YOUR SCHOOL JOURNEY

# YEAR 10

## 3D DESIGN

Autumn.

What are you aiming towards? Introduction to GCSE 3D Design

Master class in design and illustration. Why? To be able to develop skills that would be used in industry and generate innovative ideas. Build on artistic skills developed at key stage 3 and generate new ones.

Analyse the work of others- Introduction into a range of design movements and designers to inspire and influence a design process based on architecture and furniture design.

Introduction to architecture- Develop technical skills to be able to produce architectural designs to inspire a model and make process.

Develop new skills– introduction to ceramics, what are the constraints involved in building and shaping with a pliable material.

Spring

Drawing workshop– develop a new approach to drawing that is free and has no constraints. Investigate by using different tools and mediums to see which you can express yourself best.
Creative and innovative design– research into modern design modernism to produce a piece of architecture, furniture or art instillation.

Summer

Mock exam
Build your repertoire of skills with a range of workshops in printing, model making, CAD, metalwork and ceramics
Reflect on your practice, refine, and build on AO1 and A02

Educational Visits

Visit Yorkshire Sculpture Park to participate in a sculpture workshop and view the work of inspirational artists and designers.

Extra curricula

Students will have access to catch up clubs at lunch 3 times a week and a after school club in 3D construction.

Assessment

There is a practical assessment every 4th lesson, and theory assessment every half term. Why? To check students long-term memory and development of practical skills. So that all pupils can act on personalised next steps and take responsibility for their future progress.

YOUR SCHOOL JOURNEY

# YEAR 10

# ENGINEERING

**Autumn term .**

Introduction to EDUQAS engineering. What are the expectations of the year ahead?

“What does it take to be a engineer?”

Reverse engineering (project unit 1), disassemble and investigate products.

Discover how a range of products work and the components needed.

**Spring term**

Think like a engineer, mini make project unit 2. (lathe turning, two piece moulding, press forming, Tap & Die, CAD/CAM, and handling acrylic)

Introduction to the theory of engineering, including communication and terminology.

Theory of engineering continued (maths, technical drawing, and tools and equipment)

**Summer term**

Give it a go - first attempt at the external exam.

Second session of mini make projects for unit 2—continue to develop your skills as an engineer .

**Assessment**

Learners will be assessed throughout all practical activities using the department assessment tracker. All students track their practical progress against exam criteria every 4th lesson. Along with Assessment Point data.

**Educational Visits**

This year we are looking forward to visiting the Jaguar Land Rover factory in Merseyside. After a guided tour around the factory to watch the robots making the Range Rover Evoque we take part in a question and answer session with our tour guides.

**Extra curricular activities**

Engineering students will be invited to attend a variety of dinnertime activities, they will have the opportunity to expand on their engineering skills, terminology, and understanding.

YOUR SCHOOL JOURNEY

# YEAR 10

## Food, Preparation and Nutrition

**Autumn term .**

Carbohydrates, what do we know? Recap on prior learning and advance your knowledge to understand what monosaccharides, disaccharides and polysaccharides are.

Complete a practical investigation every week, making a range of sweet and savoury dishes focusing on carbohydrates.

Know the science behind your food- Complete a science investigation into carbohydrates.

Protein, what do we know? Check your priory knowledge of protein and put it into action with the completion of a HBV dish.

Get fit workshop- How does protein effect on our body?

**Spring term.**

Protein complementation, how to cater for those who are vegan or vegetarian.

Develop your skills— learn how to butcher pheasant, fillet a fish and prepare squid

Fats, do we need them?

What is the function of fat in food? Emulsion, aeration, plasticity, preservative.

Produce a range of cooks based on fat and types of fat.

Complete a science investigation into the functions of fat in food.

**Summer term**

Feed your brain- Design and make your own mock tails or energy drinks enhancing brainpower.

Additives and smart ingredients. What is added to our food?

Dairy, how is yoghurt made? Make your own cheese.

Mock exam

Educational Visits and activities

During the winter, term students will participate in a workshop with the vegetarian society looking at protein complementation. They will also have the opportunity to attend workshops at Ashton Sixth Form College in their patisserie and chocolate workrooms.

**Assessment.**

There is a practical assessment every 4th cook, and theory assessment every half term. Why? To check students long-term memory and development of practical skills. So that all students can act on personalised next steps and take responsibility for their future progress.

YOUR SCHOOL JOURNEY

# YEAR 10

## SYSTEMS and CONTROL

**Autumn term**

Investigation into what systems is within D&T.

