70025 Software Engineering for Industry

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Before We Begin …

This document sets out the aims of the Software Engineering for Industry course, the mechanics of how the course works, how it is assessed, and what is expected of participants. If you want to take this course, ***read*** *this document carefully,* ***sign it*** *to show that you have done so, and* ***submit it to Scientia*** *before the lectures start.*

Overview

This course studies how software engineering is practised in an industrial setting. It is not a course about programming — the focus is much more on organisational, operational, architectural and economic concerns. We discuss how teams successfully design, modify, maintain and operate large software systems in industry. We will also look at the different roles that engineers take inside organisations at different times in their careers. We will discuss current issues faced by the practising software engineer, the decisions they make, and particularly look at engineering trade- offs in different situations — this is not a course where there are right and wrong answers.

The primary topics in the course include:

- Cloud Economics
- Microservices and Domain Driven Design
- Software Architecture
- DevOps ways of working and Team Topologies
- Software Engineering Leadership
- Sustainable Software

Your Background

This course is designed with the assumption that students taking it have some experience of working in the software industry - either through a placement or internship, or a full- or part-time job. It is not essential that you have this experience, but if you don’t, you may find it hard to relate to some of the issues discussed.

Format

The learning in this course is largely self-directed. Each week we will cover a different topic. We will give you some starting points and suggested reading - but expect you to work in groups to conduct your own research and find related material yourselves in order to gain an in-depth knowledge of each topic and learn from each other.

We have a class on Mondays 9am - 11am in Huxley 145, where we will discuss the current topic. We will look to you to add to the discussion based on your own experiences, plus things that you have read and thought about during the week. We will also benefit from the views of some invited guests who will join the class for some of the topics. From time to time you may be asked to present your work to the class as a group. If you are taking this course, **you are expected to attend and participate in the Monday class**.

In order to provide an environment where people can speak freely about their experiences, the class will not be recorded.

We also have office hours, usually on Wednesday mornings. During this session you can book a time to come and see one of the course tutors if you want to discuss anything about the course with them.

Attendance

As already noted, **regular attendance at the Monday class is expected**. It's understandable if you have to miss a class once in a while, but the point of the course is to share and discuss ideas and experiences so that we can all learn together - it won’t be a satisfying experience if you just try to consume the course passively.

You do not have to make use of office hours if you don’t want to, that is an optional time for interaction with the tutors if you need it.

Coursework

This is a coursework only course, so there is no exam. However, there are coursework exercises throughout the term, so this is not an “easy option”. It will likely feel like a larger load during the term compared to a course with an exam - but this balances with the fact that there is no exam preparation at the end. You can see the schedule of work on Scientia. All of the assessed work for this module is in groups. It is not advisable to take too many coursework-only courses in the same term.

The weightings of the different pieces of work towards the module are as follows:

- Weekly worksheet exercises - 20%
- Mid-point presentations - 30%
- Final reports - 50%

All of this assessed work will be performed in groups of three, which you can form yourselves. You can change groups from week to week, or stick with the same group throughout. Working with each other is a key part of the experience for this module.

Declaration

Complete the declaration below to certify that you have read this document, understand how the course works, and plan to engage actively in the class over the term.

Submit the completed document to Scientia by **7pm on Friday 6th October 2023**

Your name:

Which class are you in? (C4, JMC4, MAC, …) :

Signature:

Date:

Do you have previous experience working in the software industry? If so, what/where?