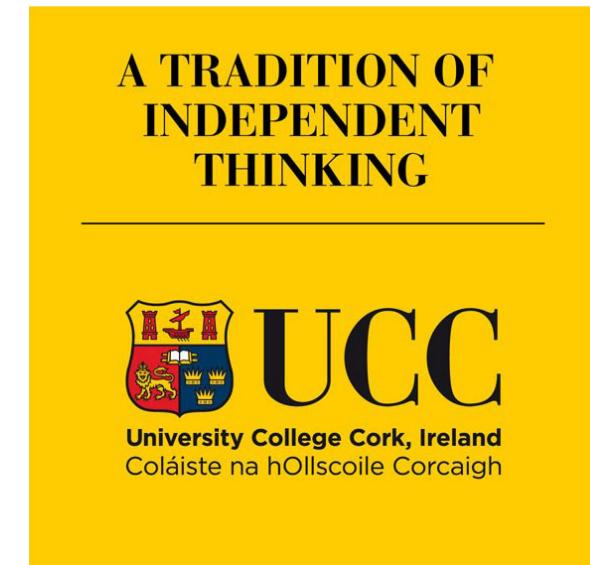




CS1117 – Introduction to Programming

Dr. Jason Quinlan,
School of Computer Science and Information Technology



Announcements

BSc DSA students

If you missed induction

Collect information sheets

Before you leave class

Module Overview

Who?



j.quinlan@cs.ucc.ie /



4205919 /



WGB G.73

What?

Title: Introduction to Programming (CS1117)
(Problem Solving)

Duration: Semester 1 AND Semester 2

Weight: 15 credits

When & Where?

	<u>Lectures</u>		<u>Labs</u>	
Mon	9-10	WGB G03	Tues	4-6 G.20
Mon	2-3	WGB 107	Wed	4-6 G.20
Wed	3-4	WGB 107	There is <u>NO</u> lab this week	

Office Drop In: Mon 10-12 WGB G.73

Module Assessment

Breakdown (300 marks):

Continuous Assessment (CA): 25% (75 marks)

Terminal Exam 75% (225 marks)

End of Term Examination:

Formal 3 hour examination in May

Details of format to follow

CA:

Next slide

Continuous Assessment (CA)

- Classroom-Based Assessments (CBAs) for Third level
- CA = 25% (75 marks) of total mark
- Based on:
 - Lab Assignments (some, not all)
 - End of term tests (semester 1 and 2)
- **Maximise your CA**
 - If you have 75 marks, only need **45** marks to pass the course
 - That's **45** marks out of **225** marks in the summer exam!!!!
 - That's only **1** out of the **5** questions in the Summer exam!!!!
- CA mark is carried forward to Autumn exam.

Canvas

- Canvas is the online Learning Management System of UCC
- To access Canvas, go to <https://www.ucc.ie/en/sit/>, and navigate to the 'Canvas' button:

The screenshot shows the homepage of the Student IT Services website at <https://www.ucc.ie/en/sit/>. The page features a header with the UCC logo, a search bar, and a menu icon. Below the header is a grid of service icons arranged in two rows. The top row includes: Umail and G-Suite (purple), MyStudentAdmin (purple), Services (green), Laptop Loans (green), Wi-Fi (blue), UCC App (blue), Password Reset (red), and Helpdesk (red). The bottom row includes: Canvas (purple), MyTimetable (purple), Print, Copy, Scan (green), PC Labs (green), Software (blue), Library (blue), Print Balance Topup (red), and ASK UCC (red). At the bottom of the grid, the text "Student IT Services and Support" is displayed, followed by a note: "SIT offer a wide range of services and supports to registered UCC Students. Please explore the sections below for more information."

Canvas - Home

AY19/20

Home

Modules

Discussions

Syllabus

2020-CS1117:Introduction to Programming

Congratulations on being accepted to the School of Computer Science and Information Technology at UCC.

