

Design and Technology



These courses are for those students who are creative, whether it be in Art & Design, Fashion or IT.

Art & Design/Graphic Design

This course is offered at the local sector college with our communication support.

It is offered at:

Edexcel Intermediate Art & Design – Level 2

This course is equivalent to 4 GCSEs and is to enable the learner to progress onto

Edexcel National Diploma in Art & Design or Graphic Design – Level 3

This course is equivalent to three A-levels and would enable the learner to progress to university.

Computer - Aided Design

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 six qualifications on offer: -

City & Guilds 4353-01 Level 2 Certificate in 2D Computer Aided Design (AutoCAD)

This unit gives the learner a good 2D foundation and covers 8 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
- Use a range of viewing commands and set up drawing space.
- Use drawing commands to produce shapes
- Use the CAD software's co-ordinate system to aid accurate drawing
- Use hatch, text and simple dimensioning routines
- Use basic editing commands and produce simple hard copies

City & Guilds 4353-02 Level 3 Certificate in 2D Computer Aided Design (AutoCAD)

This unit covers a vast range of 2D advanced drawing techniques and covers the 13 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
- Define and use an adjustable co-ordinate system based on the user requirements
- Use complex dimensioning routines
- Use different drawing spaces
- Produce hard copies of drawings
- Make inquiries of an existing drawing and place reference points
- 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 blocks 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

City & Guilds 4353-01 Level 3 Certificate in 3D Computer Aided Design (AutoCAD)

This unit introduces the learner to 3D space. It allows the learner to produce surface and solid models at any position in 3D space. It covers the following outcomes:

- Apply appropriate commands to set the 3D modelling environment
- Create and use working planes at any position within 3D space
- Define and use co-ordinate points at any position within 3D space
- Apply appropriate commands to construct the whole part of a 3D model using the best available method – surface or solid modelling
- Apply appropriate commands to modify 3D solid objects
- Apply appropriate commands to perform 3D operations on existing objects
- Apply appropriate commands to manipulate a 3D model

- Apply appropriate commands to view 3D models in a variety of display formats
- Print/Plot/export 3D models

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.

City & Guilds 4353-21 Level 1 Certificate in Computer Aided Design (CAD) Parametric Modelling (Inventor)

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

City & Guilds 4353-22 Level 2 Certificate in Computer Aided Design (CAD) Parametric Modelling (Inventor)

This unit aims to further the learner's 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

City & Guilds 4353-23 Level 3 Certificate in Computer Aided Design (CAD) Parametric Modelling (Inventor)

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

Note:

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

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

e-Quals Web Site Design Level 2 Unit 208

This is a short course that is offered as an optional extra to any students studying at the college. The aim of this unit is to equip candidates with the basic principles needed to be able to create and maintain a series of web pages, which collectively form what is commonly known as a web site.

There are 6 outcomes to this unit. The candidate will be able to:

- Describe and apply the basics of web page development
- Undertake user requirements analyses
- Use appropriate development tools to implement web pages
- Test web sites
- Use graphics software to create and manipulate images on web pages
- Publish and maintain web sites

Computer Systems

City & Guilds 7262 Diploma for IT Practitioners – Systems Support

The IT Practitioner qualification has been developed specifically for IT professionals. It is nationally recognised and ideal if you want a career as a systems support technician. 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 IT professionals, and offers a range of optional units to meet specific needs or areas of interest. The course includes building and upgrading computers, installing software and networking.

- **Level 1** will build basic skills and confidence
- **Level 2** will widen your knowledge and develop existing skills
- **Level 3** is for those with high level IT skills who may be working in a supervisory or management role

Level 1 – Certificate for IT Systems Support – PC Maintenance

Students 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

Level 2 – Diploma for IT Practitioners

To achieve the full diploma, students must successfully complete the assessments for the two core units and two optional units. Assessment is by practical assignment and online test.

The units of study are:

Core units:

- Maintain equipment and systems
- Customer support provision

Optional units:

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

Level 3 – Advanced Diploma for IT Practitioners

To achieve the full qualification, students must successfully complete the assessments for three core units and two optional units. Assessment is by practical assignment and online test.

The units of study are:

Core 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
- Customer Support provision

Optional units:

- 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 for Craft and Fashion Wear

City & Guilds 7722 Level 1 Certificate

This certificate provides a practical introduction to the first elements of fashion design.

Students will acquire a range of practical skills in craft and design needed for garment construction.

No qualifications required or previous experience needed, just a creative flair, and an interest in fashion design.

Course content:

This includes drawing techniques, pattern, colour, texture, embroidery and batik for example.

City & Guilds 7822 Level 2 Certificate

This certificate builds on the skills acquired from Level 1.

Covering fashion design, clothing construction and its principles, and provides practical skills and knowledge needed at an advanced level.

City & Guilds 7922 Level 3 Diploma

The aim of this certificate is for the student to create designs for fashion based on a more personal approach in order that they can confidently develop advanced designs into clothing of a very high standard.

The Level 3 Diploma is a qualification that may enable a student to gain an entry onto a higher education course.

Career opportunities within the fashion industry are varied including:

- Fashion designer
- Pattern cutter
- Fashion stylist
- Fashion retail
- Window designer