

# Product Design & Technology

## Units 1-2

Product Design and Technology can be studied in one of four foci: Wood, Metal, Textiles and Polymers (Plastics). All are based on developing knowledge of materials and production processes. The main focus of the subject is the Product design process and the development and understanding of effective design practice.

### UNIT 1

This unit focuses on the analysis, modification and improvement of a product design. It provides a structured approach towards the design process, and looks at examples of design practice used by a designer.

#### LEARNING ACTIVITIES

The analysis, modification and improvement of a product's design - students will be required to modify a project for an outlined or given situation.

#### KEY SKILLS REQUIRED

Understanding of design elements and principles, redesigning existing products, listening and responding to a design scenario, developing criteria for design, researching existing and possible design solutions, building the redesigned product and the evaluation of the finished product.

#### ASSESSED TASKS

Production modification folio, production processes and product evaluation. Students will also complete an end of semester written examination.

### UNIT 2

In this unit each student works as a member of a team to design and develop a product range or contribute to the design and production of a group product.

#### LEARNING ACTIVITIES

Students work together as a team to design and develop a product range. Team members contribute their expertise, share research findings and develop viable solutions.

#### KEY SKILLS REQUIRED

Working with a design team, developing skills in processes and techniques, listening and responding to design scenarios, developing design evaluation criteria, producing valid design options, production of the product and evaluation of the product against developed criteria.

#### ASSESSED TASKS

Production folio, production processes and product evaluation. Students will also complete an end of semester written examination.

# Product Design & Technology

## Units 3-4

Product Design and Technology can be studied in one of four foci: Wood, Metal, Textiles and Polymers (Plastics). All are based on developing knowledge of materials and production processes. The main focus of the subject is the Product design process and the development and understanding of effective design practice.

### UNIT 3

In this unit students are engaged in the design and development of a product that addresses a personal, local, or global problem (such as humanitarian issues), or that meets the needs and wants of a potential end-user/s. The product is developed through a design process and is influenced by a range of factors including the purpose, function and context of the product; user-centred design; innovation and creativity; design elements and principles; sustainability concerns; economic limitations; legal responsibilities; material characteristics and properties; and technology.

#### LEARNING ACTIVITIES

Detailed design folio for an end user produced together with mock-ups, construction samples or processes and note taking, various research activities, developmental sketches and a detailed working drawing to finalise the design solution.

#### KEY SKILLS REQUIRED

Developing a valid design brief, research and design interpretation, effective communication between designer and end user, design development and implementation and design folio development and construction.

#### ASSESSED TASKS

Written test on the role of the designer, written report on manufacturing of products within industries and development of a production folio on a chosen product.

### UNIT 4

Students continue to develop and manufacture the product designed in Unit 3. They evaluate the effectiveness and efficiency of techniques they used and the quality of their product.

#### LEARNING ACTIVITIES

Examine factors that are used to determine the success of a commercially available product in the context of comparison with similar product types. Safe and correct use of specialised tools, equipment and machines (relevant to the chosen foci).

#### KEY SKILLS REQUIRED

Product construction, production skill development, evaluation of the product, the design process and promotion of the product.

#### ASSESSED TASKS

Written report on product analysis, ongoing folio development and production of client's end user product, evaluation and marketing of client's end user product. Students will also complete an end of year written examination.

#### VCAA ASSESSMENT – The overall Study Score will consist of:

School Assessed Coursework (20%), School Assessed Task (50%), 1 ½ hour written examination in November (30%).