

IMI level 1 Award in Automotive Maintenance (additional level 2 practical units)

Who is it for?

- ✓ Anyone thinking about a career in the motor trade.
- ✓ Those with an interest in cars and would like to learn more about how they work.
- ✓ Anyone intending to get their own car and save lots of money doing their own servicing and repairs.

This course is written by the Institute of Motor Industry and is designed to prepare you for a career in the motor trade.

You will also learn everything you need to know to keep your own car safe, reliable and legal.

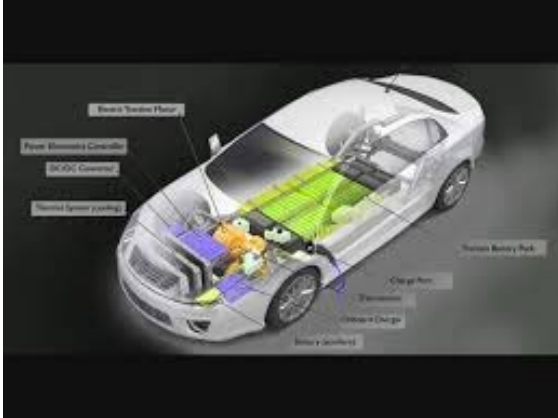


INSTITUTE
OF THE MOTOR
INDUSTRY



Why should you choose Motor Vehicle?

- ✓ Repair
- ✓ Sales
- ✓ Service
- ✓ Valeting
- ✓ Distribution
- ✓ Armed Forces
- ✓ Motorsport
- ✓ Design
- ✓ Development



The Motor Vehicle Workshop



This is where you will do most of your work, either in (or under!) a car, or at a computer.

Class limited to 12 students.

Very high levels of Health and Safety.



**You will get your hands
dirty quite often!**



**Oil and filter change at a garage-£100.
Do it yourself in half an hour for £20!**



A lot of jobs involve teamwork.



You could experience tyre changing, and detailed mock MOT inspections, and learn all about what is involved.



You will be learning all about how cars work and working in some tight spaces



Assessment

1. IMI Practical Tasks (Two Units)
2. IMI Online Assessment (one online test which covers the mandatory units)

Some past students



This qualification is for learners who have a keen interest in vehicle maintenance and repair and are looking to progress within this or the engineering industry.

Where will the **IMI level 1 with level 2 practical units** take you?

Previous students have gained apprenticeships at:

- **Flybe Exeter**
- **Mercedes Benz Exeter**
- **Volkswagen Exeter**
- **Vauxhall Newton Abbot**

Students completing the course can extend their studies into the 6th form or at other local Colleges. Here at TCS we run a programme at Yr. 12 which has 1 day a week work experience in the Engineering industry – Either automotive or an engineering sector of their choice. 10 lessons per week studying the subject further and a retake program in English and Maths if applicable.



VAUXHALL

WJEC L2 Construction

Single option: Equivalent to 1x 4-9 GCSE
Grade

Who is it for?

Anyone thinking about a professional career in the construction industry; such as site manager or quantity surveyor.

Anyone who wants to be able to do their own home improvements.

Anyone who enjoys working with their hands.

Modules Include:

2 mandatory Units:

Construction & the Built Environment (1hr & 30mins External Assessment)

Construction Practical x3 (Internal Assessments)

We focus the practical tasks on the following:

- Carpentry & Joinery – Timber skills, stud wall fixings
- Tiling – Grouting and Tiling skills
- Domestic Electrical Tasks – Wiring up Plug, switch and light fittings.

First practical Work in Carpentry & Joinery

Eli is now an apprentice carpenter joiner

Emphasis is on the quality of the work: The greater the accuracy the higher the level. These pieces were within a 1mm tolerance which gave a distinction.



Accuracy and care are needed to be able to achieve a Distinction

Professional Standards: How to build a building



Professional Roles:

- Site Manager:
- Quantity Surveyor
- Project Managers
- Civil Engineers

Potential Construction Trips to sites.

