

Féidearthachtaí as Cuimse
Infinite Possibilities

Introduction

S1-2023-24, Object-Oriented Programming, Week 1

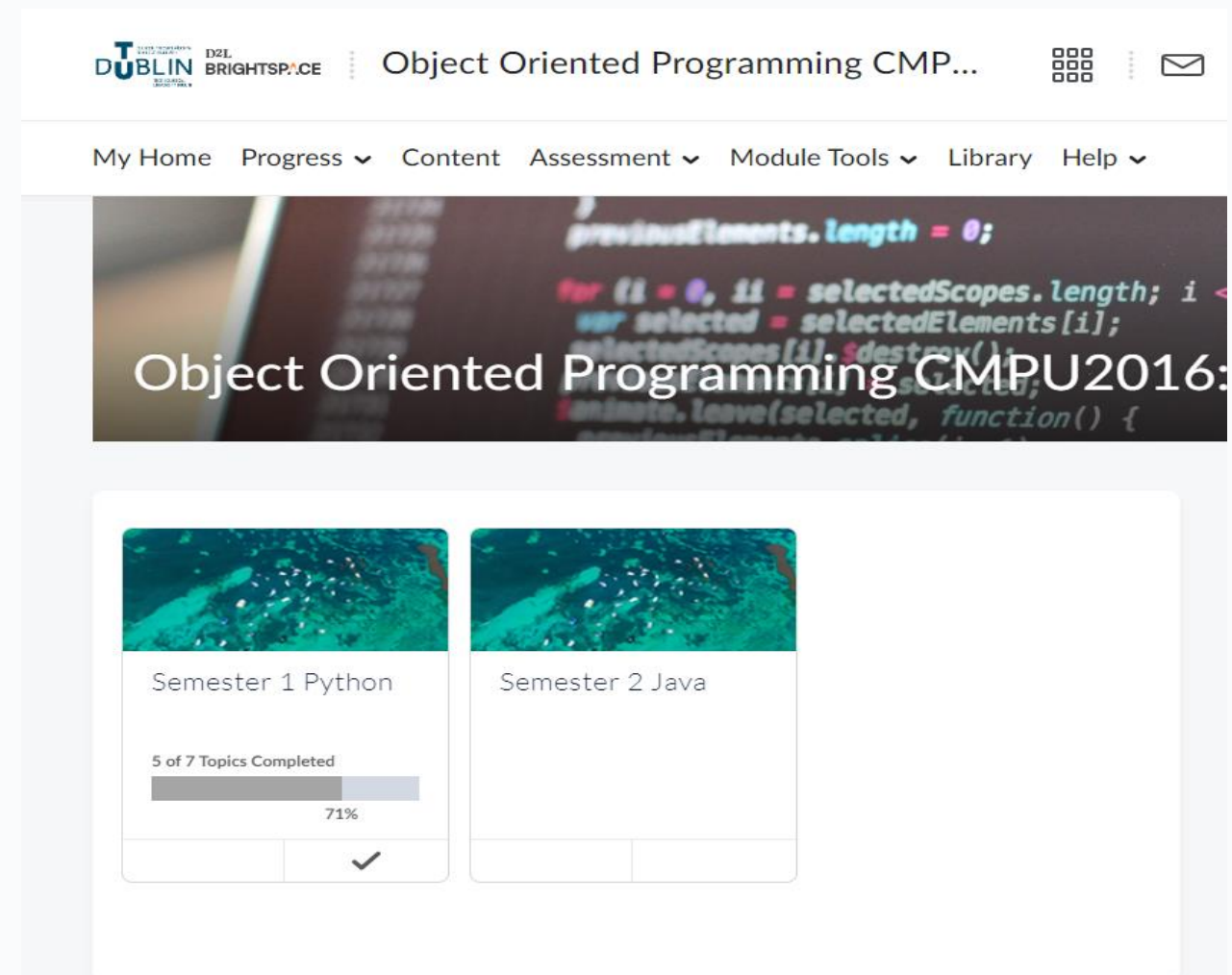


Lesson Outline

- Describe the aim, structure and assessment strategy of this OOP module.
- Know your lecturer.
- Revise C basics.
- Introduce the PyCharm IDE and practice Python basics.

