

Module code: MOD003310	Version: 3 Date Amended: 29/Jun/2017
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1. Module Title
Software Design and Implementation

2a. Module Leader
Shabnam Sadeghi Esfahlani

2b. School
Cambridge School of the Creative Industries

2c. Faculty
Faculty of Arts, Humanities and Social Sciences

3a. Level
5

3b. Module Type
Standard (fine graded)

4a. Credits
30

4b. Study Hours
300

5. Restrictions			
Type	Module Code	Module Name	Condition
Pre-requisite:	MOD005244	Introduction to Game Programming	Compulsory
Co-requisites:	None		
Exclusions:	None		
Courses to which this module is restricted:			

LEARNING, TEACHING AND ASSESSMENT INFORMATION

6a. Module Description

Software Design and Engineering is a form of engineering that applies the principles of computer science to achieving cost-effective solutions to software problems. The aim of this module is to give to students a real-world experience in software engineering. The number, size, and application domains of computer applications have grown and most people depend on the effectiveness of the software development. Therefore software products have to be efficient, of very good quality and to help us to be more efficient and productive. This module will provide you with the basic intellectual tools to be able to design, implement and test software systems. The concepts of a software life cycle, system theory, design methodologies and relational data modelling are introduced. The students will be given the opportunity to apply a design methodology to a case study producing diagrammatic representations of the data and functionality of a system. The module will introduce students to the essentials of database design and will include implementation. CASE tools are used to study topics including analysis and design in UML and managing the OO software development process. The assessment is coursework based and involves working in team on a specific project. Students have to demonstrate that they are able to work in groups to create an application from a case study going through the whole software lifecycle.

6b. Outline Content

Software life cycle
Design methodologies
Software Development (OOP)
Software Validation and Verification
Software Maintenance
Software and Project Management
Organised in groups, you will work through two case studies from requirements through their implementation using a version control

6c. Key Texts/Literature

The reading list to support this module is available at: <http://readinglists.anglia.ac.uk/modules/mod003310>

6d. Specialist Learning Resources

Access to a laboratory with an UML modelling tool and a object oriented programming language such as C# or Java.

7. Learning Outcomes (threshold standards)

No.	Type	On successful completion of this module the student will be expected to be able to:
1	Knowledge and Understanding	Understand key object-oriented design principles.
2	Knowledge and Understanding	Demonstrate an understanding of and apply current theories, models, and techniques that provide a basis for problem identification and analysis, software design, development, implementation, verification, and documentation.
3	Intellectual, practical, affective and transferrable skills	Work effectively as part of a team to design, develop and deliver quality software artefacts.
4	Intellectual, practical, affective and transferrable skills	Use an object oriented programming language to develop a software application.

8a. Module Occurrence to which this MDF Refers				
Year	Occurrence	Period	Location	Mode of Delivery
2018/9	ZZF	Template For Face To Face Learning Delivery		Face to Face

8b. Learning Activities for the above Module Occurrence			
Learning Activities	Hours	Learning Outcomes	Details of Duration, frequency and other comments
Lectures	24	1,2,4	Lecture 3 hr x 12 weeks
Other teacher managed learning	24	1-4	Practical Lab 2 hr x 12 weeks
Student managed learning	252	1-4	Self-study and research
TOTAL:	300		

9. Assessment for the above Module Occurrence					
Assessment No.	Assessment Method	Learning Outcomes	Weighting (%)	Fine Grade or Pass/Fail	Qualifying Mark (%)
010	Coursework	1 - 4	100 (%)	Fine Grade	30 (%)
Multiphase group-based assessment. Equivalent of 4000 words per group member. Specification, design, implementation, evaluation including group performance.					

In order to pass this module, students are required to achieve an overall mark of 40%.
In addition, students are required to:
(a) achieve the qualifying mark for each element of fine graded assessment of as specified above
(b) pass any pass/fail elements