



## **Module Specification**

### **Development of Information Systems Projects (disp)**

Version: 2021-22, v1.0, 24 Jul 2019

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## Part 1: Information

**Module title:** Development of Information Systems Projects (disp)

**Module code:** UFCFAF-30-3

**Level:** Level 6

**For implementation from:** 2021-22

**UWE credit rating:** 30

**ECTS credit rating:** 15

**Faculty:** Faculty of Environment & Technology

**Department:** FET Dept of Computer Sci & Creative Tech

**Partner institutions:** None

**Delivery locations:** Frenchay Campus

**Field:** Computer Science and Creative Technologies

**Module type:** Standard

**Pre-requisites:** Data, Schemas and Applications 2021-22

**Excluded combinations:** None

**Co-requisites:** None

**Continuing professional development:** No

**Professional, statutory or regulatory body requirements:** None

## Part 2: Description

**Overview:** Not applicable

**Features:** Not applicable

**Educational aims:** See Learning Outcomes.

**Outline syllabus:** A review of contemporary approaches to systems development and its methods, tools and practices. Frameworks for evaluating methodologies and

choosing between them.

Alternative perspectives on design: design as learning; as decision making; as adaptation; as social process; as pre-structured by recurrent frames and patterns.

The architecture of dynamic (Model-View-Controller) applications and their underlying standards tools and technologies e.g.: RDBMS, SQL, PHP, XHTML, XML, XSLT, XMLSchema.

The components, tools and architectures of complex web-based and workflow systems; business process modelling and enactment; business process management.

The architecture of distributed, multi-device applications. Formulating problem specifications. Modelling and description of systems and applications. Methodologies, tools and techniques for the development of systems. The application of frames and patterns to systems development.

Critical evaluation of the forces which shape the development process: organisational structure, technological possibilities, designer knowledge and presumptions, development under constraints, the social, economic and practical contexts of development.

The project management process and its relationship to systems development method and practice; including stakeholder analysis, planning, estimating and risk. This will include: defining a project, decomposing projects into discrete stages in accordance with the seven principles of PRINCE2, planning techniques and output diagrams as well as the analysis, tracking and management of risks and their impact. Projects inevitably involve teams so analysis of the role of the project manager and typical group and team structures, qualities and skills of managers as well as leadership will be covered.

The nature of risk to information and information systems; the role of cyber security; human aspects of information security including client data protection and the data

protection act. The management of risk; types of risk, handling common threats and vulnerabilities, risk management, risk mitigation, implications for software design and operation.; Vulnerabilities in software and how to make software more resilient to threats; scalable and future-proof security solutions, standards and best practice.

Version Control, Security, Legacy and Implementation as they relate to the development, delivery and operation of Information Systems.

Analysis and development of appropriate testing strategies; the creation, evaluation and implementation of test plans; the development and execution of test scripts against acceptance criteria and the assessment of test results; Industry standards, tools and methods.

The principles of quality assurance; methods and techniques used to assure the quality of a software development processes and deliverables; quality and safety; static and dynamic code analysis.

Common pitfalls and their mitigations.

### **Part 3: Teaching and learning methods**

**Teaching and learning methods:** The course will be delivered through a combination of lectures, tutorials and lab-based practical sessions. Lectures will cover the theoretical content, which will be reinforced in parallel through thematic tasks in the tutorial or lab-based practical sessions.

Some topics will be covered in tutorials led by the lecturers and/or tutors; these sessions will impart thematic knowledge and skills through tutor-guided mode of delivery and benefit the students by providing immediate feedback.

Practical sessions are designed to supplement almost all lecture topics and provide the students with an opportunity to solidify their theoretical knowledge and gain practical skills related to each lecture's theme.

Scheduled learning includes lectures, tutorials, and practical classes.

Independent learning includes hours engaged with essential reading directed practical work in a computer lab, assignment preparation and completion etc. These sessions constitute an average time per level as indicated in the table below.

