

<b>Module Title</b> <b>Software Architecture And Software Engineering</b>  <b>Keywords</b> Software engineering, software architecture, software testing, defensive coding, software systems engineering.	Reference CM2027 SCQF                      SCQF 8 Level SCQF Points            15 ECTS Points            7.5 Created    June 2014 Approved July 2014 Amended                April 2016 Version No.             2
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## This Version is No Longer Current

The latest version of this module is available [here](#)

### Prerequisites for Module

Successful completion of CM1014 Problem Solving and Modelling in Computing.

This module will describe selected types of system architecture including MVC, structural, behavioural, and creational design patterns.

### Corequisite Modules

None.

### Indicative Student Workload

<i>Contact Hours</i>	Full Time
Laboratories	24
Lectures	12

### Precluded Modules

None.

<i>Directed Study</i>	
Assessment	10
Directed Reading	26

### Aims of Module

To provide a broad range of knowledge and skills in software engineering.

<i>Private Study</i>	
Private Study	78

### Learning Outcomes for Module

On completion of this module, students are expected to be able

### Mode of Delivery

Key concepts are introduced and illustrated through the medium of lectures. Lab exercises will be used to explore simple architectural

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1. Identify selected classes of software system.
2. Create appropriate models for the structure and behaviour of software products from their requirements specifications.
3. Implement simple examples of selected software system classes.
4. Describe and distinguish between the different types and levels of testing.

### Indicative Module Content

A brief review of software lifecycles, contrasting the activities performed in each phase. An introduction to selected software tools used in software engineering as well as the use of project plans and an overview of agile software development.

Classes of software system might include: embedded systems, information systems, control systems, intelligent systems.

styles (such as pipe and filter, user interface call-back and layered objects).

### Assessment Plan

	Learning Outcomes Assessed
Component 1	1,2,3,4

Component 1 - Coursework worth 100% of the total module assessment.

### Indicative Bibliography

1. SOMMERVILLE, I., 2015. Software Engineering. 10th edition. Pearson
2. PRESSMAN, R.S., 2014. Software Engineering: A Practitioner's Approach. 8th edition. McGraw-Hill Higher Education.
3. BASS, L., CLEMENTS, P. and KAZMAN, R., 2012. Software Architecture in Practice. Addison Wesley.
4. FREEMAN, E., and FREEMAN, E., 2004. Head First Design Patterns, O'Reilly
5. KAK, A. C. 2014. Designing with Objects: Object-Oriented Design Patterns Explained with Stories from Harry Potter. John Wiley & Sons.