



## **PARTNERS ACADEMIC SUMMER SCHOOL 2026**

### **Syllabus for Computing Science**

#### **Subject Area**

This syllabus is for PARTNERS applicants seeking to progress to the degrees of:

- G400 BSc Hons Computer Science
  - G450 BSc Hons Computer Science (Game Engineering)
  - G600 BSc Hons Computer Science (Software Engineering)
  - I195 BSc Hons Computer Science (Cyber Security)
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#### **Aims**

To allow students to demonstrate their potential to succeed in specified degree programmes by showing a grasp of entry-level subject-specific knowledge, understanding, cognitive and subject-specific skills.

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#### **Learning Outcomes**

A good knowledge and understanding of ...

- Programming concepts
- Computing fundamentals
- Levels of abstraction
- The practice of the analysis and creation of computer programmes in formal programming languages

The ability to apply this knowledge and critical understanding to...

- Students will work on a number of programming exercises in the practical sessions with the support of the academic staff present. Content will be introduced in lecture-type sessions either online or in the practical class venue.

Competence in...

- Computer programming and problem solving
- The application of algorithmic thinking
- Logical decomposition of problems and solutions

- Communication of complex ideas and their expression via the medium of computer programmes and their logical underpinnings
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## **Summer School Syllabus**

We plan to cover programming in Python (using Turtle Graphics) and Java. Content will be introduced in the lecture-style sessions, and the practicals will allow the students to work on their programs with academic staff in attendance. Students will be encouraged to work at their own pace.

Some lectures will also be used to introduce information about studying computing at Newcastle and there will also be a facilities tour of the Newcastle Helix site on the first in-person day.

We would like students to be able to feel comfortable with programming basics at the very least and also have an idea what it is like working on our campus.

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## **Activities for Personal Study**

See final timetable for further information.

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## **On-Campus Teaching:**

Wednesday 1<sup>st</sup> (PM only), Thursday 2<sup>nd</sup> & Friday 3<sup>rd</sup> July

## **Online Teaching:**

Monday 29<sup>th</sup> & Tuesday 30<sup>th</sup> June

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## **Formative Assessment Details**

A Python programme, a Java programme and a Canvas quiz  
More details will be given during the event by your Academic Strand Lead.

## **Hand-in Method**

Digital

## **Assessment deadline**

Wednesday 8<sup>th</sup> July