Course Organisation

- All lecture materials will be published on brightspace.
- All continuous assessment is handled via brightspace.
- Select the correct module on brightspace, TU856/8 have a different one.
- Demo of our space on brightspace.



The screenshot displays the Brightspace LMS interface for the 'Object Oriented Programming CMPU2016' module. The top navigation bar includes the TU Dublin logo, the course title, and icons for a grid and email. Below this, a secondary navigation bar lists 'My Home', 'Progress', 'Content', 'Assessment', 'Module Tools', 'Library', and 'Help'. The main content area features a banner image with code snippets and the text 'Object Oriented Programming CMPU2016:'. Below the banner, two course progress cards are shown: 'Semester 1 Python' and 'Semester 2 Java'. The 'Semester 1 Python' card indicates '5 of 7 Topics Completed' with a progress bar at 71% and a checkmark icon. The 'Semester 2 Java' card is currently empty.

About your Lecturer

- Dr. Sunder Ali Khowaja
- SunderAli.Khowaja@tudublin.ie
- [Website](#)
- [LinkedIn](#)

Semester Overview

No	Date	Topic	Lab	Assessment
1	16/09/2024	Introduction to Object Oriented Programming and Python	In Person	
2	23/09/2024	Objects in Python	In Person	Lab Submission 5% of CA
3	30/09/2024	Encapsulation and Data Handling	In person	Lab Submission 5% of CA
4	7/10/2024	Inheritance and Method Overriding	In person	Lab Submission 5% of CA
5	14/10/2024	Abstract Classes	In person	Lab Submission 5% of CA
6	21/10/2024	Working with Python objects	In person	Lab Submission 5% of CA
7	28/10/2024	Review Week		
8	4/11/2024	Composition and Dependency Management	In person	Lab Submission 5% of CA
9	11/11/2024	Exception Handling and Error Management	In person	Lab Submission 5% of CA
10	18/11/2024	File Handling and Modules	In person	Lab Submission 5% of CA
11	25/11/2024	Graphical User Interface (GUI) Development	Group work for Assignment	
12	2/12/2024	Testing	Group presentations during the lab	Assignment Submission 60% of CA
13	9/12/2024	Revision	Group presentations during the lab	
	16/12/2024	Winter Break		
	23/12/2024	Winter Break		
	6/1/2025	Assessment/Exams	The OOP exam is in Semester 2	
	13/01/2025	Assessment/Exams	The OOP exam is in Semester 2	
This module is calculated out of 50% CA: 50% exam. Semester 1 + Semester 2 CA achievements count half each.				

How to be Successful as a Student

- Stay organised. Take notes. Be aware of your assessments.
- Actively participate.
- Learn effective study techniques.
- Manage your time well. Self-care. “Work”-life balance.
- Use all the resources that are available to you.
- Build relationships and study groups with your peers. Make friends.

From the Handbook


- You can find your year's handbook in the designated programme information module on brightspace.
- Be aware of the [assessment regulations](#) for TU Dublin to learn about your rights, important processes, procedures, forms and deadlines. The [student union](#) has good information, too.
- This module has a floor on the exam of 40%. Other modules have a floor on the exam, too; do you know which ones?
- Do you know who your year mentor is?

How much Time?

- OOP is a 10 ECTS module. The exam is at the end of semester 2.
- TU [Dublin gives a guideline](#) for how much input should be put into your studies.
- "Each ECTS credit corresponds to 20 learning hours."
 - $10 \text{ ECTS} \times 20 \text{ hours} = 200 \text{ learning hours}$.
 - $200 \text{ learning hours} / 2 \text{ semesters} = 100 \text{ learning hours per semester}$.
 - $100 \text{ learning hours} / 13 \text{ study weeks} = 7.7 \text{ learning hours per week}$.
 - $7.7 \text{ learning hours} - (2 \text{ hours lecture} + 2 \text{ hours lab} + 1 \text{ hour tutorial}) = 2.7 \text{ self-study hours per week!}$