This module is CS1117 - Introduction to Programming. It is a 15 credit module which means over the course of two semesters, you will have access to approximately 69 x 1hr(s) Lectures and 20 x 2hr(s) Practicals.

The aim of the module is to introduce the fundamentals of computer programming using a modern programming language (currently Python). Details on the content proposed for this module can be found in the book of modules website, available [here](#).

Classes begin on the 9th of September @ 9:00am, in G03 of the Western Gateway Building. Class and Lab scheduling is available in the "Calendar".

Details of lecture structure, lab allocations, and assessment details shall be presented in the first week, so make sure you attend class.

 View Course Stream

 View Course Calendar

To-do

- | | |
|---|---|
|  CS1117 Lecture |  |
| 9 Sep at 9:00 | |
|  CS1117 office drop-in |  |
| 9 Sep at 10:00 | |
|  CS1117 Lecture |  |
| 9 Sep at 14:00 | |
|  CS1117 Lecture |  |
| 11 Sep at 15:00 | |
|  CS1117 Lecture |  |
| 16 Sep at 9:00 | |
|  CS1117 office drop-in |  |
| 16 Sep at 10:00 | |
|  CS1117 Lecture |  |
| 16 Sep at 14:00 | |

Canvas - Module

Home

Modules

Discussions

Syllabus

▼ Introduction

- [Welcome](#)
- [Lecturer Contact Details](#)
- [Module Assessment](#)
- [Plagiarism](#)

▼ Resources

- [Resources](#)
- [Slide Colour Code](#)

Canvas - Syllabus

AY19/20

Home

Modules

Discussions

Syllabus

Course syllabus

Jump to today

Module Content: Programming constructs: data and types; variables; expressions; statements; simple I/O; conditionals; iteration; function and method calls; defining functions; scope; modules; strings; sets, lists, tuples and dictionaries; comprehensions; exceptions; file handling. Problem-solving for programming.

Learning Outcomes: On successful completion of this module, students should be able to:

- Demonstrate an understanding of core programming constructs;
- Write computer programs of moderate complexity;
- Demonstrate an understanding of some of the principles of good program design.

