

### Core technical qualification

OCR Cambridge National Level 1/level 2 Principles in Engineering and Engineering Business

### What will you be learning?

- Engineering principles (R101)
  - Mechanical and electrical systems
  - Pneumatic and hydraulic systems
- The Engineering Business World (R102)
  - Products and services in engineering sectors and how companies operate
  - Routes into employment and technical advances in engineering
- Sustainable Engineering (R103)
  - Sustainability of engineering products and materials
  - Sustainable product design and impacts of global manufacturing
- Optimising performance in Engineering systems and products (R104)
  - Achieving optimum performance through design and maintenance
  - Factors contributing to failure of engineering systems and products

### Methods of assessment

- Unit R101- external written exam (60mins)
- Unit R102, R103, R104- centre assessed standard assignments

### What are lessons like?

A mixture of theoretical and practical work, project work (hydraulics, electronics, model F1 car design and manufacture, computer aided design) and independent research. This qualification is aimed at learners who wish to study the wider context of engineering and explore the fundamental principles applied to practical applications in engineering and study how businesses operate in a competitive world to produce marketable products. It is ideally suited to pupils who are organised and motivated and who are competent in both maths and physics.

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## How will we work with employers and the community?

Employers will support teaching and learning by:

- sharing industrial experience and expertise
- providing opportunities to visit engineering workplaces
- setting projects or providing the context for project work
- running workshops in school

There are industrial links with:

- Angus Fire
- Arrow Energy
- Atkinson Vos
- Gilkes
- Hughes Electrical Contractors
- James Cropper Ltd.
- Mardix
- Thomas Consulting
- WDP chartered architects

## Where can this pathway lead?

- Level 3 qualification such as a Cambridge Technical extended certificate in Engineering
- A-level Physics (dependent on GCSE Physics/Science grade)
- Intermediate apprenticeship