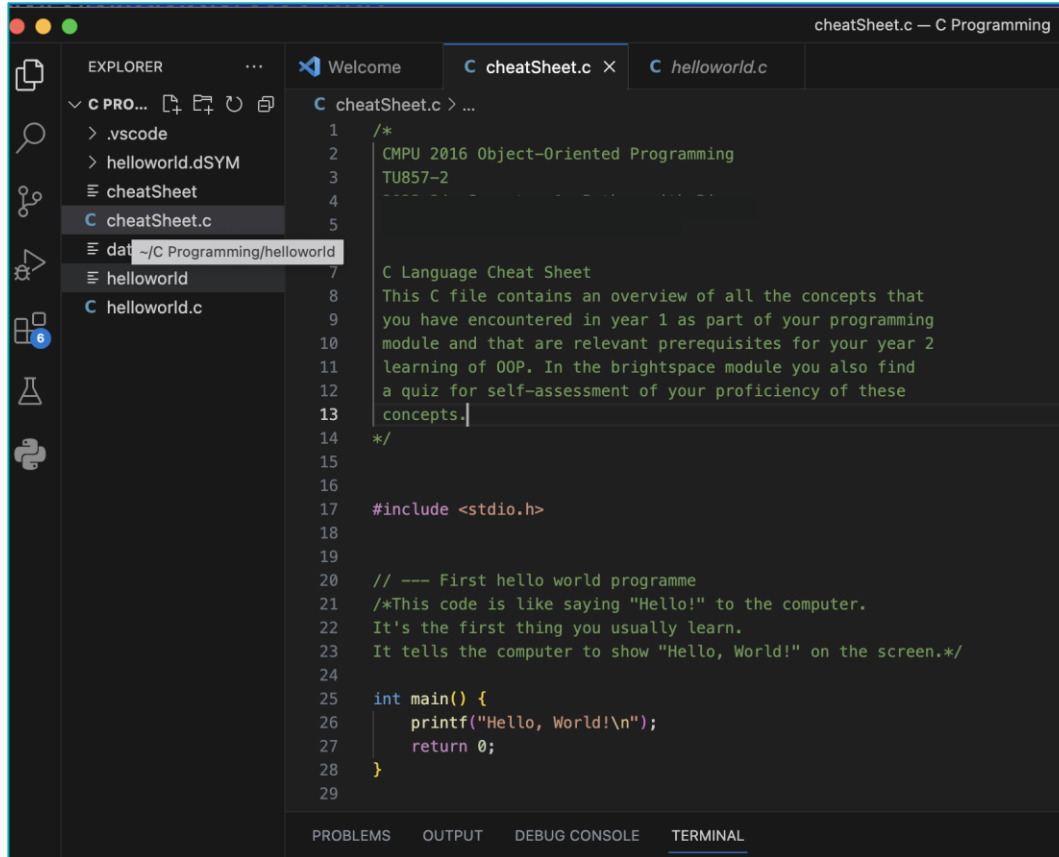
What to do in Self-Study?

- Review our class notes.
- **Practice all coding examples from class.** Ask questions if something is not working as expected and you have tried to solve it yourself first.
- Read a class related text book.
- Watch topic related videos on YouTube or [LinkedIn Learning](#).
- Solve coding problems you come across online.
- Practice debugging code.
- Work on your assignment or review past exam papers.
- Reflect and summarise.



3 hours per
week in self-
study!

