**Session: 2022/23**
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| **Title of Module: Object Oriented Analysis & Design** | | | |
|---|---|---|---|
| **Code: COMP11032** | **SCQF Level: 11** (Scottish Credit and Qualifications Framework) | **Credit Points: 10** | **ECTS: 5** (European Credit Transfer Scheme) |
| **School:** | School of Computing, Engineering and Physical Sciences | | |
| **Module Co-ordinator:** | Ying Liang | | |

**Summary of Module**

This module begins with introduction to fundamentals of object orientation and the process of developing object-oriented systems. It explains the role of user requirements capture and system analysis and design in the process of system development. It discusses importance of object-oriented technology for system modeling and design and introduces the current industry standard to support object-oriented modeling and design. It demonstrates how to apply object-oriented modeling methods and techniques in object-oriented analysis and design in practice. Undertaking this module will develop a range of graduate attributes. Object concpets and principles will be understood and used for software development. Case studies will develop problem solving skills with object-otiented method and technology. CASE tools will be used to understand how software development could be supported by software development tools.

**Module Delivery Method**

| Face-To-Face | Blended | Fully Online | HybridC | HybridO | Work-based Learning |
|---|---|---|---|---|---|
| ✓ | ✓ | ✓ | | | |

**Face-To-Face**
Term used to describe the traditional classroom environment where the students and the lecturer meet synchronously in the same room for the whole provision.
**Blended**
A mode of delivery of a module or a programme that involves online and face-to-face delivery of learning, teaching and assessment activities, student support and feedback. A programme may be considered "blended" if it includes a combination of face-to-face, online and blended modules. If an online programme has any compulsory face-to-face and campus elements it must be described as blended with clearly articulated delivery information to manage student expectations
**Fully Online**
Instruction that is solely delivered by web-based or internet-based technologies. This term is used to describe the previously used terms distance learning and e learning.
**HybridC**
Online with mandatory face-to-face learning on Campus
**HybridO**
Online with optional face-to-face learning on Campus
**Work-based Learning**
Learning activities where the main location for the learning experience is in the workplace.

**Campus(es) for Module Delivery**

The module will **normally** be offered on the following campuses / or by Distance/Online Learning: (Provided viable student numbers permit)

| Paisley: | Ayr: | Dumfries: | Lanarkshire: | London: | Distance/Online Learning: | Other: |
|---|---|---|---|---|---|---|
| ✓ | | | | ✓ | ✓ | |

| Term(s) for Module Delivery | | | | | |
|---|---|---|---|---|---|
| (Provided viable student numbers permit). | | | | | |
| Term 1 | ✓ | Term 2 | ✓ | Term 3 | ✓ |

| Learning Outcomes: (maximum of 5 statements) |
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| On successful completion of this module the student will be able to:<br>L1. Understand key concepts and modeling techniques in object-oriented analysis and design<br>L2. Demonstrate understanding of the concepts and techniques by applying object-oriented modeling techniques in analysis and design of an object-oriented system<br>L3. Critically evaluate modeling techniques in object-oriented analysis and design<br>L4. Demonstrate ability to model object-oriented systems |

| Employability Skills and Personal Development Planning (PDP) Skills | | |
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| **SCQF Headings** | During completion of this module, there will be an opportunity to achieve core skills in: | |
| Knowledge and Understanding (K and U) | SCQF Level 11.<br>Understanding modeling technologies for object-oriented analysis and design.<br><br>Understanding the strategy for using modeling techniques in object-oriented analysis and design. | |
| Practice: Applied Knowledge and Understanding | SCQF Level 11.<br>Analyzing and designing an object-oriented system following a taught method.<br><br>Critically evaluating the system. | |
| Generic Cognitive skills | SCQF Level 11.<br>Being able to use the taught system analysis and design technology to communicate with the user and other members of a team. | |
| Communication, ICT and Numeracy Skills | SCQF Level 11.<br>Using problem solving skills appropriate to problem identification.<br><br>Reflecting critically on the relationship between theory and practice in analysis and design of object-oriented systems. | |
| Autonomy, Accountability and Working with others | SCQF Level 11.<br>Demonstrating an ability to model object-oriented systems. | |
| **Pre-requisites:** | Before undertaking this module the student should have undertaken the following: | |
| | **Module Code:** | **Module Title:** |
| | **Other:** | |
| **Co-requisites** | **Module Code:** | **Module Title:** |

