

## Module Scheme - Semester 1

Module Name:	Object Oriented System Development (OOSD)		
Module Code:	CO567	Academic Year:	2018 - 2019
Tutor(s):	Richard Jones	Semester:	One Level: 5
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### Learning Outcomes:

On successful completion of the module, the student will be able to:

LO1. Demonstrate the fundamental concepts and principles of the object-oriented approach to the complete software lifecycle.

LO2. Analyse a problem area in an object-oriented manner, identifying the relationship between objects and the real world.

LO3. Design a solution using an object-oriented methodology, with all the required supporting documentation.

LO4. Analyse a problem area and interpret a given object-oriented design in terms of required implementation in a designated high level object-oriented programming language.

LO5. Appraise the potential object-oriented system development along with discussing and applying the current trends in object-oriented metrics and testing.

LO6. Manage and work within the dynamics of a software development team using CASE development tools and to be able to produce a report with appropriately analysed conclusions.

### Assessment Summary:

<u>Assessment Task</u>	<u>Key Dates</u>
Written TCA: 60 mins (20%)	Submission: Wk 7 (w/b: 12/11/18) In Session Feedback Due: Wk 10 (w/b: 03/12/18)
Coursework – Coursework: A - Report: Analysis and Design with identified individual contributions: B - Report: Implementation with identified individual contributions (approx. 2000 words in total) (80%)	Submission: Wk 12 (w/b: 017/12/18) Feedback Due: Wk 18 * (w/b: 28/01/19)  *Please note that week numbers are University week numbers

Week by Week Guide:	Underpinning	Practical Labs.
Week 1: beginning 01/10/2018	Information Systems and the Challenges in their Development - Avoiding the Problems Development	Intro to Java – Blue J Environment Foundations of Object Orientation Introduction to CASE Tool
Week 2: beginning 08/10/2018	What is Object-Orientation?	Java - Objects and Classes CASE Tool Business Process Modelling
Week 3: beginning 15/10/2018	Modelling Concepts, Activity Diagrams & Development Process	Java - Understanding Class Definitions CASE Tool Activity Modelling
Week 4: beginning 22/10/2018	Requirements Capture & Use Case Diagrams	Java - Object Interaction CASE Tool Use Case Modelling - 1
Week 5: beginning 29/10/2018	Requirements Analysis	Java - Grouping Objects CASE Tool Use Case Descriptors
Week 6: beginning 05/11/2018	Refining the Requirements	Java - Developing Sophisticated Behaviour CASE Tool Use Case Modelling - 2
Week 7: beginning 12/11/2018	<b>TCA (20%)</b>	Java - Designing Classes CASE Tool Workshop - 1
Week 8: beginning 19/11/2018	Object Interaction	Java - Testing for well-behaved objects CASE Tool Class Modelling - 1
Week 9: beginning 26/11/2018	Specifying Operations	Java - Improving programme structure - Inheritance CASE Tool Class Modelling - 2
Week 10: beginning 03/10/2018	Specifying Control	Java - Further Inheritance CASE Tool State Modelling
Week 11: beginning 10/12/2018	Moving into Design	Java – <ol style="list-style-type: none"> <li>1. Further Abstraction Techniques</li> <li>2. Introduction to building graphical user interfaces</li> </ol> CASE Tool – Introduction to Remaining Diagrams 1
Week 12: beginning 17/12/2018	Further Design Modelling <b>Coursework Submission (80%)</b>	<ol style="list-style-type: none"> <li>1. Handling Errors</li> <li>2. Running Java without Blue J</li> </ol> CASE Tool – Further Remaining Diagrams 2
<b>Weeks 13,14,15</b>	<b>WINTER RECESS / CHRISTMAS VACATION</b>	
Week 16: beginning 14/01/2019	Discussion of the link between Analysis, Design and Implementation	Java - Designing Applications Practical Examples CASE Tool Workshop - 2
Week 17: beginning 21/01/2019	Module Review	Java Workshop CASE Tool Workshop

Core Text(s):

**KEY TEXTS:**

Bennett, S. et al. (2010), *Object-oriented Systems Analysis and Design Using UML*, 4<sup>th</sup> edition. McGraw-Hill Education. ISBN 007712536-3

Barnes, D. & Kolling, M. (2017), *Objects First with Java – A Practical Introduction Using BlueJ*, 6th edition. ISBN: 013249266-0

Additional Reading:

Bouzeghoub, M. et al. (1997) *Object Technology: Concepts And Methods*. International Thomson Computer Press. ISBN 1850323011.

Dennis, A., et. al., (2015) *Systems Analysis and Design: An Object-Oriented Approach with UML6<sup>th</sup> Ed.*, John Wiley and Sons. ISBN 978-1-118-89784-3.