

Féidearthachtaí as Cuimse
Infinite Possibilities

Object Oriented Programming

Object Oriented programming through Java
Dr. Colette Kirwan
Week 1 Introduction

Lecturer Details

- Dr. Colette Kirwan
- Colette.Kirwan@tudublin.ie
- Areas: Programming, Data,
Computer Science Education



Learning Outcomes

Module Descriptor

Learning Outcomes		
Upon successful completion of this module the learner will be able to		
#		
MLO1	Apply the underlying principles and concepts of Object-Oriented Programming to develop solutions for programming tasks, demonstrating a comprehensive understanding of OOP principles and their practical application.	
MLO2	Utilise UML in the design of OOP programs.	
MLO3	Employ debugging tools to conduct extensive testing and to eliminate runtime errors from a program.	
MLO4	Produce comprehensive documentation for an Object-Oriented program.	
MLO5	Utilise persistent objects techniques, including formatted file input and output, as well as direct file input and output	
MLO6	Develop program libraries, demonstrating proficiency in creating modular and reusable components to facilitate code organisation and enhance software maintainability	
Requisites		
Requisite Type	Module Title	Type
Pre Requisite	CMPU 1025 v.1 Programming [Approved]	Module
Assessment Threshold	Students must pass the exam.	
	Threshold is 40.	

Course Outline

Java overview

- OO through Java
 - Classes, objects, instantiation, encapsulation inheritance, polymorphism, abstraction, files and streams, exception handling,
- OO versus procedural programming
- Target: Competence in OO and java.
Plus solving problems through code

How this module will work

- Some slides
- Plenty of in class code examples
 - **Learn through doing**
- **Labs are critical to keep up**
- Practical labs – marked each week. Your lab work will be marked each week by end of lab session. i.e. during the session – no submissions afterwards -- (there is a catch-up lab, if you miss a lab).

Module assessment

- Exam= 50% of the marks
- CA = 50% of the marks
- **To pass the module, must pass the written exam too**

CA Breakdown

- Labs 20% (marked each week usually 2% or 3%)
- MCQ 10-15%
- In Class programming Test 15-20%

Teaching Times

Wednesday Lecture 1-2pm CQ204

Friday Lecture and Tutorial 4-6pm LG22
(YES I KNOW IT IS A CHALLENGING TIME)

Tuesday Labs – 4-6 pm 6 Lab groups (I am in CQ240)
(YES I KNOW ANOTHER CHALLENGING TIME)

Guidelines

- Labs :
 - In person
 - Sign in sheets
 - Be present during lab -

No last minute appearances for grading



- Know your code...
- **GenAI – Not to be used for labs or lab tests**
- **2nd years need coding fundamentals**
- Lectures - Late arrivals to class - Minimal fuss;
Use time in lecture to learn