Test and develop your skills– Build and test electronic systems, recap and recall on prior knowledge and advance your technical skills.

Festive fun- Design, build and sell an electronic gift at the Christmas concert for charity.

**Spring term.**

How do programmable components work? Learn about programmable electronic components through practical problem solving investigations.

Inclusive design and problem solving- Design and make an alarm using PICAXE .

Further investigation into systems and control and the core theory associated with design.

**Summer term**

Know your stuff- Preparation for the year 10 mock exams, textiles, card. Polymers and metals.

Introduction to the NEA themes, brainstorm the contexts see what fits best for you.

How do the professionals do it? Contact designers and businesses to see how they work. What is their design and make process? How do they find out what their clients' needs are?

Extra curricula.

Students can attend catch up sessions at lunch time throughout the week and participate in a club to make a remote control aeroplane using electronic component..

**Assessment.**

There is a practical assessment every 4th lesson, and theory assessment every half term. Why? To check students long-term memory and development of practical skills. So that all pupils can act on personalised next steps and take responsibility for their future progress.

YOUR SCHOOL JOURNEY

# YEAR 11

# ENGINEERING

**Autumn term .**

Reflect on exam results and look at where we need to go next.

Be proud– Complete unit 2 , your bespoke hand made lamps.

Introduction to unit 3– Solving engineering problems.

Exploring engineering in the real word, generating discussions with industry experts and investigating a new contextual challenge.

Mock exam

**Spring term**

Unit 3 solving engineering problems continued– how to master the art of technical drawing.

Preparation for unit 3 external exam– Tools and equipment used within industry, applying technical knowledge, how to communicate a solution and understanding industrial processes.

**Summer term**

Where to go next? Reflect and act on mock exam results.

Investigating the properties of materials– Complete a destruction test, conductivity, environmental degradation, ductility and tensile strength,

**Assessment**

Learners will be assessed throughout all practical activities using the department assessment tracker. All students track their practical progress against exam criteria every 4th lesson. Along with Assessment Point data.

**Educational Visits**

This year we are looking forward to visiting the Jaguar Land Rover factory in Merseyside. After a guided tour around the factory to watch the robots making the Range Rover Evoque we take part in a question and answer session with our tour guides.

**Extra curricular activities**

Engineering students will be invited to attend a variety of dinnertime activities, they will have the opportunity to expand on their engineering skills, terminology, and understanding.

YOUR SCHOOL JOURNEY

# YEAR 11

## Food, preparation and nutrition

**Autumn term .**

Introduction to NEA 1– Complete a 2500 science investigation worth 15% of the final mark.

Get cooking – Weekly practical sessions, developing practical skills focusing on the functions of fats and sugars.

Introduction to NEA 2, practical exam.

Complete NEA 2 worth 35% of the final mark.

Investigate and develop all areas of NEA 2 testing and sampling a wide range of dishes in preparation for the practical exam in the last 2 weeks of term.

Mock exam.

**Spring term.**

The science behind food– Complete a range of practical investigations into the scientific functions in food.

Nutritional profiling of people groups– Who needs what and why?

Functions of ingredients

**Summer term**

Lets reflect– Look back on core topics covered over year 10 and 11.

Complete a range of cooks associated with bread, pastry, cake and pasta making.

**Educational Visits and activities**

Workshop with the British heart foundation and the army. Looking at catering for people groups and the investigating how food impacts on the body.

**Assessment.**

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YOUR SCHOOL JOURNEY

# YEAR 11

## Product Design (Systems)

Autumn.

NEA– Design and development for your final prototype.

Produce a range of innovative and client centred design using, orthographic, 2D design and 3D design.

Investigate, model and test a range of prototype.

Develop your knowledge of materials and their properties recall and recap on prior learning by applying them to exam contexts.

Mock exam

Challenge yourself and get making- Complete a final prototype based on your previous testing.

Mock exam

Spring

Develop your knowledge in composite materials ,weekly written challenges based on core materials.

What do people think? Product test your final prototype, see if it is fit for purpose.

Summer term

Product life cycle – How does your product impact on the environment?

Check your knowledge– Revision into linkages, levers, gears and maths within DT.

Extra curricula

There will be weekly revision and drop in sessions available to all students along with Saturday sessions throughout the year.

Assessment

There is a practical assessment every 4th lesson, and theory assessment every half term. Why? To check students long term memory and development of practical skills. So that all pupils can act on personalised next steps and take responsibility for their future progress.