



Cambridge Nationals Engineering Manufacture



Who is this qualification in Design Engineering for?

The OCR Design Engineering Level 1/2 Cambridge National in Engineering is for learners who wish to acquire technical skills through vocational contexts by Engineering Manufacture. Through practical activities they develop skills in computer modelling and manufacturing and how to produce one-off prototypes and products in quantity.

What will students study and how will it be assessed?

The course is broken up into 3 components, each aiming to give learners a taste of the processes that an engineer might use to solve problems in the workplace.

R014: Principles of engineering manufacture – 40%

This is assessed by an exam. In this unit you will learn about the different types of manufacturing processes, and the different materials that can be used within manufacturing. Topics include:

- o Manufacturing processes
- o Engineering materials
- o Manufacturing requirements
- o Developments in engineering manufacture.

R015: Manufacturing a one-off product – 30%

This is assessed by a set assignment. In this unit you will learn how to safely plan and produce a one-off product by using appropriate processes, tools and equipment. Topics include:

- o Planning the production of a one-off product
- o Measuring and marking out
- o Safely use processes, tools and equipment to make a product.

R016: Manufacturing in quantity – 30%

In this unit you will learn how to manufacture using simple jigs and templates to support manufacturing in volume using Computer Aided Design (CAD) software and Computer Numerical Control (CNC) equipment. Topics include:

- o Preparing for manufacture
- o Develop programmes to operate CNC equipment
- o Safely use processes and equipment to make products in quantity.

What can this qualification lead to?

Learners who want to progress to Level 3 qualifications have the choice of various GCE qualifications at college which will further develop areas of their learning from Level 1/2. E.g. Design and Technology or Engineering A-Level. Learners can progress from OCR Level 1/2 Cambridge National in Engineering to other vocational qualifications or apprenticeships.

Do you have any questions?

Speak to Mr Green jgreen@cityofderbyacademy.org for further information or visit the following link: <https://www.ocr.org.uk/qualifications/cambridge-nationals/engineering-manufacture-level-1-2-j823/>