



SFTW06022

Agile Methodologies 1

Transcript Title	Agile Methodologies 1		
Full Title	Agile Methodologies 1		
Attendance	75	Award Area	Computer Software
Coordinator	Michael Russell	Department	Electronic Computer Software
Co Author(s)	Marcus Rahilly		
Official Code	SFTW06022	NFQ Level	06
		ECTS Credit	05

Module Description

This module introduces students to the concept of software engineering as well as describing the role of software engineers, including their ethical/professional responsibilities. It provides an introduction to the following different types of agile methodologies: Scrum, Extreme Programming, Feature Driven Development and Kanban by focusing on the key processes of Requirements, Pair Programming, Testing, and Configuration Management.

Learning Outcomes

On completion of this module the learner will/should be able to

1. Explain what Software Engineering is, why it is important, and the role of a software engineer.
2. Identify and contrast different types of agile methodologies: Scrum, Extreme Programming, Feature Driven Development and Kanban.
3. Employ User Stories to collect and document Requirements.
4. Practice Pair Programming and Test-Driven Development.
5. Discuss the role of Software Configuration Management (SCM) and demonstrate the use of an SCM Tool within Year 1 assignments and projects.

Teaching and Learning Strategies

Face to face teaching and learning shall occur within in the context of both lectures and practical laboratories. Lectures shall focus on the knowledge to be applied on assignments and projects within the practical laboratories. For assignments and projects, the lecturer shall facilitate the learning process in which students shall be required to work in groups to solve problems. Additionally, assignments and projects shall be "cross-modular" in that they address and incorporate learning outcomes from at least two modules. This teaching and learning approach positions students as active participants in their own learning where learning from

and with others is fundamental. This approach also acknowledges relationships between individual modules and encourages students to make the knowledge connections between the different modules.

Assessment Strategies

Assessments shall be exam-based, assignment and project-based. Assessments shall be summative (assessment of learning), formative and diagnostic (assessment for learning) and/or involve students in assessment (assessment as learning).

Repeat Assessment Procedures

Students shall be required to sit a repeat exam and/or submit outstanding assignments/projects.

Assessment Facilities

Computer Laboratory.

Module Dependencies

Indicative Syllabus

Definitions of Software, Software Engineering, Software Process, Software Process Model. Attributes of 'Good' Software. Ethical and Professional responsibility. System versus Software Engineering.

History and value of Agile Development including the Agile Manifesto. Introduction to Agile Methodologies: Scrum, Extreme Programming, Feature Driven Development and Kanban. Roles and Teamwork. Comparison of Agile Methodologies.

Requirements within agile methodologies. Format of User Stories used within Scrum including epics and acceptance criteria. Explore how user stories are broken down from epics to child user stories and how acceptance criteria add important details to the story. Identify how other agile methodologies differ from Scrum in their requirements terminology and practices. Examine how requirements can be enhanced by using personas or engaging user experience designers to better understand potential system users.

Pair Programming. Introduction to Clean Code. Introduction to the Test Process. What is agile testing? Acceptance Test-Driven Development. Test-Driven Development (Unit Testing). Test design and measurement techniques. Unit Test Frameworks. Static Analysis. Code Coverage.

Introduction to Configuration Management. Configuration Management Planning. Version Control. Continuous Integration. Software Configuration Management Tools.

CourseWork / Assessment Breakdown

CourseWork / Continuous Assessment	60 %
------------------------------------	------

End of Semester / Year Formal Examination	40 %
---	------

Coursework Assessment Breakdown

Description	Outcome Assessed	% of Total	Assessment Week
Develop User Stories for a Game Development Project [CMA Game Development 1]	3	15	Week 2
Develop User Stories for a Web Development Project [CMA Web Development 1]	3	15	Week 6
Employ Pair Programming and Test-Driven Development in the development of a Java Class to solve a mathematical problem. [CMA Software Development 1, Mathematics 1]	4	20	Week 14
Employ basic SCM planning and version control on all programming projects. [CMA Game Development 1, Web Development 1, Software Development 1]	5	10	Week 4

