STUDENT AND ACADEMIC SERVICES

MODULE SPECIFICATION

Part 1: Information			
Module Title	Development of Information Systems Projects (disp)		
Module Code	UFCFAF-30-3	Level	Level 6
For implementation from	2019-20		
UWE Credit Rating	30	ECTS Credit Rating	15
Faculty	Faculty of Environment & Technology	Field	Computer Science and Creative Technologies
Department	FET Dept of Computer Sci & Creative Tech		
Module type:	Standard		
Pre-requisites	Data, Schemas and Applications 2019-20		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	None		

Part 2: Description

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.

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.

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 below (in hours).

Contact time: 72
Assimilation and development of knowledge: 138
Exam preparation: 60
Coursework preparation: 30
Total study time: 300

Part 3: Assessment

The module is assessed by a 3 hour examination at the end of the teaching and also by coursework. The exam assesses the students' understanding of 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.

First Sit Components	Final Assessment	Element weighting	Description
Portfolio - Component B		50 %	Individual systems development portfolio
Examination - Component A	✓	50 %	Exam (3 hours)
Resit Components	Final Assessment	Element weighting	Description
Portfolio - Component B		50 %	Individual systems development portfolio
Examination - Component A	✓	50 %	Exam (3 hours)

Part 4: Teaching and Learning Methods

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

Module Learning Outcomes	Reference
Explain and evaluate the architecture of contemporary applications	MO1
Evaluate designs in terms of form, context, ensemble, multiple form-context boundaries and fitness	MO2
Analyse and model information systems and applications effectively using patterns, frameworks and constraints	MO3

	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	MO4
	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	MO5
	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	MO6
	Understand and manage version control, security, legacy and implementation as they relate to the development, delivery and operation of Information Systems	MO7
	Determine appropriate testing strategies; create, evaluate, and implement test plans; develop and execute test scripts and assess test results	MO8
	Explain, select and apply the principles, standards and techniques of quality planning and assurance as they relate to systems development and deliverables	MO9

Contact Hours	**Independent Study Hours:**	
	Independent study/self-guided study	228
	Total Independent Study Hours:	228
	Scheduled Learning and Teaching Hours:	
	Face-to-face learning	72
	Total Scheduled Learning and Teaching Hours:	72
	Hours to be allocated	300
	Allocated Hours	300
Reading List	*The reading list for this module can be accessed via the following link:* https://uwe.rl.talis.com/modules/ufcfaf-30-3.html	

Part 5: Contributes Towards
This module contributes towards the following programmes of study:

4