Module Specification

Introduction to Programming

Version: 2023-24, v2.0, 27 Jul 2023

Contents

Part 1: Information

Module title: Introduction to Programming

Module code: UFCFM1-15-0

Level: Level 3

For implementation from: 2023-24

UWE credit rating: 15

ECTS credit rating: 7.5

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: The British College Nepal

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 problem solving skills using the object-oriented programming paradigm. Practical skills are reinforced through a range of exercises and assignments covering these topics.

Features: Not applicable

Educational aims: In this module:

Students will learn how to write computer programs using high level programming language.

Students will learn the key concepts and distinctive features in object-oriented programming.

They will develop skills to abstract data and entities from the problem domain; build object models, design solutions using object-oriented principles and strategies, and implement solutions in object-oriented programmes.

Students will also explore tools and best practices in object-oriented programming.

Outline syllabus: The syllabus covers:

Object Oriented Paradigm

Classes and Objects

Constructors

Friends of Classes

Operator Overloading and Object Conversion

Inheritance and Polymorphism

Introduction to File stream.

Part 3: Teaching and learning methods

Teaching and learning methods: Lecture: In person, Blended Learning, Tutorials, Seminars, Online Lectures.

Lectures will be used to introduce much of the material, with example demos being used as part of the module.

There will be a range of practical sessions in the computer lab designed to reinforce the theory and develop skills across the development lifecycle. A range of additional resources will be made available via the TBC VLE e.g. short quizzes, further lab exercises etc.

Students will be using appropriate IDE for the practical programming tasks.

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

MO1 Identify and describe key object-oriented concepts;

MO2 Demonstrate an understanding of abstract data and entities from the problem domain

MO3 Implement an object-oriented design in programmes using a modern object-oriented language to solve problems

Hours to be allocated: 150

Contact hours:

Independent study/self-guided study = 102 hours

Face-to-face learning = 48 hours

Total = 150

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link

Part 4: Assessment

Assessment strategy: The assessment strategy for this module is based on the absolutely critical requirement that students on the UWE undergraduate programme are well-grounded in the use of programming as the key tool in the development of computer systems. Experience at UWE has shown that students without

programming proficiency are at high risk of failure. As a consequence, the assessment is based on a portfolio of three tests that run throughout the semester

In addition, students will demonstrate their consolidated knowledge and understanding through the demonstration of accumulated set of programming tasks subject The programming work will be demonstrated to the assessor. the demonstration includes questions and answers and explanations.

Portfolio of tests: (40%)

At main-sit the portfolio consists of three time-constrained tests. The tests consist of multiple-choice/multiple answer questions of varying degrees of difficulty. Students have a total of three tests to complete. The three tests will be scheduled throughout the semester.
At resit, the tests will run during the resit period.

The weighting of the tests are as follows:

Test 1, 10%

Test 2, 10%

Test 3, 20%

Practical Skills Assessment: (60%)

For this assessment component, students are required to develop a programmatic solution, using the C++ programming language, to the problem with three/four requirements as given by the module tutor. Students will be required to demonstrate the completed work to their tutor in order to receive a mark. During the demonstration, tutor will examine solutions and ask questions about how the work was undertaken and any difficulties that students had. Any awarded mark is for the demonstration and explanation of the work, rather than for the submitted work itself.

For the resit, the students need to improve on the work submitted in the first sit.

Note: Assessments are submitted via turnitin through The British College VLE

Assessment tasks:

Portfolio (First Sit)
Description: Portfolio of results of three MCQ tests.
Weighting: 40 %
Final assessment: Yes
Group work: No
Learning outcomes tested: MO1, MO2

Practical Skills Assessment (First Sit)
Description: Coursework

For this assessment component, students are required to develop a programmatic solution, using the C++ programming language, to the problem with three/four requirements as given by the module tutor. Students will be required to demonstrate the completed work to their tutor in order to receive a mark. During the demonstration, tutor will examine solutions and ask questions about how the work was undertaken and any difficulties that students had. Any awarded mark is for the demonstration and explanation of the work, rather than for the submitted work itself.

Note: Assessments are submitted via turnitin through The British College VLE
Weighting: 60 %
Final assessment: No
Group work: No
Learning outcomes tested: MO1, MO2, MO3

Portfolio (Resit)
Description: Portfolio of results of MCQ tests.
Weighting: 40 %
Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO2

Practical Skills Assessment (Resit)

Description: The students will improve their work and resit the demonstration.

Weighting: 60 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2, MO3

Part 5: Contributes towards

This module contributes towards the following programmes of study: