

DEPARTMENT:

DESIGN & TECHNOLOGY

TITLE OF COURSE:

DESIGN AND MANUFACTURE

LEVEL:

NATIONAL 4

RECOMMENDED ENTRY LEVELS

- Level 4 Design & Practical Skills

COURSE CONTENT

Students will undertake design tasks where they will be required to research and analyse a problem before designing a solution and evaluating its effectiveness. A design folio will be used to present the design story and a finished prototype will be produced. The design folio will allow students to develop their presentation and model making skills. Production of the finished prototype allows pupils to develop a wide range of workshop practical skills. Theory will be delivered alongside each project so that students are able to explain their design decisions and plan for manufacture.

This course consists of three units:

UNIT 1 Design

UNIT 2 Materials and Manufacturing

UNIT 3 Added Value Unit – Design and Manufacture Assignment

METHODOLOGY:

The course combines elements of creativity and designing for aesthetic or visual impact with a requirement to consider a product's function and performance. It helps the learner appreciate the tensions that exist between factors such as aesthetics, function, economics and the environment. The course allows learners to consider the life cycle of a product from its inception through design, manufacture and use, including its disposal or re-use — a 'cradle-to-cradle' approach to design.

The **aims** of the course are to:

- Develop skills in the design and manufacturing of models, prototypes and products
- Build knowledge and understanding of manufacturing processes and materials
- Understand the impact of design and manufacturing technologies on our environment and society
- Develop the ability to read drawings and diagrams, as well as communicating design ideas through graphic methods
- Develop creative skills to devise and develop practical solutions to design problems

ASSESSMENT

- Units 1 and 2 **internally** assessed – project portfolio and practical work
- Unit 3 **internally** assessed – extended design and manufacture project