Demo

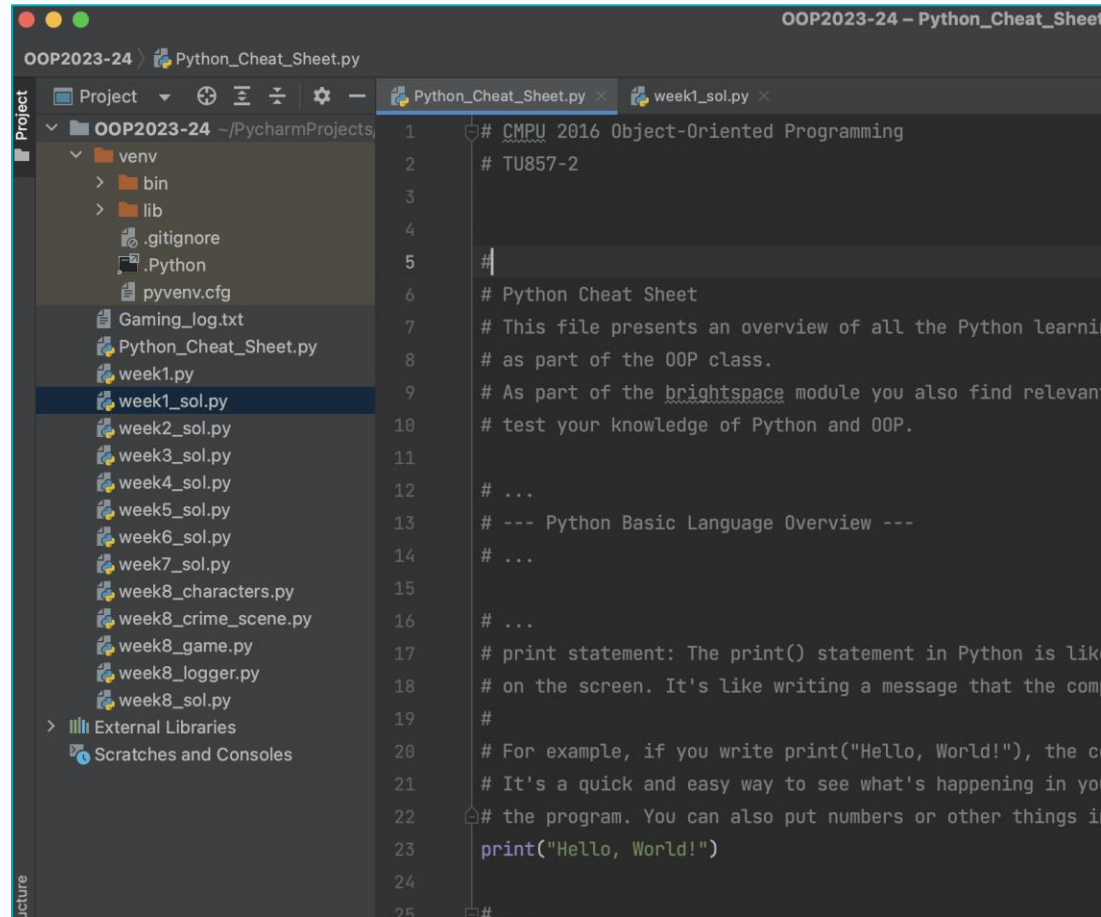


The screenshot shows the Visual Studio Code editor interface. The Explorer panel on the left displays a project structure with files: `.vscode`, `helloworld.dSYM`, `cheatSheet`, `cheatSheet.c`, `data` (a folder), `helloworld`, and `helloworld.c`. The main editor area shows the content of `helloworld.c`. The code is a C program that includes a comment block describing its purpose and a `main` function that prints "Hello, World!".

```
1  /*
2  CMPU 2016 Object-Oriented Programming
3  TU857-2
4  -----
5
6  C Language Cheat Sheet
7  This C file contains an overview of all the concepts that
8  you have encountered in year 1 as part of your programming
9  module and that are relevant prerequisites for your year 2
10 learning of OOP. In the brightspace module you also find
11 a quiz for self-assessment of your proficiency of these
12 concepts.
13 */
14
15
16
17 #include <stdio.h>
18
19
20 // --- First hello world programme
21 /*This code is like saying "Hello!" to the computer.
22 It's the first thing you usually learn.
23 It tells the computer to show "Hello, World!" on the screen.*/
24
25 int main() {
26     printf("Hello, World!\n");
27     return 0;
28 }
29
```

- Revise important concepts in C.

Demo



- Coding demo using PyCharm and Python.

Summary of Lecture

- Understand the module, its structure, assessment and how much input is required from you.
- Know who to contact about the module
(SunderAli.Khowaja@tudublin.ie)
- Be enrolled in the brightspace module.
- Revision of C and first steps in Python and PyCharm.

Contact Me

Via E-Mail

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Or contact the School Office

school.cs@tudublin.ie