

Engineering Science National 4 and 5

Why take this course?

Engineering Science provides opportunities for learners to develop a range of technological skills, including skills in analysis and problem solving, design skills, skills in the use of equipment and materials, and skills in evaluating products and systems.

The Course is practical, exploratory and experiential in nature. It enables learners to develop knowledge and understanding of key engineering concepts and processes, the ability to apply these to a variety of problems and an awareness of the impact of engineering on society and the environment.

These skills, knowledge and awareness are developed through a range of contexts within the broad discipline of engineering, including mechanical, pneumatic, structural and electronic systems.

To succeed in this course, you need...

The course would suit those who are working toward (or have already achieved) a National 5 in Mathematics (not Application of Mathematics). It would be beneficial to have studied Design & Technology in S3 to progress in this course.

Course structure and Content

The main things you will learn:

- How to apply knowledge and understanding of basic engineering facts and ideas
- to understand the relationships between engineering, mathematics and science
- how to apply skills in analysis, design, construction and evaluation to a range of straightforward engineering problems
- to communicate engineering concepts clearly and concisely using appropriate terminology
- to develop an understanding of the role and impact of engineering in changing and influencing our environment and society

Course Structure

Engineering Contexts and Challenges

Electronics and Control

Mechanisms and Structures

Added Value Unit (Nat 4)

Engineering Science Course Assessment (Nat 5)

Course Assessment

To achieve a course award in this subject pupils must pass either the Added Value Unit (for National 4) or the Course Assessment (for National 5). All pupils will be expected to pass a range of specified outcomes from the units outlined above. National 5 pupils will sit a final exam worth 60% of the grade with 40% attributed to the Course Assessment.

Where might this course take me?

This Course or its units may provide progression to:

Other qualifications in Engineering Science or related areas

Engineering Science at Higher

Careers in Materials Science, Naval Architecture, Control Systems, Railway Maintenance, Offshore Engineering, Mechanical Engineering, Prosthetics and Orthotics, Electrical Engineering, Building Management, Environmental Engineering, Computing Science, Marine Engineering, Electrical Trades, Energy Engineering.

Further study, employment or training