



Module Specification

Software Design and Development

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Part 1: Information

Module title: Software Design and Development

Module code: UFCFPE-30-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 30

ECTS credit rating: 15

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

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: In this module you will develop your understanding of software planning, design, implementation and testing.

Features: Not applicable

Educational aims: On successful completion of this module you will be able to use a suitable programming language and methodologies to facilitate the development of software systems.

Outline syllabus: Design methodologies, e.g. pseudo code, step-wise refinement, structure diagrams and flow charts.

Basics of programming languages, e.g. procedural, event-driven, Introduction to object oriented techniques...etc.

Data storage: Files, variables, constants, literals, pre-defined and user defined data types, program elements.

Software constructs: Sequence, selection and iteration.

Good programming practice, e.g. Modularisation, divide and conquer, use and re-use of modules, pre-defined and user defined functions and the attributes of a 'good' program.

Documentation requirements: Internal (e.g. variable names, comments) and external documentation (e.g. user guide).

Program testing: Types of error, test plans and testing methodologies.

Part 3: Teaching and learning methods

Teaching and learning methods: Introductory lectures covering the fundamentals and technical underpinning of the module for the first assessment before progressing onto practical delivery through a series of lessons, workshops and practical tasks in the classroom to develop the tools and techniques required to complete the practical assessment for this module.

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

MO1 Demonstrate an understanding of a range of recognised design methodologies for solving a problem specification

MO2 Design software to meet a requirement's specification

MO3 Implement, test, debug and document software to meet a requirement's specification

MO4 Identify, evaluate and apply best practices and standards

MO5 Apply basic object-oriented techniques to solve a problem.

Hours to be allocated: 300

Contact hours:

Independent study/self-guided study = 192 hours

Face-to-face learning = 108 hours

Total = 300

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://rl.talis.com/3/uwe/lists/D6728D9D-EDD9-401F-A0F5-C4717CF7F4CA.html) via the following link <https://rl.talis.com/3/uwe/lists/D6728D9D-EDD9-401F-A0F5-C4717CF7F4CA.html>

Part 4: Assessment

Assessment strategy: At both first and resit, Software Design and Development is assessed using a combination of a practical 2 hour Time Constrained Assessment (TCA) and Software Development practical portfolio a to reflect industry practice.

During the TCA students will be required to design a software solution based upon a supplied brief using industry standard design software and techniques.

The practical portfolio will require students apply their knowledge to develop and test a software solution. The completed software solution should utilise industry best practice, and include extensive testing.

Tutor-lead formative feedback will be available throughout the module.

Assessment tasks:

Practical Skills Assessment (First Sit)

Description: Practical Assessment (in-class) (2 hours)

Weighting: 40 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2

Portfolio (First Sit)

Description: Practical Portfolio

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4, MO5

Practical Skills Assessment (Resit)

Description: Practical Assessment (in-class) (2 hours)

Weighting: 40 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2

Portfolio (Resit)

Description: Practical Portfolio

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4, MO5

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Applied Computing[UCW] BSc (Hons) 2023-24