End Exam Assessment Breakdown

Description	Outcome Assessed	% of Total	Assessment Week
Written Exam	1,2,5	40	Week 26

ACCS Mode Workload

Type	Location	Description	Hours	Frequency	Avg Wkly Wrkld
------	----------	-------------	-------	-----------	----------------

Total Average Weekly Learner Workload 0.00 Hours

Open Learning Mode Workload

Type	Location	Description	Hours	Frequency	Avg Wkly Wrkld
------	----------	-------------	-------	-----------	----------------

Total Average Weekly Learner Workload 0.00 Hours

Distance Learning Mode Workload

Type	Location	Description	Hours	Frequency	Avg Wkly Wrkld
------	----------	-------------	-------	-----------	----------------

Total Average Weekly Learner Workload 0.00 Hours

Part Time Mode Workload

Type	Location	Description	Hours	Frequency	Avg Wkly Wrkld
------	----------	-------------	-------	-----------	----------------

Total Average Weekly Learner Workload 0.00 Hours

Flexible Mode Workload

Type	Location	Description	Hours	Frequency	Avg Wkly Wrkld
------	----------	-------------	-------	-----------	----------------

Total Average Weekly Learner Workload 0.00 Hours

Full Time Mode Workload

Type	Location	Description	Hours	Frequency	Avg Wkly Wrkld
Lecture	Flat Classroom	Lecture	1	Weekly	1.00
Laboratory Practical	Computer Laboratory	Laboratory Practical	2	Weekly	2.00
Independent Learning	Not Specified	Independent Learning	1	Weekly	1.00

Total Average Weekly Learner Workload 3.00 Hours

Online Learning Mode Workload

Type	Location	Description	Hours	Frequency	Avg Wkly Wrkld
------	----------	-------------	-------	-----------	----------------

Total Average Weekly Learner Workload 0.00 Hours

Module Resources

Module Book Resources

None

Module Alternate Book Resources

None

Module Other Resources

None

Module URL's

<https://windows.github.com/>

<http://www.git-scm.com/>

<https://www.scrum.org/>

<http://www.testingstandards.co.uk/>

Additional Information

None

ISBN BookList

Book Details

Ashmore, Sondra and Runyan, Kristin 2014 *Introduction to Agile Methods* Pearson
ISBN-10 ISBN-13

Spillner, Andreas., Linz, Tilo and Schaefer, Hans 2014 *Software Testing Foundations Edition 4*
Rocky Nook Computing
ISBN-10 ISBN-13

Crispen, Lisa and Gregory, Janet 2009 *A Practical Guide for Testers and Agile Teams* Addison
Wesley
ISBN-10 ISBN-13

Chacon, Scott and Straub, Ben 2014 *Pro Git 2nd Edition* Apress
ISBN-10 ISBN-13

Approval Information

School Approval by Marcus Rahilly on 13-04-2015

Academic Council on 14-05-2015

Programme Membership

Code	Intake Year	Programme Title
AL_ESOFT_H08	201500	Bachelor of Science (Honours) in Software Design (Cloud Computing)
AL_KSOFT_H08	201500	Bachelor of Science (Honours) in Software Design (Game Development)
AL_ESOFT_H08	201500	Bachelor of Science (Honours) in Software Design (Cloud Computing)
AL_ESOFT_H08	201500	Bachelor of Science (Honours) in Software Design (Game Development)
AL_ESOFT_G07	201500	Bachelor of Science in Software Design (Cloud Computing)
AL_ESOFT_G07	201500	Bachelor of Science in Software Design (Game Development)
AL_KCLDC_8	201500	Bachelor of Science (Honours) in Software Design (Cloud Computing)
AL_KGAME_B	201500	Bachelor of Science (Honours) in Software Design (Game Development)
AL_KCLDC_7X	201500	Bachelor of Science in Software Design (Cloud Computing)
AL_KGAME_7X	201500	