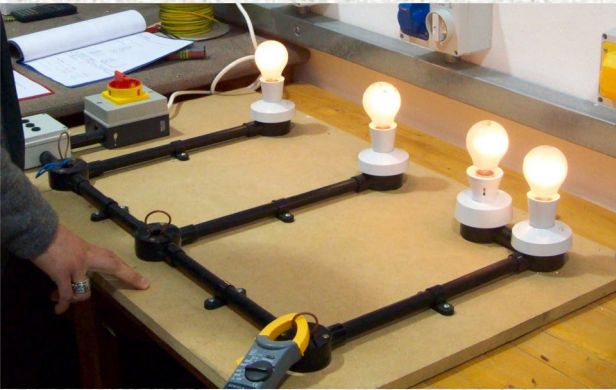
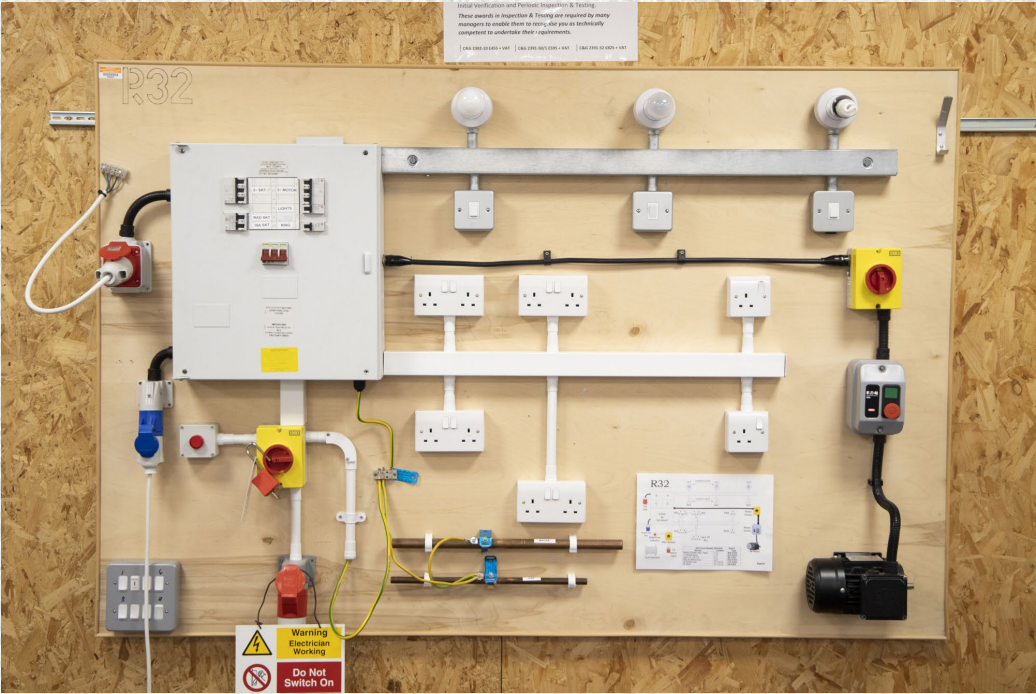
Students look at many aspects of the Industry which includes outside visits to construction sites and center's.

Health & Safety advice from the experts



Site Visit

Workshop activities are designed to allow students to gain a high degree of technical skill. This project gave the students the skills they needed in order to produce their final piece.



IN DEMAND

UK construction sector
will need:



NATIONS AND REGIONS

Of the home nations, Wales will see the fastest growth in construction output (6.2%).

In England, the South West (3.1%), the North West (2.5%), London (2.4%) and the South East (2.2%) will be the fastest growing regions

TOTAL EMPLOYMENT GROWTH 2017-2021

In Scotland

2,340 JOBS

will be created over 5 years

In Northern Ireland

710 JOBS

will be created over 5 years

In the North West

5,140 JOBS

will be created over 5 years

In Wales

3,890 JOBS

will be created over 5 years

In the West Midlands

2,800 JOBS

will be created over 5 years

In the South West

4,180 JOBS

will be created over 5 years

In the North East

1,270 JOBS

will be created over 5 years

In Yorkshire and the Humber

1,860 JOBS

will be created over 5 years

In the East Midlands

1,770 JOBS

will be created over 5 years

In the East of England

3,970 JOBS

will be created over 5 years

In Greater London

3,870 JOBS

will be created over 5 years

In the South East

3,940 JOBS

will be created over 5 years





Further Education College Workshops

The L2 Construction course is designed as a taster course, offering opportunities to try several different career possibilities while at school. L2 qualifications are recognised by colleges allowing students to gain further qualifications and then to progress to higher level courses.

OCR: Engineering Manufacture: Level 1-2



Why choose Engineering?
FANTASTIC job prospects – Britain badly needs hundreds of thousands of engineers and this subject is a priority with the government.

This qualification can lead you either into an apprenticeship locally with an employers like Fly Be or Centrax:

It can be linked with Maths and Physics and it will take you to University to study Engineering.

It can Lead onto Level 3 courses in Engineering here at TCS and into a job in the sector.

Aeronautical Engineering:
European Space Centre at
Newquay



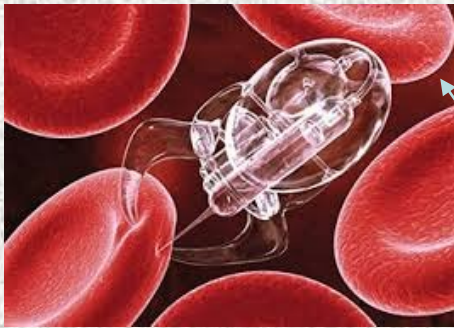
This subject leads to a multitude of career opportunities: Civil Engineering, Mechanical Engineering; Automotive Engineering, Marine Engineering; Aeronautical Engineering; Chemical Engineering to name but a few. Plus both Exeter and Plymouth University have huge Engineering departments and many opportunities and links for graduates with industry

Skilled Engineers are highly sought after. You will be in demand if you want to emigrate to Australia or America. There is not enough skilled Engineers in the country and even now the UK has to employ skilled people from abroad.



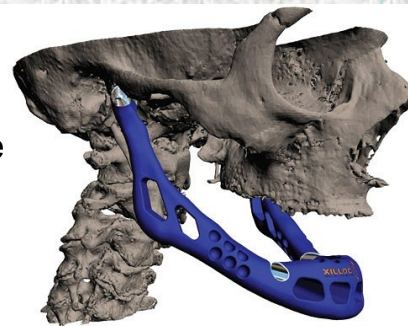
The latest estimates are that the UK will need **1.82 million new engineers** in the decade up to 2018 (Engineering UK, 2015) and a further 1 million people to fill new creative jobs by 2030 (Nesta 2015),

Engineering is a subject that actually links your Maths and Science knowledge together allowing you to design and engineer a product which actually helps people. There are lots of jobs for Engineers right now that can't be filled and there will be lots of Engineering jobs that as of yet do not exist.