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Contact time: 72

Assimilation and development of knowledge: 138

Final presentation preparation: 60

Coursework preparation: 30

Total study time: 300

**Module Learning outcomes:**

**MO1** Explain and evaluate the architecture of contemporary applications

**MO2** Evaluate designs in terms of form, context, ensemble, multiple form-context boundaries and fitness

**MO3** Analyse and model information systems and applications effectively using patterns, frameworks and constraints

**MO4** Understand the different contexts for Human Computer Interfaces and be able to define a user-centred design that explicitly recognises the user and is Disability Discrimination Act compliant

**MO5** Create and specify a software design for a medium-size software product using a software requirement specification, an accepted program design methodology and appropriate design notation

**MO6** Understand and critically evaluate the project management processes and their relationship to systems development method and practice; including stakeholder requirements analysis, planning, estimating and risk

**MO7** Understand and manage version control, security, legacy and implementation as they relate to the development, delivery and operation of Information Systems

**MO8** Determine appropriate testing strategies; create, evaluate, and implement test plans; develop and execute test scripts and assess test results

**MO9** Explain, select and apply the principles, standards and techniques of quality planning and assurance as they relate to systems development and deliverables

**Hours to be allocated:** 300

**Contact hours:**

Independent study/self-guided study = 228 hours

Face-to-face learning = 72 hours

Total = 300

**Reading list:** The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://uwe.rl.talis.com/modules/ufcfaf-30-3.html) via the following link <https://uwe.rl.talis.com/modules/ufcfaf-30-3.html>

## Part 4: Assessment

**Assessment strategy:** The module is mainly assessed by coursework (portfolio assignment) to be submitted in two stages component B1 and component B2. A final examination will take the form of a demo presentation and a discussion about theoretical aspects of the course. During this assessment the student will demonstrate or explain the approach they undertook to solve an IS project development. The students could be also asked to answer questions about the theoretical aspects of the module. The coursework allows the student to demonstrate the practical application of methodology, tools and techniques and tests the students' capacity to design, implement and critique a fully functional three-tiered information system based on the ideas presented in the lectures and the skills developed in the practical/tutorial sessions. The learning outcomes addressed by each form of assessment are set out in the Learning Outcomes section of this document. The assignment deliverables will be an appropriate combination of a system specification, plans, models, artefacts and systems and software components (including data structures and source and executable code). As such, provision of a word count is inappropriate, but students will be given clear guidance as to the nature, scope and depth of the required deliverables.

Tutorial and workshop time will be allocated so as to allow formative feedback to be given as the coursework portfolio develops and to enable the tutors to spot and prevent plagiarism.

Referral assessments will be equivalent to summative components:

Referral Presentation-Component A -30%

Referral Case Study-Component B-25%

Referral Portfolio-Component B-45%

### Assessment components:

#### Presentation - Component A (First Sit)

Description: Presentation and verbal discussion (20 minutes)

Weighting: 30 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO6, MO7, MO9

**Portfolio - Component B (First Sit)**

Description: Individual systems development portfolio B2

B2- Deployment of a business process using Java, Camunda and other emerging technologies (automated build, continuous integration and testing)

Weighting: 45 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4, MO5, MO6, MO7, MO8, MO9

**Case Study - Component B (First Sit)**

Description: Individual systems development portfolio B1

B1-Case Study of an Enterprise Architecture and basic business process modelling

The first part of the portfolio assignment will be a case study

The student will be asked to analyse the IS of a real enterprise/company /organisation they need to chose and specify. The goal here is to represent an enterprise architecture for the chosen company and to model some of their business processes. A short report is required to describe, analyse and reflect on the different Information Systems and the represented process will be required.

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3

**Presentation - Component A (Resit)**



Description: 20 minutes presentation and discussion

Weighting: 30 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2, MO3, MO6, MO7, MO9

### **Portfolio - Component B (Resit)**

Description: Individual systems development portfolio

Weighting: 45 %

Final assessment: No

Group work: No

Learning outcomes tested: MO4, MO5, MO6, MO7, MO8, MO9

### **Case Study - Component B (Resit)**

Description: Component B1: a case study specified by the student about an Enterprise IS and architecture/ business processes (same type as summative)

Weighting: 25 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO3

## **Part 5: Contributes towards**

This module contributes towards the following programmes of study:

Software Engineering for Business [Sep][FT][Frenchay][3yrs] BSc (Hons) 2019-20

Software Engineering for Business [Sep][SW][Frenchay][4yrs] BSc (Hons) 2018-19

Software Engineering for Business {Foundation} [Sep][FT][Frenchay][4yrs] BSc (Hons) 2018-19