

Module Information

Module Identifier	CS31310
Module Title	Agile Methodologies
Academic Year	2015/2016
Co-ordinator	<u>Mr Neil Scott Taylor (mailto:nst@aber.ac.uk?subject=CS31310)</u>
Semester	Semester 1
Pre-Requisite	<u>CS12420 (?m=CS12420)</u>
Other Staff	<u>Dr Edel Mary Sherratt (mailto:eds@aber.ac.uk?subject=CS31310)</u>

Course Delivery

Delivery Type	Delivery length / details
Lecture	20 Hours.

Assessment

Assessment Type	Assessment length / details	Proportion
Semester Exam	2 Hours Written Exam	90%
Semester Assessment	Worksheets	10%
Supplementary Exam	2 Hours supplementary exam Supplementary examination will take the same form, under the terms of the Department's policy.	100%

Learning Outcomes

On successful completion of this module students should be able to:

1. demonstrate a critical appreciation of a range of software development methodologies, and their relative advantages and disadvantages.
2. reason about the impact of project context on choice of methodology.
3. demonstrate an in-depth knowledge of the practices that comprise the several agile methodologies.
4. undertake simple test-driven software development.
5. identify and then rectify code that requires refactoring.

Brief description

We look at development processes, techniques and technologies for constructing real operational software systems. We examine the spectrum of development methodologies available to software projects, from agile methodologies through to plan-driven methodologies. Students will learn about the advantages and disadvantages of various methodologies.

Content

1. Introduction to module: 1 Lecture.

The lecture provides a road-map to the module, with a brief overview of main concepts and how they interrelate. Introduces the planning spectrum.

2. Overview of Extreme Programming (XP): 1 Lecture

12 core and two supplementary practices of XP are overviewed.

3. XP project planning games: 2 Lectures

Initial, release and iteration planning games.

4. Pair programming practice: 1 Lecture

5. Test-driven development: 3 Lectures

6. Refactoring: 3 Lectures

De-oderising smelly code.

7. Feature-Driven Development: 2 Lectures

A more respectable agile methodology?

8. Anti-patterns: 2 Lectures

Striving not to repeat the mistakes of others.

9. An overview of additional agile methodologies, e.g. Scrum/Kanban.

10. Model Based Architecture Overview: 2 Lectures

12. Agile vs plan-driven methodologies: 2 Lectures

We look at balancing agile and plan-based methodologies depending on project context.

Module Skills

Skills Type	Skills details
Application of Number	None, apart from simple planning estimates

Skills Type	Skills details
Communication	Students will practice communication skills during the tutorials and is a major concern within agile methodologies
Improving own Learning and Performance	The assessed coursework requires students to develop their understanding of issues associated with the module.
Information Technology	The module is IT focused. Students will use computer tools to develop and run their applications
Personal Development and Career planning	The module gives students a wider view of the computing industry and potential careers
Problem solving	Ability to reason about the clarity of software design and to improve such design through refactoring
Research skills	Students will be required to acquire further knowledge from journals and on-line sources
Subject Specific Skills	Methodological skills, design skills, programming skills
Team work	Team work is required during the tutorials and is of major concern within agile methodologies

Notes

This module is at [CQFW \(http://wales.gov.uk/topics/educationandskills/qualificationsinwales/creditqualificationsframework/?lang=en\)](http://wales.gov.uk/topics/educationandskills/qualificationsinwales/creditqualificationsframework/?lang=en) Level 6