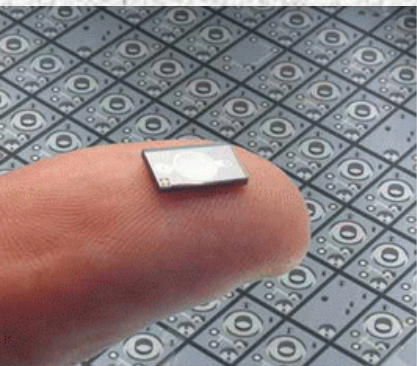
Nanotechnology can actually fix people from the inside but it is a massive field of new engineering allowing our electronics to shrink

Electronic and software engineers are developing new products alongside material engineers who are developing new materials



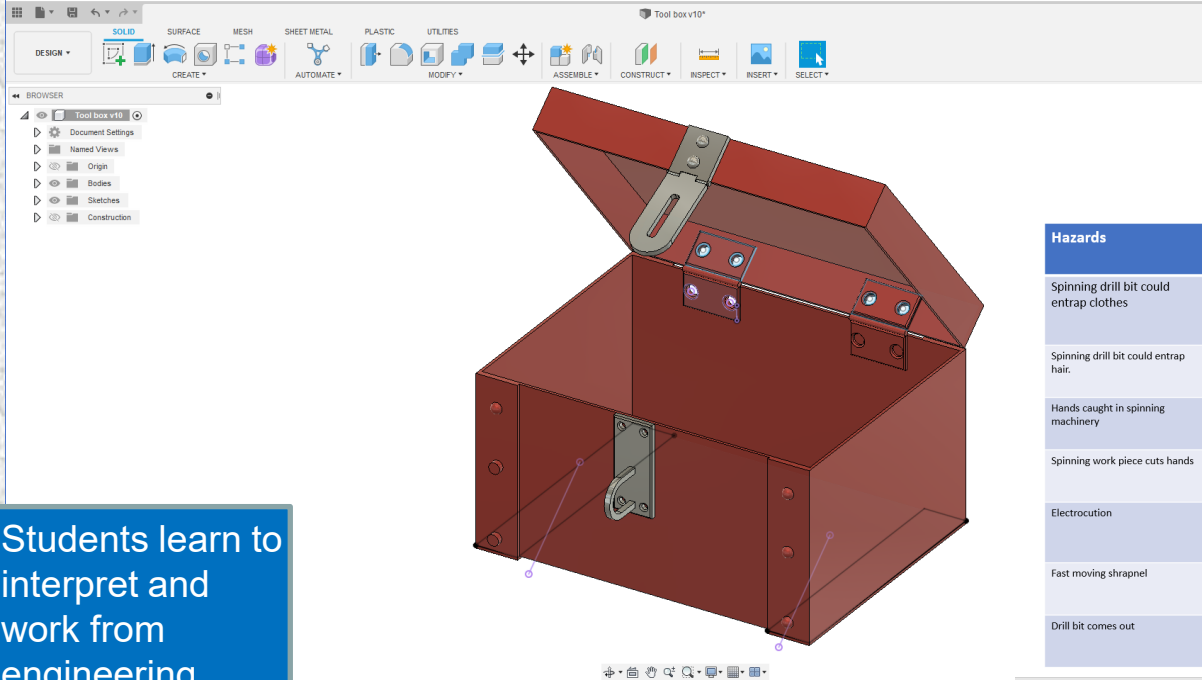
Bio engineering helped Oscar walk.

Bio Engineering is a growth sector where they are printing body parts



Units include Computer Aided Design and Manufacture

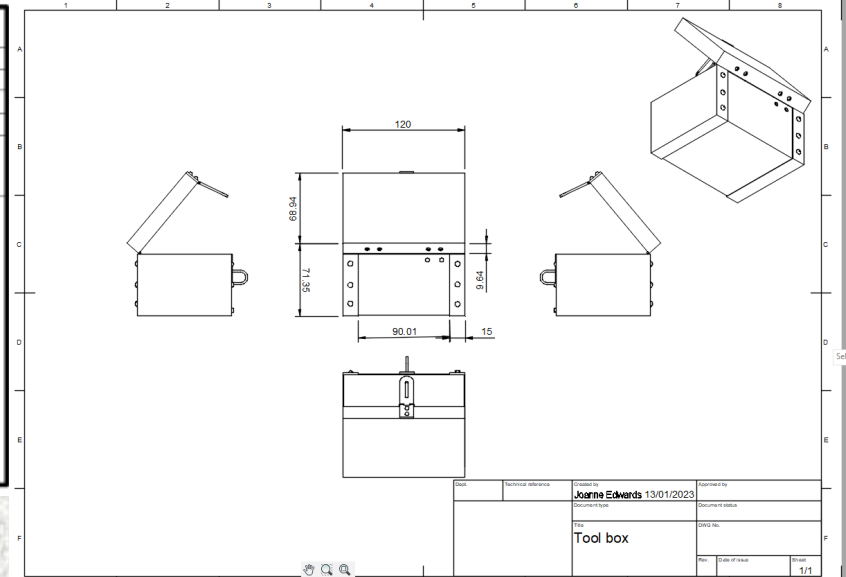
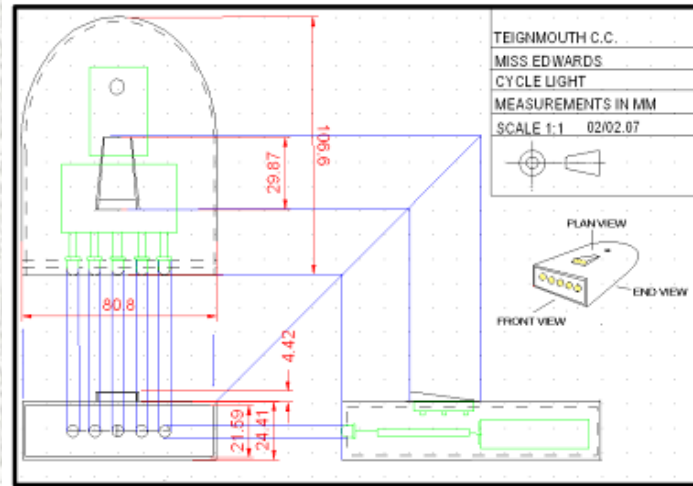
Year 10: Producing a metal toolbox using Computer Aided Design and creating it in 1mm mild Steel in the workshop using spot welding, pop riveting and sheet metal bending techniques



