



Module Specification

IT Project Management

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Part 1: Information

Module title: IT Project Management

Module code: UFCEHJ-30-M

Level: Level 7

For implementation from: 2024-25

UWE credit rating: 30

ECTS credit rating: 15

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: None

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module covers software project management principles and provides the opportunity for students to apply gained project management theory, knowledge and skills to a group-based software development project.

Features: Not applicable

Educational aims: The aim of this module is to apply software project management theory, knowledge and skills developed within a group-based software development context.

Outline syllabus: Relationship between project planning and the model underlying the life cycle of the development, including the life cycle of a project itself.

Life cycle models in systems development including plan-driven and agile approaches. Life cycle models in relation to predictive (or plan driven) vs. more adaptive. A range of these life cycle models will be evaluated both plan-driven and agile-based for the effective project management in a range of contexts in co-located and global software development driven by change management. Evaluation of these models will include investigating the means to approach process improvement and analysing shortfalls in achieving software project development objectives in relation to the generic activities of the software development process applied to both plan-driven and agile based methods.

Project planning processes and techniques forms the core of the course and includes: planning criteria, work breakdown structures (WBS), setting milestones and defining deliverables, activity planning, precedence (network) diagrams, critical path analysis, levelling of resources against constraints imposed, resource and software cost algorithmic and non-algorithmic methods.

Understanding project finance and returns on investment as a key attribute leading to project success with emphasis on cumulative cost and the difference between costing and pricing including their both associated driver factors.

Software development costs estimation using different methods including algorithmic models. Software project sizing and productivity anomalies will be discussed taking into consideration programming language level, programmers' verbosity, tooling, etc. Approaches to software cost estimation using use-case models, bottom-up and top-down methods in light of the readily available project information and the early adoption of the requirements engineering process phases.

Project management principles matched with emphasis on process and project evaluation metrics, process improvement, planning and control, risk management, change management, and quality management.

The role of the project manager in managing people, teams, organising team structures and sizes, their roles and responsibilities, qualities and skills of managers and team dynamics taking in both plan-driven and agile-based contexts of software development.

Indicative content for the software project:

Selection, evaluation and use of CASE tools.

Software cost estimation both algorithmic and non-algorithmic methods.

Critical reflection on current software engineering practices.

Organisation and management of a software development team.

The software requirements specifications document.

Documentation issues and change management using traceability techniques.

Quality and configuration management issues.

Risk management

Computer supported collaborative work.

Application of system/software modelling, design and construction techniques to a group project.

Legal, Social, Ethical and Professional issues.

Usability issues.

Part 3: Teaching and learning methods

Teaching and learning methods: 4 hrs per week delivered over the academic year, including lectures and tutorials.

Scheduled learning:

This module gives the students the opportunity to extend, consolidate and apply the theoretical knowledge they have gained to practical software projects. The focus of the module is on the completion of a group project. Teaching and learning is largely

driven by applying appropriate project management theory and knowledge gained to the requirements of the group project.

The module uses lectures (using lecture notes and related research papers in software project management) linked to tutorial sessions. Students will need to reflect on directed readings within tutorial groups. A range of topics typically addressed as part of a generalised software project management course, as well as coverage of the variety of software life cycle models, will form the structure of the main contact sessions, with each session largely linking to pre and post sessions. This range of topics is matched with the activities of software project management and in alignment with the activities of the process of software development. Each session will have a range of questions to explore to link to attainment of associated learning objectives, which will provide a range of exploratory avenues for deeper investigation by each student in their own independent learning hours.

Independent learning:

Group work will be used to enable the students to gain practice of real software product construction. The group will be student led, with the tutor acting in the role of client and user. A member of staff will act as a client/user, supplying a minimal specification and providing feedback on the project development. The students will then be expected to progress this minimal specification into, at least, the design of a working software product with interim deliverables appropriate to accepted practice. Both management and development practices will need to be utilised. Appropriate communication and coordination will take place amongst students and tutors, using the facilities offered by the VLE. In addition, students will be expected to research, evaluate and then select software development technologies to employ in their group software development project.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Demonstrate awareness of, and the ability to apply, a variety of IT project planning, software cost estimation and control methods and techniques.

MO2 Critically evaluate the contexts and advantages of different plan-driven and agile-based life cycle models for project management with emphasis on project planning and control.

MO3 Employ appropriate software development process models, change and quality management processes, methods, standards, and tools.

MO4 Provide critical evaluation and reflection of the experience in undertaking a life-cycle approach to a group-based software development project.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 252 hours

Face-to-face learning = 48 hours

Total = 0

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ufcfpj-15-m.html) via the following link <https://uwe.rl.talis.com/modules/ufcfpj-15-m.html>

Part 4: Assessment

Assessment strategy: The assessment strategy for this module consists of a portfolio comprising documentation that includes: project proposal, project plan and control, software requirements specifications, validation and verification methods, change and quality management, and critical evaluation of the stages of the employed software process stages including project implementation and associated deliverables, together with documentary evidence demonstrating the application of theoretical project management principles.

Students will complete a group software development project (individually submitted portfolio) and within each group, members will take individual roles and responsibilities for certain tasks. A peer review process and activity log will be included to establish individual contributions to the software development project.

Assessment at resit is the same as the first sit.

Assessment tasks:**Portfolio (First Sit)**

Description: Portfolio comprising documentation (4000 words) and video recording demonstrating project delivery that includes: project proposal, project plan, brief software requirements specifications, V&V methods, change and quality management, and critical evaluation of the employed software development process demonstrating the application of core project management principles.

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Portfolio (Resit)

Description: Portfolio comprising documentation (4000 words) and video recording demonstrating project delivery that includes: project proposal, project plan, brief software requirements specifications, V&V methods, change and quality management, and critical evaluation of the employed software development process demonstrating the application of core project management principles.

Weighting: 100 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Information Technology [Frenchay] MSc 2024-25

Information Technology [Frenchay] MSc 2024-25

Information Technology [Villa] MSc 2024-25