



Cardiff
Metropolitan
University

Prifysgol
Metropolitan
Caerdydd



Undergraduate

Handbook

BSc (Hons) Computer Science

Cardiff School of Technologies



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Introduction

Welcome to Cardiff Metropolitan University



A warm welcome to Cardiff Metropolitan University (Cardiff Met) and the Cardiff School of Technologies (CST)! We're absolutely delighted that you've chosen to spend the next few years studying with us, and we're confident that you'll have an enjoyable and fulfilling experience.

The entire teaching team is here to help you make the most of your time at Cardiff Met. Please don't hesitate to get in touch if you have any questions or concerns in the coming weeks, as you settle into your new life at the university. As a new student at Cardiff Met, you'll be assigned a Personal Tutor who will provide support throughout your time here. Additionally, your Programme Director (or "PD") will not only be an additional point of contact for support and will also be responsible for the academic and administrative coordination of the course.

This welcome pack has been prepared to help you get off to a great start and provide you with some information about your first week at the university. We've also put together a summer project with a few activities for you to engage in at your own pace. We hope that this will give you an insight into the course, as well as inspire and motivate your enthusiasm to succeed in the field of Computer Science.

During the induction week, you'll have the opportunity to meet your lecturers, and fellow students, and learn more about Cardiff Met and the city. We hope you find the week fulfilling and enjoyable.

We're eagerly looking forward to meeting you soon!



Best regards,

Issam

Issam W. Damaj, PhD ME BE SMIEEE MASEE

Senior Lecturer in Computer Science

Programme Director for BSc (Hons) Computer Science

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Cardiff School of Technologies:

<https://www.cardiffmet.ac.uk/technologies/Pages/default.aspx>



Essential Information

Programme Details

The aim of the Programme is to educate students with knowledge and comprehension of the core concepts and technology supporting the computer science discipline. To provide a high quality, academic, and professionally relevant programme, developing in students a critical appreciation of computer science. To provide graduates with the necessary skills and knowledge to understand the relevant mathematical and computational formalisms and frameworks underpinning computer science, as well as apply these to produce high-quality software and hardware systems. Encouraging students to act as autonomous learners, embodying computational thinking and real-world analysis and modelling skills, should result in graduates who will be able to contextualize their study in a broader technical and societal perspective, as well as develop core professional and ethical foundations.



Part-Time Students

Whilst full-time students should participate in everything, we recognise you may not be able to do so because of other commitments, and we understand this.

Talk with your Personal Tutor about which activities will be most valuable for you. You will be welcome to join in all events during the week as and when you can. Do, though, ensure that you have registered and completed the required paperwork before attending any events.

International Students

We understand that for international students coming to the UK, adjusting to a new culture, finding somewhere suitable to live, and following new processes and procedures can be quite overwhelming. The Global Student Advisory Service is available to offer friendly advice and support to all international students in relation to welfare concerns,



academic skills, and immigration matters. For more information about the services available, access the links below:

Global Student Advisory Support

[Global Student Advisory Service International Welfare Advice](#)

[Global Student Advisory Service International Academic Advice](#)

[Global Student Advisory Service Immigration Advice](#)

Global Student Advisory Contacts


Welfare advice – intstudentadvice@cardiffmet.ac.uk

It is also important that you attend the activities planned for your course during Welcome Week so you get to meet your Programme Director, Tutors, and the rest of your cohort. This will help you to settle into your new environment and make new friends.



Meet the Team



| | |
|---|--|
|  | <p>Dr Issam W. Damaj Programme Director for BSc (Hons) Computer Science</p> |
|---|--|

Modules to be studied in Academic Year 23/24.

Confirmed Module Leader details will be provided towards the start of term. For more information on our CST teaching staff and their specialised areas please visit [the website](#).

| | |
|---------|--|
| CMP4010 | Computational Thinking (Term 1) |
| SEN4000 | Principles of Programming (Term 1) |
| IST4000 | Explore (Year-Long) |
| CMP4012 | Computer Science and Applications (Term 2) |
| CMP4011 | Architectures and Operating Systems (Term 2) |
| SEN4001 | Web Designs and Databases (Term 2) |



Welcome Week

What to expect

During the week you will complete a project, which you will undertake with a group of other new students from your programme, supported by staff and current students who are on your programme. There will also be lots of help from the other university services, showing some great tools and techniques you can use to make your project a success.



At the end of the week we will also give you some feedback on the strengths of your group's approach, sharing and celebrating what we have discovered together.

There will be an introduction to your new School and Programme and lots of fun activities to help you meet new people.

You will need to complete a bit of administration and check-in with your programme, so we know who is doing what, and when. You will also need to complete any outstanding enrolment matters, pick up Students' Union cards, and touch base with any specialised support services that you need.

Here's what Cardiff Met students enjoyed about Welcome Week

"Helped me settle in and took the pressure off travelling to a new place"

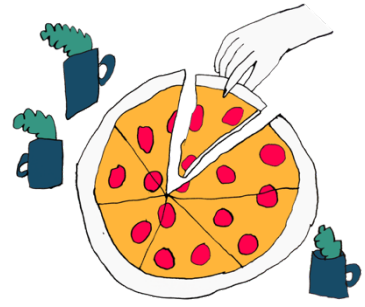
"The group projects to find out about our peers was a nice way of getting to know everyone"

"Helpful to chat informally to the Programme Director and chat about random things to help settle in".



Programme Activities and Projects

The activities outlined below have been carefully curated to ignite your enthusiasm, foster critical thinking, and enhance your problem-solving abilities – all of which are crucial for success in the field of Computer Science. The order in which you attempt these activities, the composition of tasks, the programming languages you choose to use, and the progression towards completion are entirely at your discretion. You are free to engage with these activities at your own pace and feel free to refer to any additional resources if needed.



Activity 1: Learn basic programming skills.

Computer programming forms a fundamental part of this course, and you will acquire proficiency in multiple programming languages, including C/C++, Java, and MATLAB, among others. These languages will be utilized extensively throughout the course, whether it's for high-level application development, data analytics, or scientific computing. To assist you in mastering the foundations of programming, we recommend the following books and freely available online courses, which offer comprehensive step-by-step guidance in learning essential programming skills in C, Python, Java, and basic web technologies.

- [C Programming - Absolute Beginners Guide](#)
- [Codecademy: Python 2](#)
- [Codecademy: Basic Java](#)
- [Codecademy: C++](#)
- [Learn HTML and other web technologies](#)

Activity 2: Explore Linux.

Linux stands as one of the widely adopted operating systems in the industry today, powering numerous Internet services we rely on. As computer science graduates, it holds significant importance for you to acquaint yourselves with this operating system, its functionalities, and the usage of the terminal/command line. To facilitate this, we present you with three options (feel free to choose one) via the following links to install Ubuntu on your personal laptops.



[Install Ubuntu 20.04 LTS in virtual box Windows 10](#)

[Install Ubuntu using WSL in Windows 10](#)

[Install Ubuntu 20.04 LTS alongside Windows 10 – Dual boot](#)

Once installed, try to explore [these Linux commands](#) in the terminal and observe their outcomes.

Activity 3: Binary arithmetic and Boolean logic

As computer science students, you will encounter binary numbers and Boolean logic extensively throughout various modules. To embark on your exploration of binary arithmetic and Boolean logic, we recommend starting with the following online tutorials and interactive web pages. They serve as excellent resources to gain a solid foundation in these concepts.

- [Binary arithmetic](#)
- [Boolean logic](#)

Activity 4: Basic machine learning

Machine learning holds a significant position within your curriculum, encompassing modules dedicated to AI and computational intelligence in your 2nd and 3rd year. It is a widely sought-after field, with recruiters and technology companies actively seeking individuals equipped with practical and theoretical expertise in machine learning and AI. To aid you in this pursuit, Weka serves as an open-source workbench for machine learning, enabling you to explore, visualize, and construct machine learning models without the need for coding. For this task, we kindly request that you proceed through the following tutorial, which provides clear, step-by-step instructions on setting up and developing simple machine learning projects using Weka. The tutorial is user-friendly, offering real-world examples to illustrate the explanations effectively.

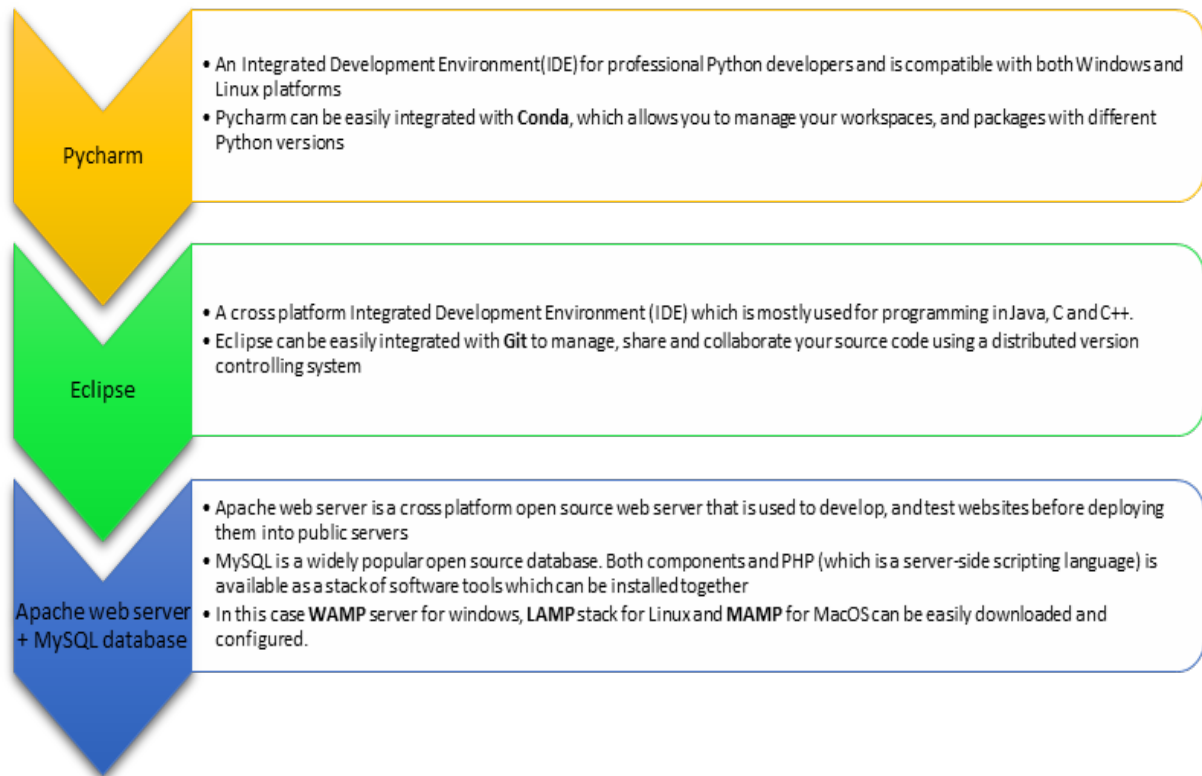
- [WEKA open source machine learning workbench](#)
- [WEKA tutorial](#)

Programming Tools and platforms:

As a student pursuing a degree in Computer Science, you will come across a range of tools and platforms used for designing, implementing, and validating diverse software products and systems. Many of these tools are widely utilized in the professional sphere,



which you will likely encounter once you enter the workforce. Throughout this course, we will support you in acquiring the necessary skills to utilize these tools effectively. However, it would be beneficial for you to gain some familiarity with them as you engage in the aforementioned activities.



Links for these are given below.

- [Pycharm](#)
- [Eclipse](#)
- [VS code](#)
- Web tools ([WAMP](#) or [XAMPP](#) or [LAMP](#) (for Linux users))



Social Activities

Further information on social activities will be available in your induction week timetable, which will be provided closer to the start of term.

Freshers' Fayre

The Freshers' Fayre, organised by the [Students' Union](#), is your first chance to meet all our [SU Societies](#), [SU Sports Teams](#) and, of course, a chance to grab all manner of freebies from our commercial partners! The fayre is an all-day event taking place on Wednesday within NIAC on the Cyncoed campus! It is one of the highlights of the Freshers calendar and one of the only times during your university journey that every student from all Cardiff Met Schools will be in the same place!

Head over to the [Cardiff Met Students' Union website](#) for up-to-date information on events, societies, support and more.



Welcome Week Activities

During Welcome Week you will have the opportunity to:

- Attend a welcome meeting with your Programme Director and meet the team, where they will provide an introduction and outline expectations.
- Meet other students on your programme of study.
- Meet your Personal Tutor. *
- Take part in a welcome week project with other students on your programme of study and present the findings from your project to staff and peers.
- Familiarise yourself with the campus.
- Explore what services are available to support you on your learner journey.
- Attend Fresher's Fayre on Wednesday.
- Familiarise yourself with the digital tools you will be expected to use during your studies.
- Take part in a 'wrap up' session, reflect on the week and make sure you know what your timetable is looking like for the first week of teaching.
- Attend the Cardiff Met celebration event on Friday afternoon.

Please note you will find a detailed timetable for your programme of study on the Welcome Week site.