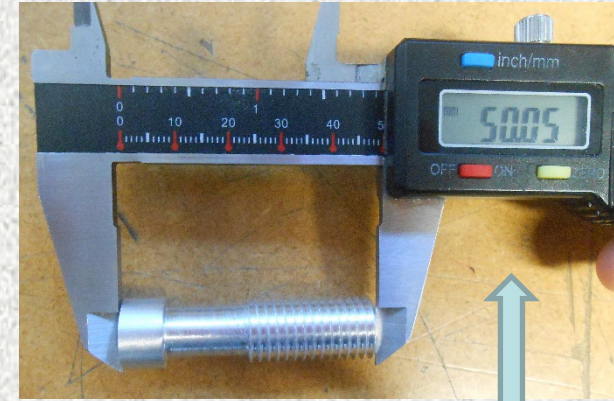
Risk Assessment for drilling using the pillar drill

Hazards	Level of Risk	Who might be harmed	Control Measures	Responsibility for:
Spinning drill bit could entrap clothes	Medium Risk	Person using machine	Ensure guard is down: Wear an apron to loose clothes in place. Training to use the machine	Person using the machine
Spinning drill bit could entrap hair.	High if hair is long	Person using the machine	Tie long hair back: Ensure guard is in place. Training to use machine properly	Person using the machine
Hands caught in spinning machinery	High Risk	Person using the machinery	Use mini vice to hold work or a G clamp to hold work. Training to use the drill properly	Person using the machine
Spinning work piece cuts hands	High Risk	Person using machinery	Cramp all work or use mini vice. training	Person using the machinery
Electrocution	Low Risk	People touching the drill	Ensure PAT testing is in place. Weekly checks to ensure good order. Maintenance records. Training	Technician responsible
Fast moving shrapnel	High risk	People in close proximity	Goggle, guard in place. No one but the operator within 1M of the machine. Training	Person using the machine and employer ensuring 1M space is given and marked
Drill bit comes out	Medium Risk	People in close proximity	Guard is in place and goggles are on. Training	Person using the machine.

Students learn to interpret and work from engineering drawings to produce their own engineered product.

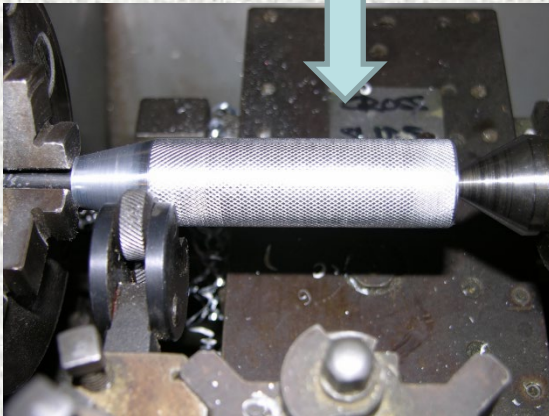


Units include: Manufacturing a prototype product



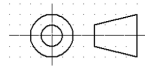
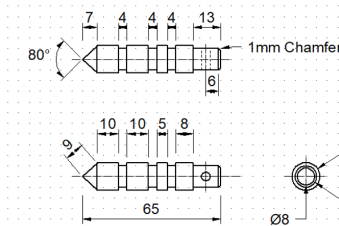
Working with high tolerances to accurately mark out different types of sheet metal. We try to keep the course as practical as possible.

Understanding how to use traditional engineering equipment like lathes and milling machines.