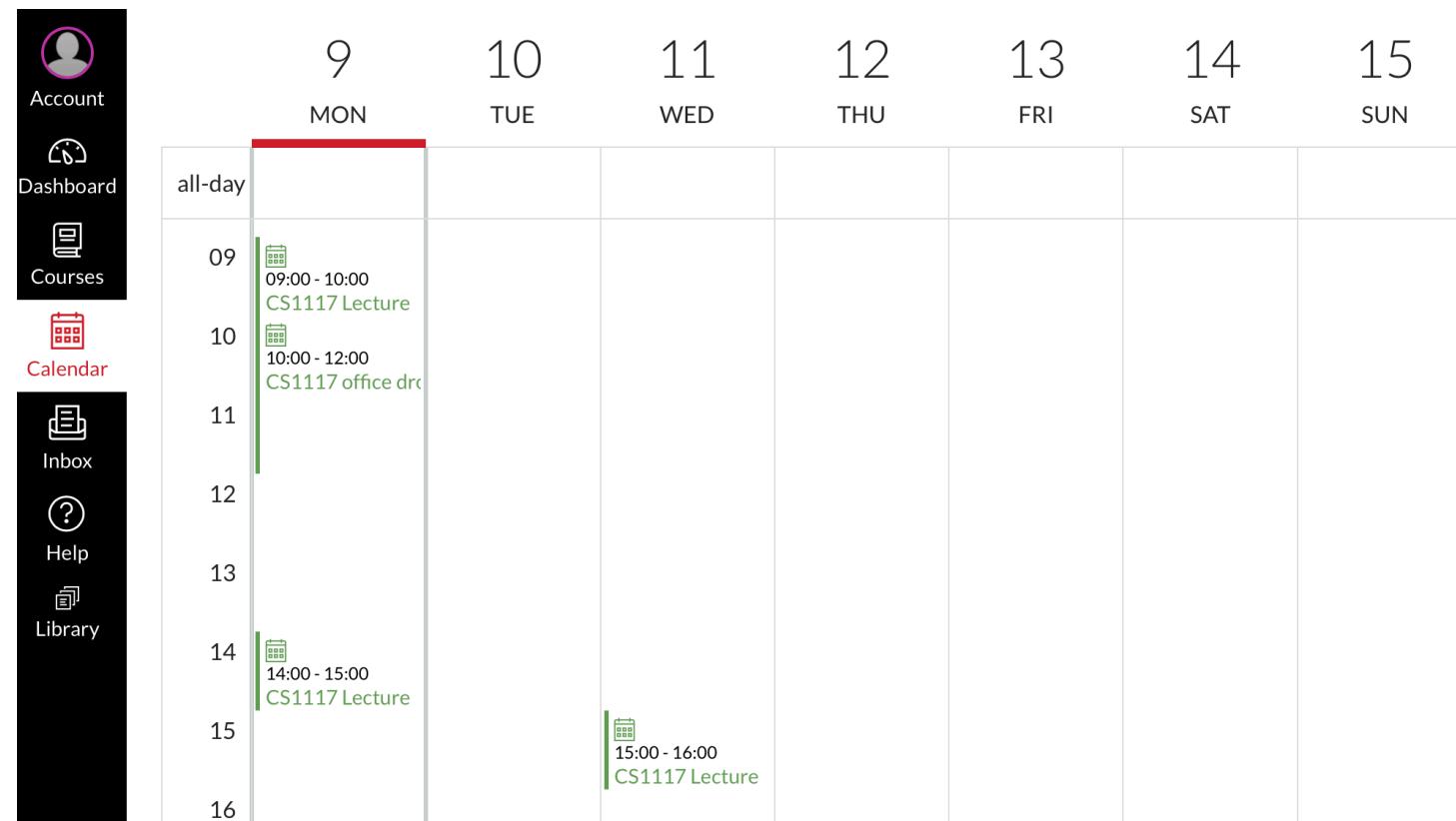
Course summary:

Date	Details	
Mon, 9 Sep 2019	CS1117 Lecture	9:00 to 10:00
	CS1117 office drop-in	10:00 to 12:00
	CS1117 Lecture	14:00 to 15:00
Wed, 11 Sep 2019	CS1117 Lecture	15:00 to 16:00
	CS1117 Lecture	9:00 to 10:00

September 2019								
<	26	27	28	29	30	31	1	>
	2	3	4	5	6	7	8	
	9	10	11	12	13	14	15	
	16	17	18	19	20	21	22	
	23	24	25	26	27	28	29	
	30	1	2	3	4	5	6	

Course assignments are not weighted.

Canvas - Calender



Canvas

- CS1117 on Canvas will contain:
 - Copies of all of my lectures
 - All of your Labs (as they become available)
 - Submission site for your Labs
 - Continuous Assessment content
 - Quizzes
 - Sample exam questions
 - Module Announcements
 - Information on available resources (software, books)
 - Student Grades
- Log in and check it out...

More Housekeeping

Module Descriptor (Book of Modules):

<https://www.ucc.ie/modules>

Tips for Success (tried and tested):

1. Attendance and active participation
2. Keeping up with the work, week by week
3. Practice, Practice, Practice
4. Take notes
5. Calendar – Visibility of semester, deadlines, topics covered...
6. CA, CA, CA... Did I mention CA!!!!

More Housekeeping



DON'T BE A CLONE !!!!

Questions!!!