*If you would like to request a Welsh speaking Personal Tutor, please contact the School as soon as possible and we will do our best to accommodate your request. Contact email:

CSTAdministration@cardiffmet.ac.uk



Personal Welcome Week Checklist



During Welcome Week you need to make **sure** that you have:

- Completed the enrolment process.
- Collected your student ID card.
- Attended programme activity sessions.
- Attended some social events on campus/online.
- Attended Fresher's Fayre
- Met with your Personal Tutor
- Familiarised yourself with the library and any support services you might need
e.g. Dyslexia or Disability help

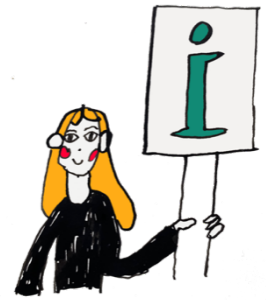
**Add more bullet points if necessary*



Useful Information

New Students Information

The [Course Joining Information website](#) has lots of useful information to help with your planning. Simply select your level of entry on the website to find out more and access your important joining information.



Student Services

[Student Services](#) provide support and guidance, including mental health, disability support, careers advice, information on part-time jobs and money management.

SU Welcome Guide

An interactive guide to help you navigate your journey into and throughout your university life. Take the tour and enjoy each section designed to help you get to know Cardiff Met.

[What you need to know before you go](#)

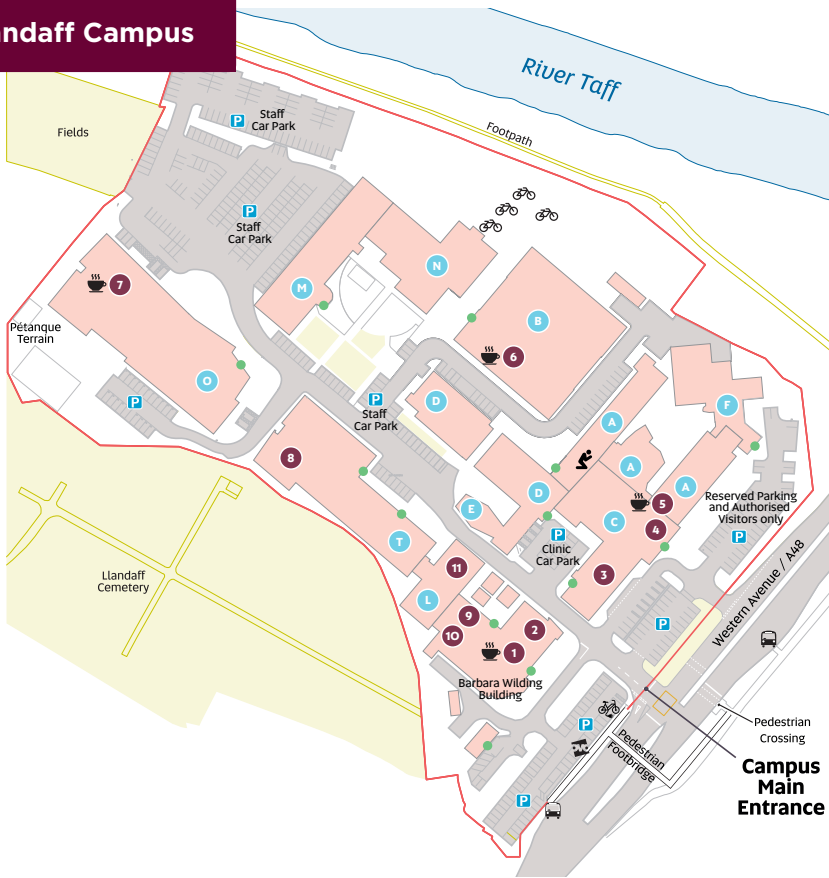


Academic Calendar 2023/24

[Academic Calendar 2023/2024](#)



Llandaff Campus



Key

- | | | |
|------------------------------|----------------------------------|---------------------------|
| 1 The Hub | 8 IT Help Desk (First Floor) | P Parking |
| 2 Cym (First Floor) | 9 The Global Lounge | 🚲 Electric Bikes |
| 3 Podiatry Clinic | 10 Students' Union (First Floor) | 🚲 OVO Bikes |
| 4 Main Reception & i-Zone | 11 Learning Centre | 🚲 Bike Rack |
| 5 The Gallery (First Floor) | ● Building letter | 🚏 Bus Stop |
| 6 The Box Café (First Floor) | ● Building Main Entrance | ☕ Café |
| 7 The Atrium | | 🕌 Multi-faith prayer room |

All our rooms use the same naming formula – *Building Floor . Room Number*. So if you're looking for 01.18, go to building O, climb to the first floor, and find room number 18. Or for B0.10 go to building B, stay on the ground floor and look for room 10. In the naming formula, 'LL' refers to Llandaff.



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Wythnos groeso
Welcome week

2023