	None		
Module Entry requirements	None		

Part 2: Description
<p><b>Educational Aims:</b> See Learning Outcomes.</p> <p><b>Outline Syllabus:</b> Analysis and Design:            There is a strong emphasis on the critical evaluation aspect of the design instead of simply being able to do designs. The specific areas include:</p> <p>Design criteria            Use cases            Classes and objects            Inheritance, Abstract classes and Interfaces            Class relationships            Interaction modelling</p> <p>Programming: There is an emphasis on the evaluation of language features. Specific features include:</p> <p>Fundamental:            Classes and objects, message passing            Inheritance, Abstract classes and Interfaces, polymorphism</p> <p>Concurrency and Networking:</p>

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<p>Thread, Thread synchronisation Client server programming</p> <p>Database: Fundamental concepts and implementation</p> <p><b>Teaching and Learning Methods:</b> Scheduled learning There are 3 hours scheduled “lectorial”-style classes weekly which include interactive lectures, tutorials and practical sessions, where in the theory and practice of object-oriented systems design and development are demonstrated; questions are invited and freely discussed. Students are encouraged to articulate and present their analysis and design models of some case studies, as well as carrying out programming tasks. All lecture slides and other relevant learning materials are available on the Blackboard VLE.</p> <p>Independent learning Students are expected to spend about 6 hours per week to engage with essential reading, case study preparation, assignment work and completing the weekly tasks set by the module.</p> <p>Contact Hours:</p> <p>Activity: Contact time: 36 hours Assimilation and development of knowledge (independent learning): 74 hours Coursework and exam preparation: 40 hours Total study time: 150 hours</p>
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### Part 3: Assessment

The assessment strategy will consist of one coursework assessment and one examination. The coursework assessment will be based on work covered in lectures and tutorials. The examination will be based on topics covered in the lectures relating to the learning outcomes.

#### Summative assessment:

Component A: Examination, 2 hours, questions will focus on the design aspect involving students demonstrate their understanding of the concepts, their ability to apply the concepts to produce designs and their ability to critically evaluate the designs.

Component B: Coursework will be around a case study. Each student will be expected to design and implement a solution based on some given cases studies and to explain their design and implementation choices.

#### Formative assessment:

Each week, tasks will be set to re-enforce the concepts covered in the lectures. The weekly classes will be used to explore and discuss software design concepts and students are expected to complete programming tasks. Feedback will be given.

First Sit Components	Final Assessment	Element weighting	Description
Written Assignment - Component B		50 %	Coursework (design and implement a software system)
Examination - Component A	✓	50 %	Written examination (2 hours final assessment)
Resit Components	Final Assessment	Element weighting	Description
Written Assignment - Component B		50 %	Coursework (design and implement a software system)
Examination - Component A	✓	50 %	Written examination (2 hours final assessment)

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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 and have knowledge of the typical characteristics of object-oriented software systems</td> <td>MO1</td> </tr> <tr> <td>Understand and have knowledge of software design criteria</td> <td>MO2</td> </tr> <tr> <td>Apply object-oriented analysis and design techniques to analyse and design object-oriented system</td> <td>MO3</td> </tr> <tr> <td>Critically evaluate Java language features and apply Java-programming skills to effectively design and implement object-oriented software solutions</td> <td>MO4</td> </tr> <tr> <td>Critically evaluate software design with respect to design criteria</td> <td>MO5</td> </tr> </tbody> </table>	<b>Module Learning Outcomes</b>	<b>Reference</b>	Understand and have knowledge of the typical characteristics of object-oriented software systems	MO1	Understand and have knowledge of software design criteria	MO2	Apply object-oriented analysis and design techniques to analyse and design object-oriented system	MO3	Critically evaluate Java language features and apply Java-programming skills to effectively design and implement object-oriented software solutions	MO4	Critically evaluate software design with respect to design criteria	MO5				
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Reading List	<p><i>The reading list for this module can be accessed via the following link:</i></p> <p><a href="https://uwe.rl.talis.com/modules/ufcfdp-15-m.html">https://uwe.rl.talis.com/modules/ufcfdp-15-m.html</a></p>																

<b>Part 5: Contributes Towards</b>
This module contributes towards the following programmes of study: