



# Agile Software Development Course Descriptor

Course Title	Agile Software Development	Faculty	EDGE Innovation Unit (London)
Course code	NCHNAP6139	Course Leader	Dr Yu-Chun Pan
Credit points	15	Teaching Period	This course will typically be delivered over a 6-week period.
FHEQ level	6	Date approved	September 2022
Core/Optional	Core for Software Engineer Specialism	Date modified	
Prerequisites			

## Course Summary

Agile methodologies are employed across a wide range of business projects including software development. Iteratively developing software to meet the needs of business and organisations provides both clients and developers with opportunities to adapt or modify within the project development process. Agile software development pipelines enable the functionality of software to be regularly reviewed and fed back into the development process and often facilitate the quick release of code for business use, while other aspects of the software development project are still taking place. This pipeline must ensure that technical standards are continually reviewed and met, that security is built in and continuously tested, and that clients are involved in the evolution of the project. The course explores the flexible, iterative methodology that underpin Agile software development and approaches to management that support its operation, including mechanisms for version control.

## Course Aims

- To provide learners with understanding of the principles, concepts and methodology of Agile software development
- To gain experience of Agile software development pipeline design and management
- To enable learners to confidently assess the risks of Agile methodologies and manage them effectively.

## Learning Outcomes

On successful completion of the course, learners will be able to:

### Knowledge and Understanding

- K1c Demonstrate knowledge and critical understanding of Agile software development principles, concepts and methodologies.
- K2c Demonstrate knowledge and critical understanding of the risks and benefits of iterative and incremental software pipelines.
- K3c Demonstrate knowledge and critical understanding of agile management methods, practices and tools.

### Subject Specific Skills

- S1c Apply adaptive and flexible approaches to the management of Agile software development.
- S2c Design, monitor, review and systematically organise an Agile incremental and iterative software pipeline to solve a real-life business problem.
- S3c Apply effective quality control, testing processes and tools throughout the development process to meet industry and regulatory standards.

### Transferable and Professional Skills

- T1ci Apply advanced communication skills with clients and software development teams to lead, influence and persuade others.
- T1cii Utilise an advanced level of technical proficiency of written English, while effectively applying scholarly terminology, to critically evaluate, analyse and make judgements and apply these appropriately to a range of diverse contexts.
- T2c Apply logical thinking and creative approach to problem solving.
- T3c Systematically analyses problems and apply structured problem solving.

## Teaching And Learning

This is an e-learning course, taught throughout the year.

Teaching and learning strategies for this course will include:

- Online learning
- Online discussion groups
- Online assessment

Course information and supplementary materials will be available on the College’s Virtual Learning Environment (VLE).

Learners are required to attend and participate in all the formal and timetabled sessions for this course. Learners are also expected to manage their self-directed learning and independent study in support of the course.

The course learning and teaching hours will be structured as follows:

- Off-the-job learning and teaching (6 days x 7 hours) = 42 hours
- On-the-job learning (12 days x 7 hours) = 84 hours (e.g. 2 days per week for 6 weeks)
- Private study (4 hours per week) = 24 hours

Total = 150 hours

Workplace assignments (see below) will be completed as part of on-the-job learning.

## Assessment

### Formative

Learners will be formatively assessed during the course by means of set assignments. These will not count towards the final degree but will provide students with developmental feedback.

### Summative

Assessment will be in two forms:

AE	Assessment Type	Weighting	Online submission	Duration	Length
1	Written Assignment (workplace case study)	60%	Yes	-	2000 words
2	Set Exercises	40%	Yes	Requiring on average 10 – 20 hours to complete	-

## Feedback

Learners will receive formal feedback in a variety of ways: written (via email or VLE correspondence) and indirectly through online discussion groups. Learners will also attend a formal meeting with their Academic Mentor (and for apprentices, including their Line Manager). These bi or tri-partite reviews will monitor and evaluate the learner’s progress.

Feedback is provided on summative assessed assignments and through generic internal examiners’ reports, both of which are posted on the VLE.

## Indicative Reading

Note: Comprehensive and current reading lists for courses are produced annually in the Course Guide or other documentation provided to learners; the indicative reading list provided below is used as part of the approval/modification process only.

### Books

- Flewelling, P., (2018), *The Agile Developer's Handbook*: Packt Publishing.
- Kniberg, H., (2015), *Scrum and XP from the Trenches, 2<sup>nd</sup> Edition*: C4Media/InfoQ [Available from <https://www.infoq.com/minibooks/scrum-xp-from-the-trenches-2/>]
- Shore, J., Warden, S., (2021), *The Art of Agile Development, 2nd Edition*: O'Reilly Media, Inc.

### Journals

Learners are encouraged to read material from relevant journals on Agile software development as directed by their course leader.

### Electronic Resources

Learners are encouraged to consult relevant websites on Agile software development.

### Indicative Topics

Learners will study the following topics:

- Agile Software Development
- Agile Software Pipelines
- Agile Projects, Management and Risks

<b>Title: NCHNAP6139 Agile Software Development</b> <b>Approved by: Academic Board</b> <b>Location: Academic Handbook/Programme specifications and Handbooks/Undergraduate Apprenticeship Programmes/BSc (Hons) Digital &amp; Technology Solutions Programme Specification/Course Descriptors</b>					
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1.0	September 2022	September 2022	Dr Yu-Chun Pan	September 2027	