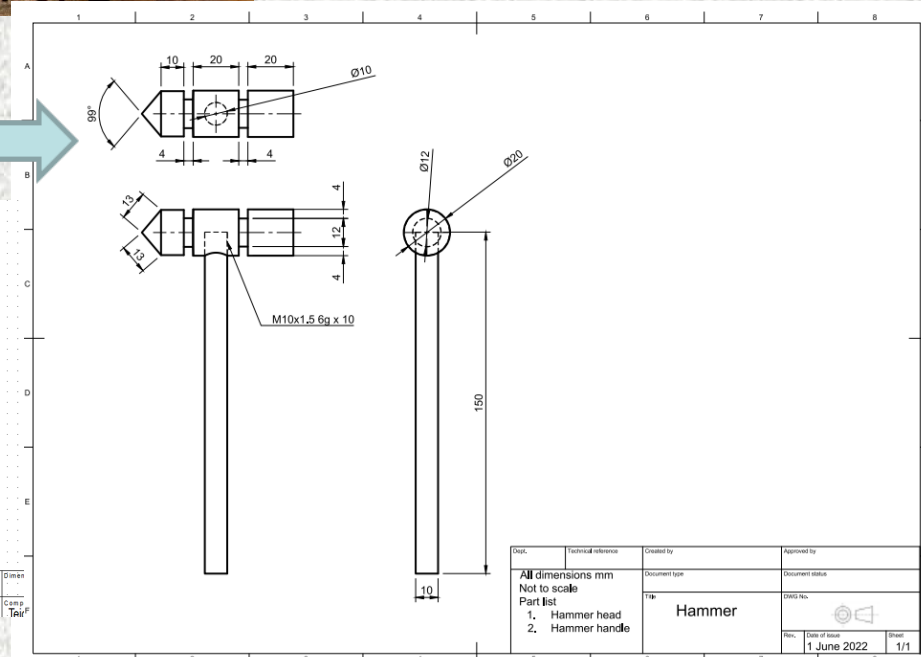


Interpreting Engineering Drawings

Third Angle Orthographic Projection



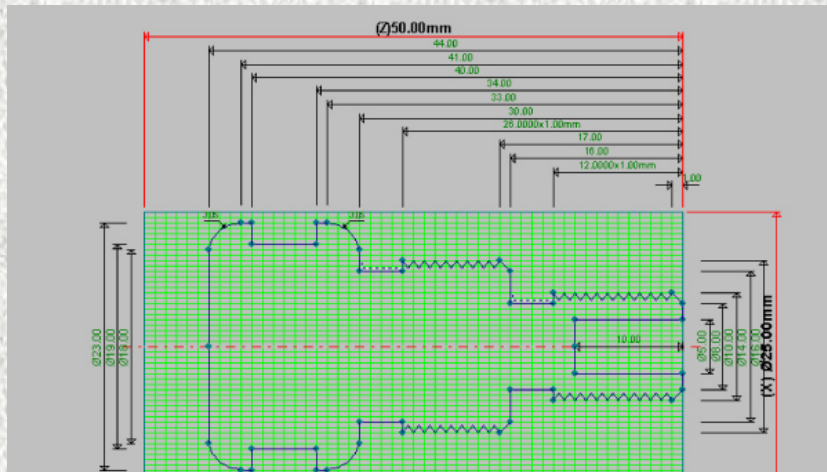
Name: Mr Hosking Material: Aluminium
Title: Bullet KevFob Comp: Tair



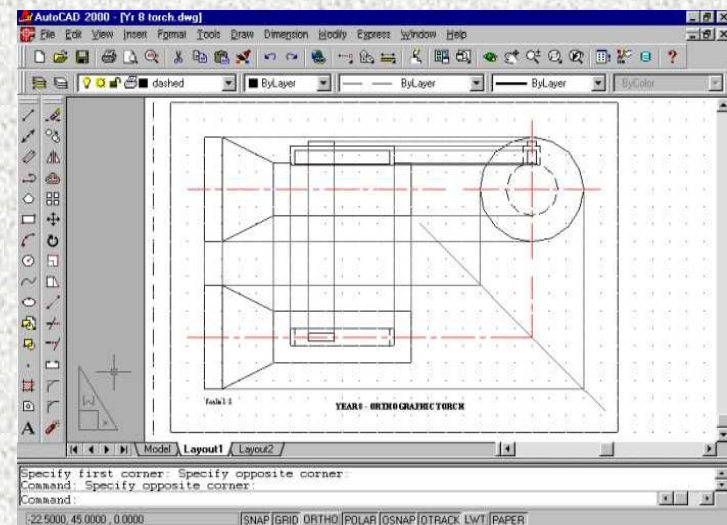
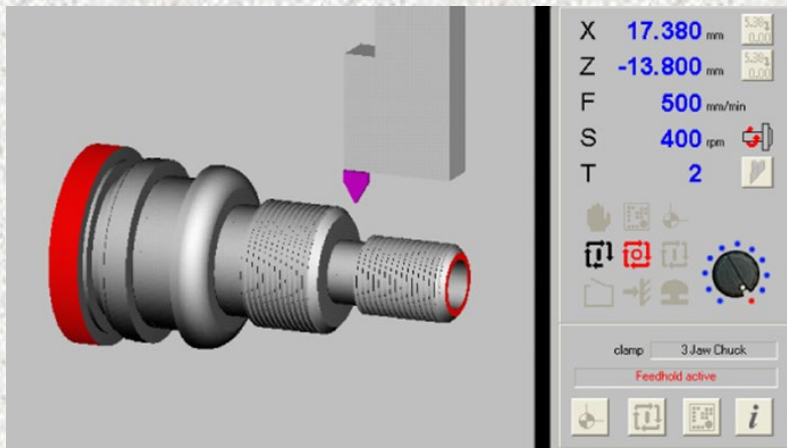
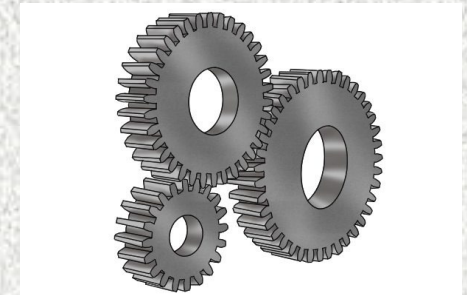
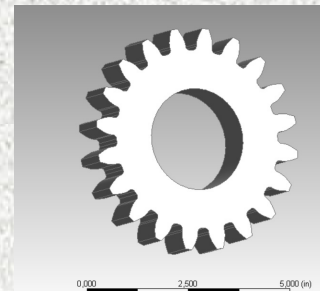
Doc.:	Technical reference	Created by:	Approved by:
All dimensions mm Not to scale		Document type:	Document status:
Part list		Title:	Drawn No.:
1. Hammer head		Hammer	1
2. Hammer handle			
Rev.:	Date of issue	Sheet	
	1 June 2022	1/1	

