



# DESIGN AND TECHNOLOGY

## Computer Aided Design

Our experienced staff combines the latest computer and engineering techniques to offer you the widest possible choice of careers and employment opportunities. These include Computer Aided Design, Hardware Installation and Maintenance, Networking, Multi-media and the Internet.

There are a range of CAD qualifications using the latest AutoCAD & Inventor software. These courses will allow the learner to apply CAD skills to various industries such as Engineering and the Construction Industry. Learners would be able to work as CAD Technicians but may wish to take further studies in either Engineering or Construction. There are at present five qualifications on offer:-

- Use a range of viewing commands and set up drawing space
- Use drawing commands to produce shapes
- Use the CAD software's coordinate system to aid accurate drawing
- Use hatch, text and simple dimensioning routines
- Use basic editing commands and produce simple hard copies

## Foundation & beyond...

### Certificate in 2D CAD (AutoCAD) Level 2

This unit gives the learner a good 2D foundation and covers eight learning outcomes:-

- Use associated IT, CAD hardware and operating systems
- Use basic file management techniques and maintain health and safety requirements
- Use and identify key components of the software relating to the 2D drawing environment

### Certificate in 2D CAD (AutoCAD)

#### Level 3

This unit covers a vast range of 2D advanced drawing techniques and covers the thirteen outcomes listed below:-

- Use a layering system and different line type styles
- Define and use a system for grouping objects to form blocks or libraries
- Produce isometric drawings within the 2D environment
- Use complex dimensioning routines
- Use different drawing spaces
- Produce hard copies of drawings

Make inquiries of an existing drawing and Use a means of pre-command object selection in order to carry out editing processes

- Change the properties of a number of drawn entities
- Edit block and hatched areas
- Modify continuous lines formed by a connected sequence of lines or arcs (polylines)
- Use a method to remove unused items and rename other items logically.

This next series of qualifications use the latest 3D 'Parametric' software to produce 3D models and their associated 2D detail drawings. Large portions of the manufacturing industries now use this type of software.

## Certificate in CAD Parametric Modelling (Inventor)

### Level 1

This unit introduces the learner to the latest form of 3D software. It covers the following outcomes:-

- Use associated IT, CAD hardware and operating systems
- Use basic file management techniques and maintain health and safety requirements
- Understand the parametric modelling process, the user interface and how to access help and tutorials
- Use a range of commands to create and constrain sketches
- Use a range of commands to produce extruded and revolved features
- Use placed features to modify parametric models
- Use methods to create assemblies
- Use the drawing layout environment to produce hard copies

## Certificate in CAD Parametric Modelling (Inventor)

### Level 2

This unit aims to further the learners understanding of the CAD Parametric

Modelling environment. It covers the following outcomes:-

- Use complex sketching and 2D constraints to create features
- Create and edit work features and use complex feature commands
- Create and modify simple table driven parts and assemblies
- Use motion and driven assembly constraints
- Add additional information to a drawing layout to aid the interpretation of design intent
- Create presentational quality displays of parts and assemblies

## Certificate in CAD Parametric Modelling (Inventor)

### Level 3

This is a more advanced award and the learner will be expected to use advanced features which may include the following:-

- Sheet metal
- Weldments
- Tube piping
- Cable and Harness
- Stress analysis

The following outcomes are covered:-

- Advanced features and part modelling
- Advanced assembly modelling
- Link with external spreadsheets to create complex table driven parts and assemblies
- Advanced presentation graphics

All the above qualifications are assessed using a series of practical drawing assignments along with an on-line multi-choice exam.

Learners will have the opportunity to select which qualifications they wish to take.



# DESIGN AND TECHNOLOGY

## Computer Systems ICT Systems Support

This qualification has been developed specifically for ICT professionals. It is nationally recognised and ideal if you want a career in ICT Systems Support. It is also ideal for gaining recognition for skills you already have.

The practitioner qualifications are available at three levels. Each level provides a broad and flexible grounding in the skills required by units to meet specific needs or areas of interest. The course includes building and upgrading computers, installing software and networking.

## Foundation & beyond... Certificate in IT Systems Support – PC Maintenance Level 1

This qualification will build basic skills and confidence. Learners will need to pass both units to achieve this qualification. Assessment is by practical assignment.

The units of study are:-

- Fundamentals of Computing Systems and Customer Care
- Dismantle, Assemble, Install and Maintain a desktop computing system

## Diploma in ICT Systems Support Level 2

This qualification will widen your knowledge and develop existing skills. To achieve the full diploma, learners must successfully complete one core unit and three further optional units. Assessment is by practical assignment and on-line test.

The units of study are:-

### Core Unit

- Customer Support Provision

### Optional Units

- Maintain equipment and systems
- Install and configure equipment and operating systems
- Install configure and maintain software
- Systems testing
- Systems monitoring and operation
- Repair centre procedure
- Networking

## Advance Diploma for IT Practitioners Level 3

This qualification is for those with high level skills who may be working in a supervisory or Management role. To achieve the full qualification, learners must successfully complete the assessments for one core unit and four further optional units. Assessment is by practical assignment and on-line test.

The units of study are:-

### Core Unit

- Customer Support Provision

### Optional Units

- Plan for the delivery of ICT support services and assist in the acquisition of ICT systems
- Install, configure and integrate networked hardware and software
- Install and configure software
- System testing
- System and network management
- Repair centre procedures
- Develop customer documentation and procedures
- Principles of planning telecommunications services
- Maintain equipment and systems
- ICT Security.

# DESIGN AND TECHNOLOGY

## Art and Design

These courses are for those learners who are creative, whether it be in Art and Design or Fashion. The following five courses are offered at the local sector college with the support of our experienced team of communication support workers. All Skills for Life and IT elements of the course are delivered on our site with specialist staff.

## Foundation & beyond...

### Intermediate Diploma Level 2

This programme offers an introduction to all National Diplomas. It is for people who do not have four GCSEs for direct entry to Level 3.

### Fashion National Diploma Level 3

This programme is designed for learners who want to work in Retail, Fashion Design and Production.

### Fine Art National Diploma Level 3

This programme is for learners who want to specialise in Painting, Drawing and the History of Art.

### Graphic Design National Diploma Level 3

This programme is for learners who would like a career in Advertising or Design. It is computer based and leads to many employment opportunities.

### Photography National Diploma Level 3

This programme covers all aspects of photography and graphics.

**All National Diploma programmes are equivalent to three A Levels and enable entry to University.**