Ask me a question

True or False on a scale of one to ten what is your favourite colour of the alphabet

Birds

Plagiarism

1. Plagiarism is presenting someone else's work as your own. It is a violation of UCC Policy and there are strict and severe penalties.
2. You must read and comply with the UCC Policy on Plagiarism www.ucc.ie/en/exams/procedures-regulations/
3. The Policy applies to *all* work submitted, including software.
4. You can expect that your work will be checked for evidence of plagiarism or collusion. (**Note: Both students will get awarded zero.**)
5. In some circumstances it may be acceptable to reuse a small amount of work by others, but *only* if you provide explicit acknowledgement and justification
6. If in doubt ask your module lecturer *prior* to submission. Better safe than sorry!

Software & Resources

Python Versions:



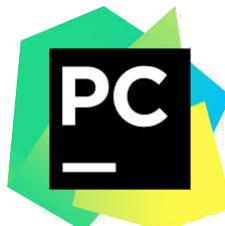
Python 2 – current version 2.7.15+

Python 3 – current version 3.6.8

We will use Python 3

Python IDE:

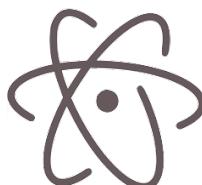
JetBrains PyCharm:



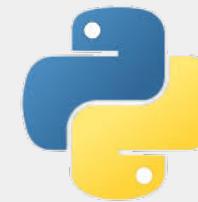
<https://www.jetbrains.com/pycharm/>

Atom:

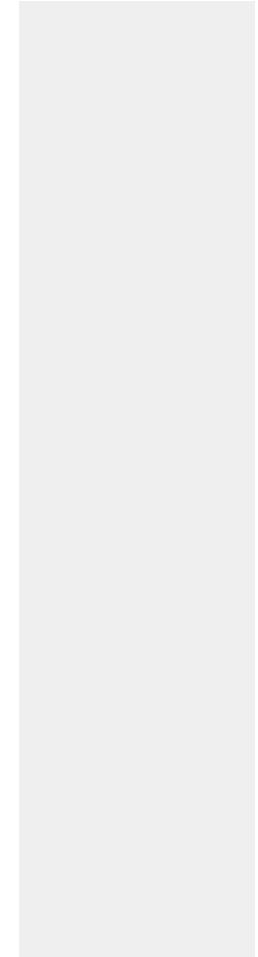
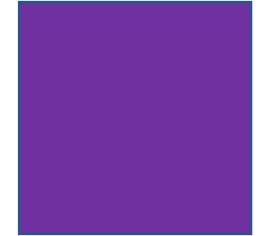
<https://atom.io>



Why use Python?



- The syntax of Python is simple, clean and easy to understand:
- Python print:
`print("Welcome to CS1117")`
- Java print:
`public class HelloWorld {
 public static void main(String[] args) {
 System.out.println(" Welcome to CS1117");
 }
}`



Why use Python?



- Python has all of the power and resources needed for both big and small jobs:
- It is widely used in:
 - web development,
 - data science,
 - machine learning,
 - AI,
 - game development, etc.
- Large open-source community
 - Python is the second most popular language on GitHub
 - (JavaScript seems to be # 1)

Software & Resources (cont.)

Operating System:

Ubuntu (Linux) 

- Alternative to windows
- Better than :)
- Easily configurable

Recommended Text:

Python Visual QuickStart Guide
(Toby Donaldson) Peachpit Press 2014



Software & Resources (cont.)

Online Resources:

- Python Practice Book - A walkthrough of the fundamentals of Python with plenty of code examples
 - <https://anandology.com/python-practice-book/index.html>



► LiveSlides web content

To view

Download the add-in.

liveslides.com/download

Start the presentation.

Software & Resources (cont.)

Online Resources:

- **Python Practice Book** - A walkthrough of the fundamentals of Python with plenty of code examples
 - <https://anandology.com/python-practice-book/index.html>
- **Python Tutor** – what happens as the computer runs each line of code
 - <http://www.pythontutor.com/visualize.html#mode=edit>



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Start the presentation.



