



Module Specification

Object-Oriented Programming [TSI]

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Part 1: Information

Module title: Object-Oriented Programming [TSI]

Module code: UFCFPW-12-1

Level: Level 4

For implementation from: 2023-24

UWE credit rating: 12

ECTS credit rating: 6

Faculty: Faculty of Environment & Technology

Department: FET Dept of Computer Sci & Creative Tech

Partner institutions: Transport and Telecommunication Institute

Delivery locations: Not in use for Modules

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: Not applicable

Features: Not applicable

Educational aims: The aim of the module is to study the object-oriented programming principles and techniques (with C# and .Net Framework examples).

Outline syllabus: Classes and Encapsulation;
Methods and Polymorphism;
Inheritance and Abstraction;
Interfaces;
Instances and Instances' life cycle;
Events and Delegates;
Exceptions Handling;
Properties and Data Binding;
Using LINQ to Objects;
Files I/O. Serialisation;
NET Framework Overview;
OO Design with UML;
Design Patterns;
Metadata and reflection;
ASP.NET Overview;
ADO.NET Overview;
OOP Languages Overview;
Object Oriented Programming - What's Next?

Part 3: Teaching and learning methods

Teaching and learning methods: Learning and teaching will be provided to students in two forms: lectures and labs. During lectures, theoretical aspects of the course will be provided to students by the teaching staff. Lectures will be supported by presentation published and available to the students on e.tsi.lv under the module section. Also, additional materials, like code examples, text books, publications on the internet, videos etc will be presented in e.tsi.lv.

During labs, each student receives an individual task to perform. Each practical task should be completed and uploaded to e.tsi.lv (under specific practical task element), it will be checked by the teaching staff and feedback will be provided. If positive feedback takes place students should defend practical assignment. The defence is happening orally and consists of discussion on theoretical issues which fits current

practical assignment and assignment report. After the defence, a teaching staff puts the grade.

Integrated development environment (IDE) from Microsoft for .Net framework such as Visual Studio will be used for labs. In addition to learning activities during the face-to-face lessons, students must spend time outside the classroom on independent learning activities. These might include completing assignment tasks, independent reading, practising new skills on personal projects, watching informative videos, completing self-assessment test etc.

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

MO1 Describe the principles of object-oriented programming

MO2 Apply the concepts of data encapsulation, inheritance, and polymorphism to large-scale software

MO3 Acquire the concepts of .Net Framework CIL (Common Intermediate Language) and metadata

MO4 Design and develop object-oriented computer programs

MO5 Formulate OOP problems as steps so as to be solved systematically

MO6 Integrate robustness, reusability, and portability into large-scale software development

MO7 Develop OO software with teamwork in mind

Hours to be allocated: 120

Contact hours:

Independent study/self-guided study = 96 hours

Face-to-face learning = 64 hours

Total = 160

Reading list: The reading list for this module can be accessed at [readinglists.uwe.ac.uk](https://rl.talis.com/3/uwe/lists/59B06D38-DF11-DEFB-9C91-A5074B26AEF8.html?lang=en-gb&login=1) via the following link <https://rl.talis.com/3/uwe/lists/59B06D38-DF11-DEFB-9C91-A5074B26AEF8.html?lang=en-gb&login=1>

Part 4: Assessment

Assessment strategy: This module assessment is split into two (Exam, Practical Assignments (Labs)):#

A final 3-hour examination which will assess the students understanding of taught material that forms part of the learning outcomes but cannot easily be assessed through practical tasks.

A series of practical tasks, exploring different aspects of C# programming using the .NET framework. The assessment includes demonstration of the output plus a report for each lab.

Assessment components:

Portfolio (First Sit)

Description: A series of practical tasks, exploring different aspects of C# programming using the .NET framework. The assessment includes demonstration of the output plus a report for each lab.

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5, MO6, MO7

Examination (First Sit)

Description: Examination

Weighting: 50 %

Final assessment: Yes

Group work: No

Learning outcomes tested: MO1, MO5, MO6, MO7

Portfolio (Resit)

Description: A series of practical tasks, exploring different aspects of C# programming using the .NET framework. The assessment includes demonstration of the output plus a report for each lab.

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO2, MO3, MO4, MO5, MO6, MO7

Examination (Resit)

Description: Examination

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO5, MO6, MO7

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Computer Science and Software Development {Double Degree} {Foundation} [TSI]
BSc (Hons) 2022-23

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BSc (Hons) 2022-23