Engineering a batch of products involves both computer aided design and using computer aided manufacture to produce your products independently

- Students have to design and manufacture Engineering components in an identical batch: This will involve Computer Aided Manufacture



- Use CAD to draw your design:
- Simulate your design on the computer:
- Set up the CAM Machine and manufacture your product independently



GCSE Design Technology Structure 2022

- **Core Knowledge:** Everyone will need a **20% exam** knowledge base which covers Fabrics, Plastics, Metals, Electronics, Mechanical systems, Modern materials, Smart materials; Graphic media and Timbers.
- Along with this core knowledge you will be expected to use your **maths and science skills** and ability to work out area, materials costing's, mechanical advantage.

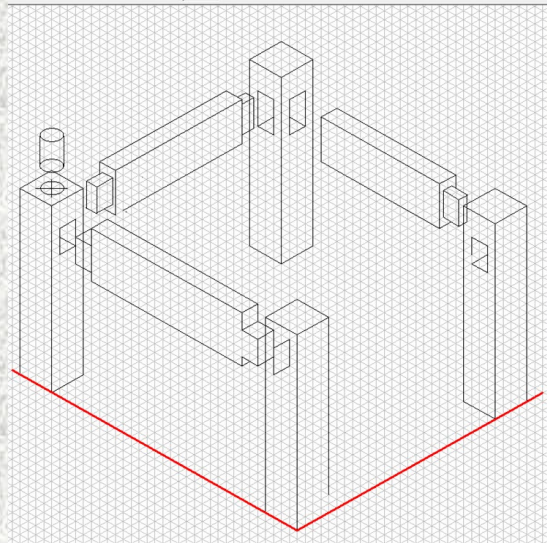
Designing and making is at the heart of Design Technology. It is a course designed for creative people who enjoy experimenting and working in a wide range of different materials such as timbers, metal, plastics, modern and smart materials like carbon fibre and polymorph and Textiles. Design Technology is ideal for students who enjoy problem solving and working through their solutions. It is all about the iterative process which is designing and trialling different solutions to a problem.



The course is highly practical and made up of a wide range of designing and making tasks. In Year 10 the objective is for students to gain skills and knowledge of different materials and processes. This will be about building a core knowledge. Homework is set regularly to cover the theory elements of the exam which accounts for 50% of the qualification. Most theory is taught practically through practical activities. In Year 11 students can choose their own design and make task.



•You will develop a range of skills and be able to manipulate materials including, wood, metal, plastics, fabrics, modern materials and graphic media as your core. **Your focus area of Timber is where you will specialise and you will make an accurate prototype in your major coursework project which is 50% of your marks. 50% is a written exam of which 30% of your exam will be in your specialist knowledge area and only 20% will be in your core area.**



This subject is ideal for developing problem solving skills, creativity and spatial awareness. It gives students confidence and empowers them to manipulate their own environment. Ideal for future home owners.



Draw the component parts of your light:

• Shade:

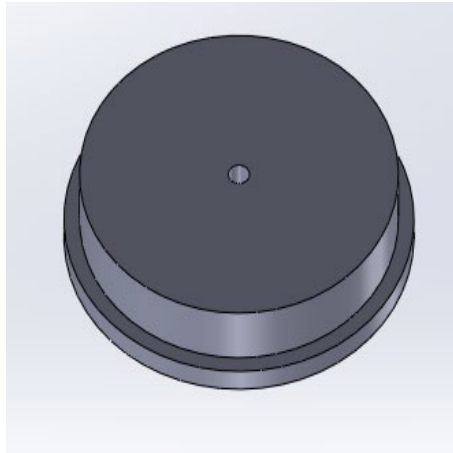
Disc base:

Lamp Base



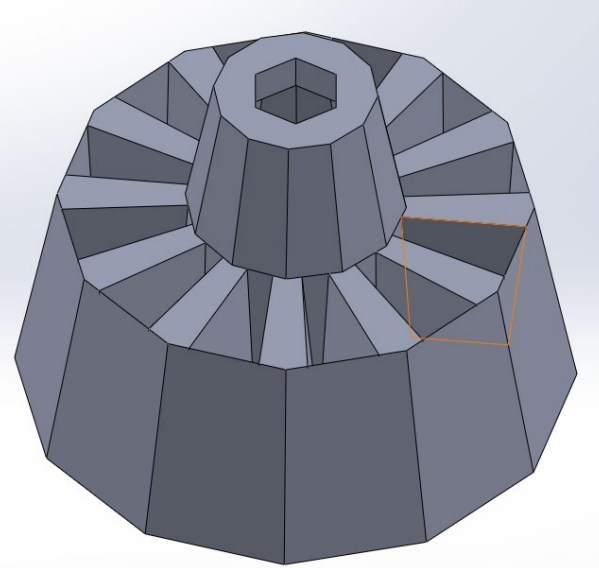
Produce a simple base which has some key dimensions: The base of the light must be a 60mm Diameter.

