

### **What are the aims of this course?**

The course provides a broad practical introduction to design, materials and manufacturing processes. It provides opportunities for learners to gain skills in both designing and in communicating design proposals.

The course is practical, exploratory and experiential in nature. It combines elements of creativity and design. It allows learners to explore the properties and uses of materials and to make models and prototypes.

The course allows learners to consider the various factors that impact on a product's design. They will consider the life cycle of products from their inception through design, manufacture and use, including its disposal or reuse - a 'cradle-to-cradle' approach to design.

The course provides learners with opportunities to develop skills that are of real value for learning, life and work: the ability to read drawings and diagrams; the ability to communicate design ideas and practical details; the ability to devise and develop practical solutions to design problems.

### **What will I be learning about in the course and what skills will I develop?**

Within S3 you will work through a series of tasks that will allow you to enhance your skills both in design and in the workshop.

S4 pupils in Perth Academy will be studying National 4-5 in Design and Manufacture. This is made up of the following units:

**Design** - This unit covers the product design process from brief to resolved design proposals. It helps learners develop skills in initiating, developing and communicating design proposals. It allows them to develop an appreciation of the design/make/test process and the importance of evaluating.

**Materials and Manufacturing** - This unit covers the product design process from design proposals to prototyping and final production. It helps learners to 'close the design loop' by manufacturing their design ideas. It allows learners to develop practical skills and gain an appreciation of the properties and uses of materials.

### **How will I be assessed?**

Your practical and design work will be assessed within S3 to establish whether your work is that of N4 or N5 in preparation for S4. The majority of work completed in S3 will be assessed on a pass/fail basis.

In S4 pupils will undertake unit assessment; all Units in the course are internally assessed on a pass/fail basis. The SQA will provide rigorous external quality assurance, including external verification, to ensure assessment judgments are consistent and meet national standards.

National 4-5 Design and Manufacture includes an added value unit which is an assignment that will be internally assessed and externally verified by the SQA. All National 4 and National 5 candidates in Design and Manufacture are likely to complete this unit. National 5 candidates will also sit an SQA external examination.

### **What learning and teaching approaches will I experience?**

You will experience many different approaches to your learning. These will include whole class lessons and demonstrations, as well as learning within small groups and independently. You will be encouraged to take responsibility for some of your learning. You will be working in the workshop for approximately a third of your time in this course.

### **What are the homework requirements?**

Homework will be provided for you on a regular basis in this subject and will have many forms i.e. written, sketching practice, rendering practice and research.

### **What might the course lead to in the future?**

It is hoped that pupils taking Design & Manufacture in S3 will complete N4 or N5 in S4.

Studying Design and Manufacture, at any level, will provide a pathway for learners to continue studying Design and Manufacture at National 5 or Higher in S5, or in a wide range of other subjects in colleges and universities. The numeracy, employability, enterprise and thinking skills developed within Design and Manufacture are transferable and valued across a wide range of professions.

**N.B.** Pupils studying Design and Manufacture at N4 level are recommended to be sitting N4 English. Pupils studying Design and Manufacture at N5 level are recommended to be sitting N4 English.

***Further information***

You can find out more at: <http://www.sqa.org.uk/sqa/45645.html>