

Subject: Engineering Design

Examination Board OCR

Specification Number J822

Teacher responsible Mr Sneddon

Introduction

OCR Level 1/Level 2 Cambridge National in Engineering Design

This qualification will enable you to learn about the process of engineering design, and understand how it can be used to design effective solutions for a given design brief. You will develop the ability to communicate your design ideas through the use of sketches and engineering drawings and computer-aided design. You will also be able to evaluate the design of a product, through the disassembly of existing products or the use of modelling for new designs.

Course Content

R038: Principles of engineering design

This is assessed by an exam. In this unit you will learn about the design process, and all of the stages that are involved. Topics include:

- Designing processes
- Designing requirements
- Communicating design outcomes
- Evaluating design ideas

R039: Communicating designs

This is assessed by a set assignment. In this unit you will learn how to use sketching and engineering drawings to communicate your ideas. Topics include:

- Manual production of freehand sketches
- Manual production of engineering drawings
- Use of computer aided design (CAD)

R040: Design, evaluation and modelling

This is assessed by a set assignment. In this unit you will learn how to create and test models of your design. Topics include:

- Product evaluation
- Modelling design ideas

Assessment

Students must complete three units:

- One externally assessed unit (exam)
- Two centre-assessed units (NEA).

Progression

These skills will help you progress onto further study in the engineering design and development sector.

- Level 3 in Engineering
- A Level in Design and Technology
- Engineering and design apprenticeships