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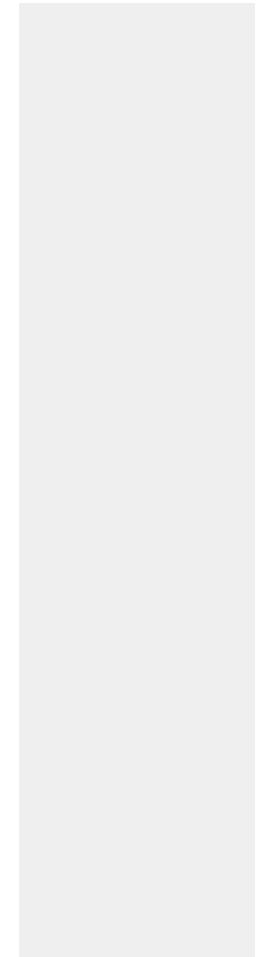
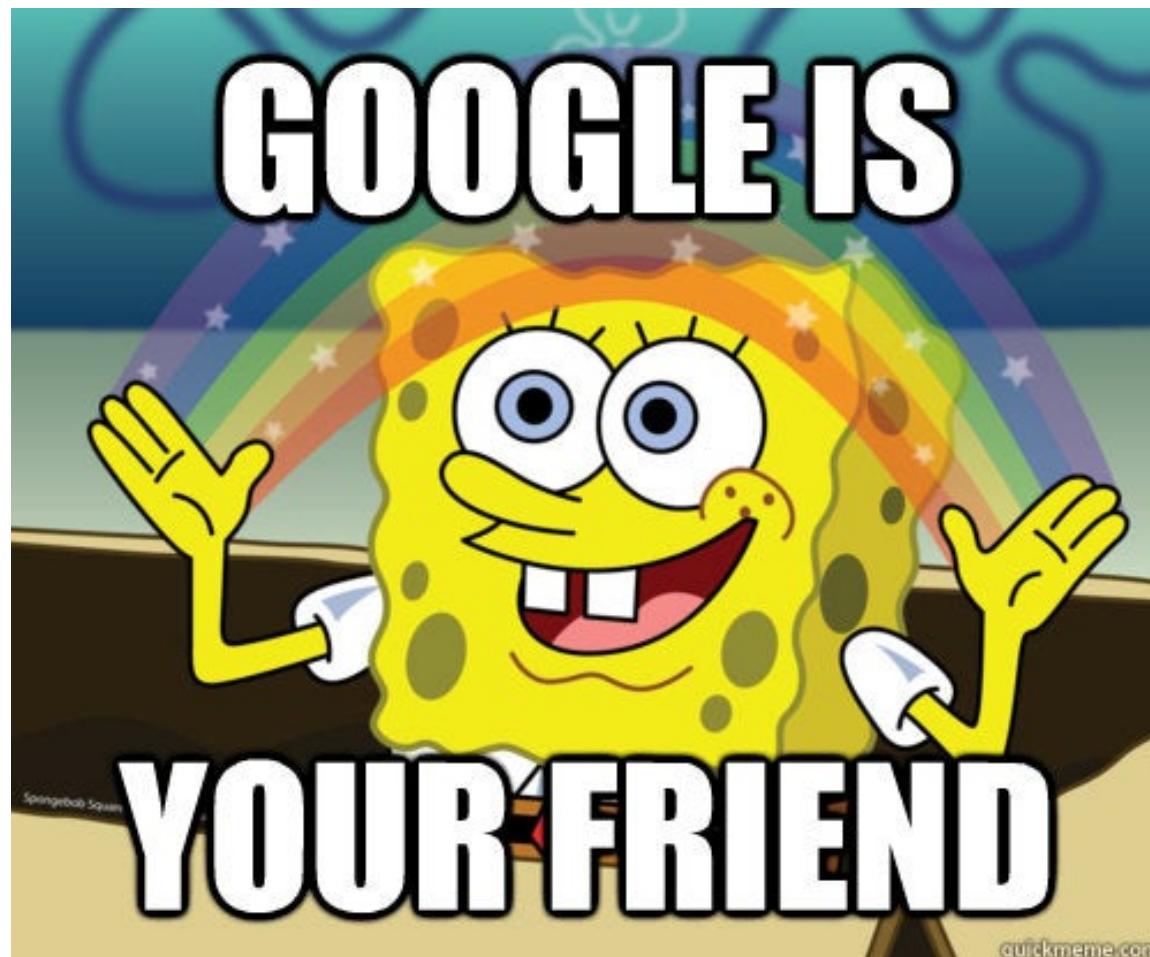
To view

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Start the presentation.

