



PARTNERS ACADEMIC SUMMER SCHOOL 2026

Syllabus for Aerospace Engineering

Subject Area

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

- H400 BEng Aerospace Engineering
 - H401 MEng Aerospace Engineering
-

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 ...

- Describe the basic principles of flight
- Understand how structures respond to forces and load
- Recognise the role of electronics in aerospace systems
- Explain how CAD and simulation are used in aerospace design
- Appreciate the integration of multiple disciplines in aerospace engineering

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

- Use basic CAD software to model a simple aerospace component
- Safely use workshop tools and equipment
- Assemble and test a simple electronic circuit
- Interpret basic data from experiments
- Work collaboratively to design, build, and evaluate a simple system
- Present findings clearly to peers

Competence in...

- Practical and theoretical engineering skills
-

Summer School Syllabus

This two-day programme introduces partners students to the fundamentals of aerospace engineering through hands-on, multidisciplinary activities. Students will explore how mechanics, electronics, and computational tools combine in the design, analysis, and operation of aerospace systems.

The programme emphasises practical engagement, teamwork, and problem-solving while building confidence and familiarity with university-level learning environments.

Schedule:

Thursday:

0900-1000. Introduction to the School and the Aerospace Engineering Degree Programme

1000-1200. Engineering Skills 1 - Mechanical Engineering Session

1200-1300. Lunch & wellbeing support

1300-1600. Engineering Skills 2 - Electronics Engineering Session

Friday:

0900-1000. Fundamentals of Flight

1000-1200. Flight Simulation 1: Skills development

1200-1300 Lunch & wellbeing support

1300-1415 Flight Simulation 2: Data gathering

1415-1530 Portfolio writing

1530-1600 Q&A

The programme will be delivered in a small lecture theatre, Electronics and Aerospace laboratories, and the flight simulation suite.

The portfolio will bring together the practical and theoretical aspects covered over the two days.

Activities for Personal Study

Students will be provided with reading and post-Class activities to complete during the Summer School. Reading will be provided via the Library Reading List feature within Canvas; exercise will be posted on Canvas before the Summer School commences.

On-Campus Teaching:

Wednesday 1st (PM) Thursday 2nd & Friday 3rd July

Online Teaching:

Monday 29th & Tuesday 30th June

Formative Assessment Details

A report

More details will be given during the event by your Academic Strand Lead.

Hand-in Method

Digital

Assessment deadline

Friday 10th July