* Indicates that module descriptor is not published.

| **Learning and Teaching** | |
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| Following lectures, tutorials/lab are used to apply knowledge and skills taught to a set of defined tasks in terms of case studies with business requirements in practice. | |
| **Learning Activities**<br>During completion of this module, the learning activities undertaken to achieve the module learning outcomes are stated below: | **Student Learning Hours**<br>(Normally totalling 200 hours):<br>(Note: Learning hours include both contact hours and hours spent on other learning activities) |
| Lecture/Core Content Delivery | 12 |
| Tutorial/Synchronous Support Activity | 8 |
| Laboratory/Practical Demonstration/Workshop | 4 |
| Independent Study | 76 |
| | 100 Hours Total |

****Indicative Resources: (eg. Core text, journals, internet access)**

The following materials form essential underpinning for the module content and ultimately for the learning outcomes:
Object Oriented Analysis and Design Course Notes, University of the West of Scotland.

Object-Oriented Analysis and Design with the Unified Process, John W. Satzinger, Robert B. Jackson and Stephen D. Burd, Thomson, 2005.

Object-Oriented Analysis and Design, Sarnath Ramnath, Springer, 2011.

Software:
CASE tools e.g. StarUML

(**N.B. Although reading lists should include current publications, students are advised (particularly for material marked with an asterisk*) to wait until the start of session for confirmation of the most up-to-date material)

**Engagement Requirements**

In line with the Academic Engagement Procedure, Students are defined as academically engaged if they are regularly engaged with timetabled teaching sessions, course-related learning resources including those in the Library and on the relevant learning platform, and complete assessments and submit these on time. Please refer to the Academic Engagement Procedure at the following link: Academic engagement procedure

## Supplemental Information

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| **Programme Board** | Computing |
| **Assessment Results (Pass/Fail)** | No |
| **Subject Panel** | Business & Applied Computing |

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| **Moderator** | Joanna Olszewska |
| **External Examiner** | C Luo |
| **Accreditation Details** | BCS. |
| **Version Number** | 2.13 |

| **Assessment: (also refer to Assessment Outcomes Grids below)** |
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| A coursework assignment (100%). |
| (N.B. (i) **Assessment Outcomes Grids** for the module (one for each component) can be found below which clearly demonstrate how the learning outcomes of the module will be assessed.<br>(ii) An **indicative schedule** listing approximate times within the academic calendar when assessment is likely to feature will be provided within the Student Handbook.) |

## Assessment Outcome Grids (Footnote A.)

### Component 1

| Assessment Type (Footnote B.) | Learning Outcome (1) | Learning Outcome (2) | Learning Outcome (3) | Learning Outcome (4) | Weighting (%) of Assessment Element | Timetabled Contact Hours | |
|---|---|---|---|---|---|---|---|
| Dissertation/ Project report/ Thesis | ✓ | ✓ | ✓ | ✓ | 100 | 0 | |
| **Combined Total For All Components** | | | | | 100% | 0 hours | |

Footnotes
A. Referred to within Assessment Section above
B. Identified in the Learning Outcome Section above

Note(s):

1. More than one assessment method can be used to assess individual learning outcomes.
2. Schools are responsible for determining student contact hours. Please refer to University Policy on contact hours (extract contained within section 10 of the Module Descriptor guidance note).
   This will normally be variable across Schools, dependent on Programmes &/or Professional requirements.

| **Equality and Diversity** |
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| The University policies on equality and diversity will apply to this module: the content and assessment are based on the ability to communicate in English but are otherwise culture-neutral.<br><br>There are no constraints associated with this module with the material being delivered in a variety of formats (notes, overheads, whiteboard) and in English. The teaching occurs within a classroom or a laboratory on campus. |

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| Other special requirements will be met where possible in discussion with the module coordinator, supervisor, and the special needs officer for the School.<br><br>Further guidance available from Student Services, School Disability Co-ordinators or the University's Equality and Diversity Co-ordinator.<br><br>UWS Equality and Diversity Policy |
| (N.B. Every effort will be made by the University to accommodate any equality and diversity issues brought to the attention of the School) |