



Cardiff  
Metropolitan  
University

Prifysgol  
Metropolitan  
Caerdydd

Cardiff  
Partnership  
for Initial Teacher Education

Partneriaeth  
Caerdydd  
ar Gyfer Addysg Gychwynnol | Athrawon

## PGCE ICT & Computing Welcome Pack: 2023-24

Dear PGCE ICT & Computing student,

Welcome to the PGCE Secondary ICT & Computing programme and congratulations on gaining your place!

In readiness for the busy and exciting year ahead, please complete the tasks detailed below which have been designed to help you prepare for the course. **Please complete them by September 2023.**

### 1) CONFIRM YOUR PLACE

When you receive this pack, email me at [jfarag@cardiffmet.ac.uk](mailto:jfarag@cardiffmet.ac.uk) to confirm that you will starting with us in September 2023.

### 2) SELF ASSESSMENT SUBJECT KNOWLEDGE

Look at the list of common ICT & Computing subject content in Appendix A and self-assess how much you know about each of the topics. This is not an exhaustive list but is a compilation of common content from UK GCSE / Post-16 specifications. The emboldened content is seminal and should be prioritised when targeting improvements to your subject knowledge. The most obvious way to do this is to read up on the topic, however, observing work by appropriate practitioners (or those that have been recorded and streamed on-line) is obviously another valuable way of doing this. YouTube is another valid way to improve your skills, just ensure that the videos accessed are of professional and link to the subject knowledge.

Read through the list and be honest with yourself. When you begin the PGCE ICT & Computing programme you will be expected to plan and teach lessons on a range of these curriculum areas so it's best that you are aware of your knowledge 'gaps' now.

### 3) DO SOME READING

E.g. dip into the following:

- Capel, S., Leask, M. and Turner, T. (2016) *Learning to teach in the secondary school*, 7<sup>th</sup> edn. London: Routledge.
- Kyriacou, C. (2009) *Effective teaching in schools: theory and practice*, 3<sup>rd</sup> edn. Cheltenham: Nelson Thornes.
- Muijs, D. and Reynolds, D. (2017) *Effective teaching: evidence and practice*, 4<sup>th</sup> edn. London:

Read a ~~practical~~ practical guide to Teaching in Secondary Schools, e.g.

- Connell, A. (2014) *A Practical Guide to Teaching Computing and ICT in the Secondary School* 2<sup>nd</sup> Edn. Oxen.Routledge

#### 4) EXPLORE SOME WEBSITES / PODCASTS

Check out these website and podcast recommendations; they will be very helpful to you during the programme:

- [Learn Computer Science online](#): Learn Computer Science is a comprehensive online tutorial which will provide you all the resources you need to improve your skills.
- [Teach Computing](#) : Teach Computing will help you teach computing and discover training, resources and guidance to help you become confident.
- [KS3 Computer Science](#): Learn and revise KS3 level Computer Science
- [Computer Science News](#): Latest news, information and advice on Computer Science
- [Computing Podcasts](#): An exciting new podcast from the National Centre for Computing Education. Each month, you get to hear from a range of experts, teachers, and educators from other settings as they discuss with us key issues, approaches, and challenges related to teaching computing in the classroom.
- [GCSE Bitesize Computing](#) : Learn and revise KS4 level Computer Science
- [New Curriculum for Wales](#): Scroll down to the **Science & Technology** Areas of Learning and Experience curriculum overview
- [WJEC GCSE Computing](#) : Take a look at the course specification
- [WJEC GCSE Digital Technology](#): Take a look at the course specification
- [WJEC AS/A Level IT](#): Take a look at the course specification
- [WJEC AS/A Level Computing](#) : Take a look at the course specification
- [WJEC GCSE Digital Technology](#): Take a look at the course specification
- [WJEC AS/A Level Digital Technology](#): Take a look at the course specification

Good luck with these tasks. I look forward to working with you in September!

Stay safe and well,

*J. Farag*

Josephine Farag  
Programme Leader

## Appendix A: Common ICT & Computing Subject Content

Areas of knowledge, skill or understanding	Classroom ICT & Computing approaches	Minimum requirement
Hardware Logical operators Communication Organisation and structure of data System software and development Principles of programming Software engineering Program construction Security and data management Ethical, legal and environmental impacts of digital technology on wider society Problem solving Algorithms and programming constructs <b>Programming languages (HTML, Python, Java with Greenfoot environment)</b> Assembly language <b>Database systems</b> <b>Spreadsheets</b> <b>Online technology (web design etc.)</b>	PRIMM (Predict, Run, Investigate, Modify, Make) Controlling physical systems Game Making Pair programming Thought tracking Problem solving Challenges Code walk through Kinesthetic, unplugged methods Collaboration and group work Computational thinking as a focus Contextualised, real-world examples and scenarios Scaffolding, particularly with regard to programming  <a href="#">Here is more information:</a> Computing in the curriculum: Challenges and strategies from a teacher's perspective by Sue Sentence & Andrew Csizmadia	<p><b>At a minimum, look at the WJEC GCSE and AS/A Level specifications for set-texts and familiarize yourself with unknown titles.</b></p> <p>*Follow the links provided in the main letter to access WJEC specifications.</p>