Height should be a max of 150



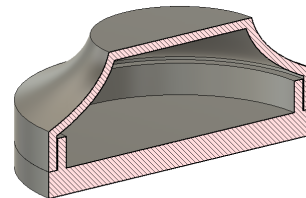
Produce a disc base for the shade to rest on and your light unit to be affixed:

The 60mm shade needs to rest on it:

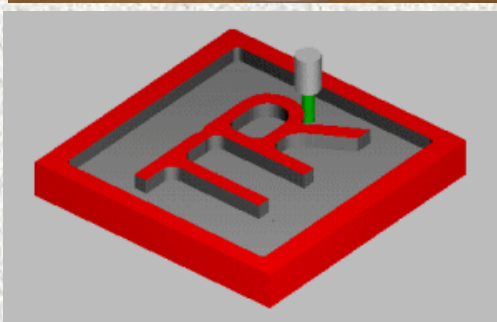
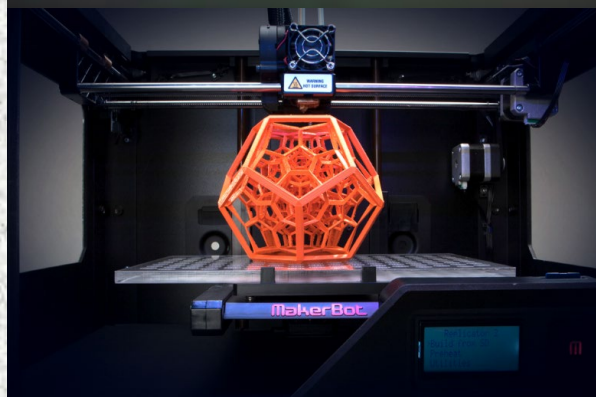
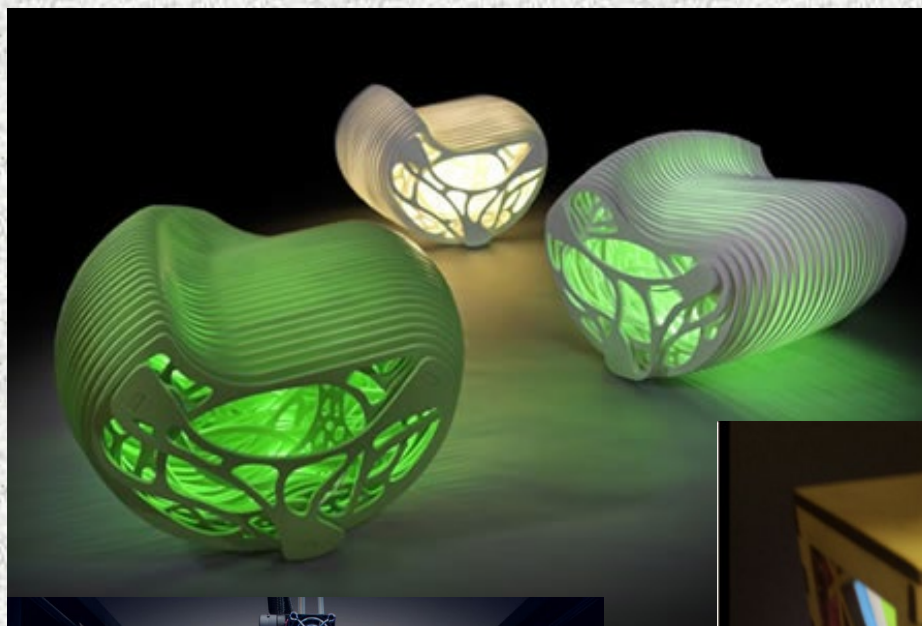
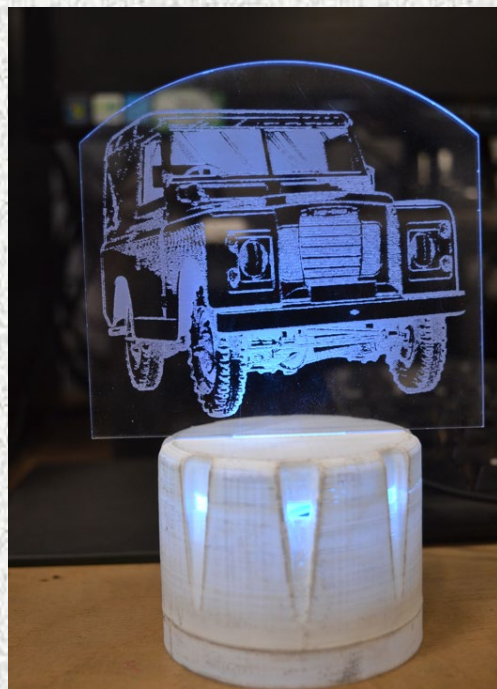


Produce a base for your light no bigger than 145mm Diameter: A hole should be created in the top at approx. 12mm

Computer Aided Design is strongly encouraged throughout the course. A high level of expertise is gained to ensure ease of entry to A level Product Design or Level 3 BTEC Engineering. We have a dedicated CAD CAM room with 3D printing facilities, a high speed router capable of cutting wood and plastic in A3 as well as engraving into A3 sizes of soft metals and a CAM Lathe/ Miller use to manufacture metal components.