Software & Resources (cont.)



Software & Resources (cont.)

how to create a list in python 

All Images Videos News Shopping More Settings Tools

About 281,000,000 results (0.69 seconds)

[Python List \(With Examples\) - Programiz](#)
<https://www.programiz.com> › python-programming › list ▾
Jump to **How to create a list?** - How to create a list? In Python programming, a list is created by placing all the items (elements) inside a square bracket [], separated by commas. It can have any number of items and they may be of different types (integer, float, string etc.). Also, a list can even have another list as an item.
[Python List index\(\)](#) · [Python List count\(\)](#) · [Python List insert\(\)](#) · [Python List append\(\)](#)

Software & Resources (cont.)

When you and your homie arguing
about something and the google
search confirms your intellectual
dominance



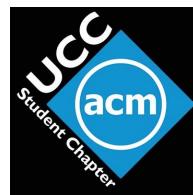
Your career starts right now...

- GitHub account
- LinkedIn account
- Canvas (get started, get familiar)

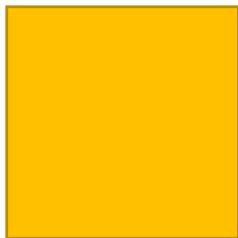


- **Student Activities:**

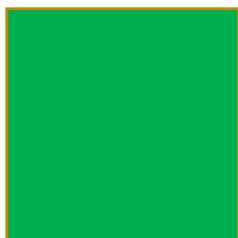
- ACM student chapter – join!
 - Association for Computing Machinery - Association for Computing Professionals
- Netsoc - <https://netsoc.co/rk/>
 - The **UCC Networking and Gaming Society**. Weekly gaming and tech events with VR competitions.
- Irish Collegiate Programming Competition ([IrICPC](#))
 - Contest for Irish third level institutions which tests teams on their combined knowledge of algorithms, programming and problem solving abilities.



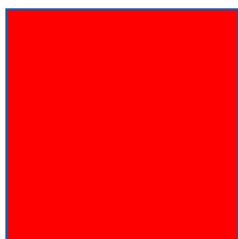
Colour Coded Slides



- Polls, Surveys and quick quizzes

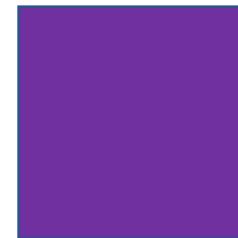


- Coding Skills



- Programming Principles

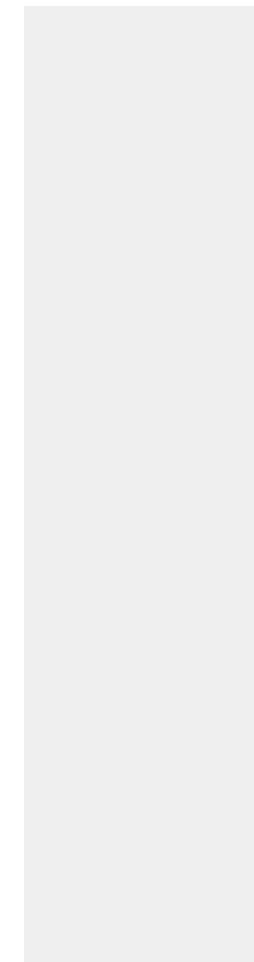
- Information



- Testing and Evaluation



- Exam Questions





University College Cork, Ireland
Coláiste na hOllscoile Corcaigh