



PARTNERS ACADEMIC SUMMER SCHOOL 2024 Syllabus for Maths for Engineering – Electrical & Electronic Engineering

Subject Area

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

H605 MEng Hons Elec & E'tronic Eng w Ind Proj

H606 Electrical & Electronic Engineering with Foundation Year

H607 BEng Hons Elec & Electronic Eng

H612 Microelectronic Engineering with Industrial Project

H611 BEng Honours Microelectronic Engineering

H622 MEng Elec Pow Eng w Ind Proj

H623 BEng Hons Elect Power Eng

H652 Electronics and Computer Engineering

H652 Electronics and Computer Engineering

H654 Electronics and Computer Engineering with Industrial Project

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.

Learning Outcomes

A good knowledge and understanding of ...

Microcontroller programming - specifically the Arduino : to include -

Displaying text on a display

Sensing a digital input

Sensing an analogue input

Controlling a PWM output

Using a serial communications port

Basic programming techniques such as "IF" statements and loops

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

- the basics of control systems found throughout our modern world. From automobiles, domestic appliances, biomedical devices, Industrial Processes and lots more rely on automated systems to detect a physical input and react in a certain way. An example may be a temperature sensor on a motor to warn of overheating.

The Partners experience will give an understanding of some of the challenges that engineers overcome to make the modern world work.

Competence in...

- Programming skills in "C"
- Component recognition
- Basic construction skills
- Report writing.

Summer School Syllabus

Please see Timetable

Online Teaching:

Monday 1st , Tuesday 2nd July

On-Campus Teaching:

Wednesday 3rd (PM), Thursday 4th & Friday 5th July

Formative Assessment Details

Annotated code to show how the student met the challenge of the Partners task.

Images of the microcontroller in action

Hand-in Method

Digital

Assessment deadline

Friday 12th July