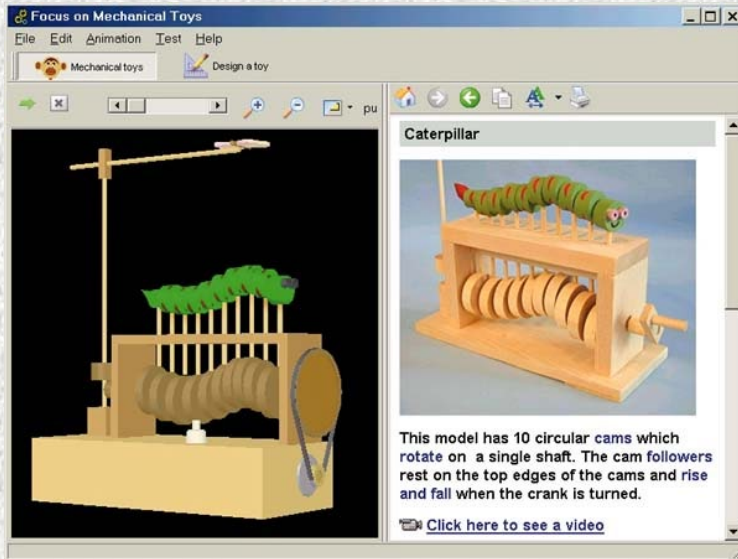


Project work: Year 10 is about building skills through a range of projects, developing hand skills, but also using high tech equipment like computer aided designing; computer aided manufacturing and 3D printing in Bio plastics and ABS plastic.



We work with the students strengths and allow them to realise their own ideas using the processes that they want to explore more deeply.

Designing and making products in your specialist areas of Timber



These pictures represent Year 11 project work of past and present



In Design and Technology you can work in any material you want however you will need to specialize in a particular material area. We are offering 'Timber. 50 % of your GCSE will be coursework which will be a design and make task in your specialist area.



Students who take this subject normally go onto a Design Technology at A Level and then onto careers in Architecture, Jewellery Design, Interior Design, Product Design, Fashion design, Textiles lead interior design and interior decoration or Engineering



WJEC Hospitality and Catering

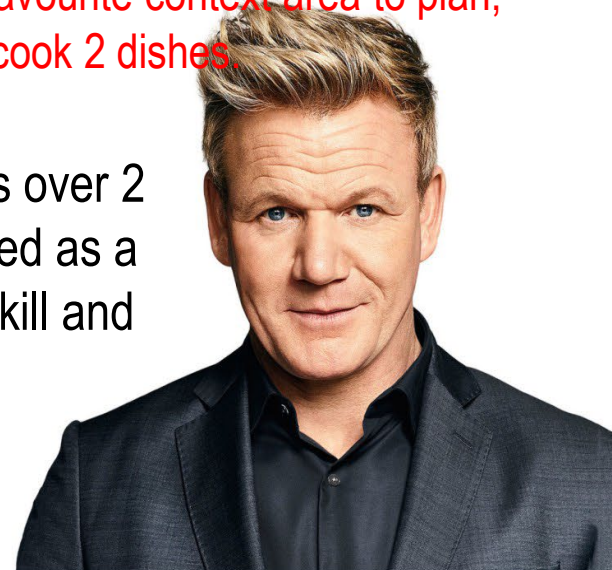
The WJEC course consists of 2 units.

Unit 1 can be taken as a 90 minute online exam: It represents 40% of the overall qualification: The focus for this will be the Hospitality and Catering industry.

Unit 2, will account for 60% of the qualification. This will be a Non Examination Assessment which is assessed internally through coursework and practical.

Students research one of two scenarios given by the exam board. They then pick their favourite context area to plan, prepare and cook 2 dishes.

The course is split into 2 Units over 2 years with much of Year 9 used as a foundation for the students' skill and knowledge base



Where can Food Tech take me?



life skills

One day you might need to fend for yourself... and your mates or family! There's no need to go all 'Bear Grylls' when most houses have a kitchen!



wide range of jobs

Working in the catering sector: The Hygiene Certificate you complete will help get your foot in the door for a part time job during holidays.



hospitality

There are numerous opportunities open to you in the future with a Food & Cookery qualification:

Travelling all over the world working with the Williams Formula 1 Team.

What's it all about?

Year 9

SKILLS & KNOWLEDGE

Develop your basic cooking skills and technique building on what you learnt during KS3

Year 10

EXPERIMENTING & PRACTICE

Start to gain independence in the Kitchen, often selecting the dishes you make and adapting recipes

Year 11

PERFECTING TECHNIQUE

Controlled assessment based on a set brief. You still get to choose what you make!



There is on-going coursework throughout the three years of study, including theory revision for the exam

Anything else exciting?

As Chef Gusteau said: “Anyone can cook.”

Lots of practical takes place in this subject:

- Taste testing
- Analysing leading chefs’ recipes
- Competition lessons
- Over the coming months Food Tech are looking at getting more industry experts in to demo skills.
- Organising more trips to Food Exhibitions
- Entering national and international competitions



This course is designed for 14 – 19 year olds who want to work within the Catering Industry, and have a passion for working with Food.



**FOOD HYGIENE AND FOOD
NUTRITION CERTIFICATE**

Want to know more?

Come and see Mrs Wiseman in Technology

