
CO1008 Requirements Engineering and Professional Practice

Credits: 10 **Convenor:** Dr N. Verdezoto, Dr R. Craggs **Semester:** 1st

Prerequisites: none

Assessment: Coursework: 100%

Lectures: 11 hours

Surgeries: 0 hours

Laboratories: 0 hours

Problem Classes: 0 hours

Class Tests: 2 hours

Private Study: 72 hours

Subject Knowledge

Aims To help student understand the role of Requirements and Requirements Engineering within Software projects. To give students the skills to use requirement modelling approaches to describe what a software tool does (or should do).

Students will be able to explain how issues that are faced when working professionally (e.g. Laws, Codes of Conduct) relate to requirements.

Learning Outcomes At the end of the module a student should be able to:

- list the reasons why requirements are necessary for software projects and the problems that can occur when requirements are missing or poorly documented.
- classify different types of requirements (e.g. functional, non-functional, technical constraints)
- choose the best type of modelling technique to describe an aspect of a software system.
- Identify whether laws relating to software apply in relevant situations.
- evaluate the value of membership of professional bodies in regards to a career and list the responsibilities that it will entail.

Methods Lectures, Group-work including supervised project work. Course notes and recommended reading, Office Hours.

Assessment Formative exercises, marked project work and multiple choice tests.

Skills

Aims Gain experience of applying techniques and processes for requirements engineering on case studies within project work. Also experience of some of the behaviours necessary within a professional software engineering role.

Learning Outcomes Students will be able to:

- create static and dynamic models to describe a software system.
- write high quality requirements to describe a software project
- create sketches and prototypes to materialise and test requirements
- apply quantitative and qualitative elicitation techniques to gather software requirements
- work collaboratively on a group project

Methods Group-work, exercises, individual reading, and discussions.

Assessment Formative exercises, marked project work and multiple choice tests.

Explanation of Prerequisites None

Course Description Most software written within the IT industry is created to solve problems within some organisation or group of users, or to provide new possibilities for users. The success of IT projects relies heavily on understanding the domain in which software is used, and what the software must do (and not do) to provide users with what they need. The process of gaining this understanding and documenting it in a way that helps everyone to understand it is “Requirements Engineering”.

In this module we’ll describe the role that requirements engineering plays in all projects and the techniques and outcomes that are applied to ensure success.

Well managed requirements engineering is often a hallmark of a professionally run project. We’ll also cover other aspects of professionalism in software development, and how professional bodies and laws play an important role.

Detailed Syllabus

- Written Requirements
- Quantitative Methods
- Qualitative Methods
- Laws
- Static Modelling
- Dynamic Modelling
- Professionalism
- Testing
- Sketching and Low Fidelity Prototyping

This module will also include an introduction to the British Computer Society.

Reading List

[A] Various, *selected articles on requirements modelling*, see Blackboard for topic-specific reading,

[A] BCS, *BCS Code of Conduct*,

[A] BCS, *BCS Code of Good Practice*,

Resources Course notes, study guide, case study, hand-outs

Module Evaluation Course questionnaires, course review.