DESIGN TECHNOLOGY

Timbers Route

Core content and specialist knowledge: Revise and practice exam papers in preparation for your final exam in DT.

AO3: Evaluate & Test: Gain feedback throughout your project, and test your final product – have you met your brief?

AO2: Realise Design ideas: Manufacture your product using skills and processes used throughout your DT journey.

AO2: Generate & Develop Design Ideas: Develop your sketches and communicate ideas. Developing them using modelling techniques.

AO1: Specification & Brief: Clarify the needs and wants of the project writing your own brief & specification

AO1:Research & investigation Follow on from your summer task to further understand the context. Client interviews, product, site analysis and designer research.

Initial Concept Sketches: What ideas do you have already? Can you visualize them?

Investigate the design possibilities: What is the design context? What research can you carry out to gather

FINAL GCSE EXAM

EXAM REVISION

NEA COURSEWORK

YEAR 11

GCSE NEA CONTEXTS

KS4

After choosing GCSE options in year 9, we focus your studies in years 10 & 11, through exciting, real life projects. Deepen your understanding of DT in the world around us whilst developing products that help various needs and users.

Theory: Evaluating the suitability of different woodworking joints and finishing techniques, identification of timbers

Make: Students learn the skills to make 6 different woodworking joints and apply different finishes to timber

Design: Students follow a set of plans to make a virtual model of a do nothing machine. They can then adapt it to suit their own requirements

Theory: Learning the techniques and skills used to create products using the 3D printer. This links with theory content including production techniques, development of ideas and

Make: Students will make a virtual do nothing machine, which can then be 3D printed to learn how to use the 3D printer. Products can then be finished using appropriate techniques

Design: Use the knowledge gained from making the joints frame to manufacture a housing for a night light. Design an acrylic sheet for light to shine through.

Theory: Electronic systems, power systems and new and emerging technology

Make: Soldering components to a PCB to create a circuit for a night light. Also making a simple housing for the circuit using timber.

Do nothing machine

Night Light Project

Joints frame

Speaker project

Mechanisms Project

TEXTILES: DAY OF THE DEAD

Make: Using stripboard/wiring to assemble a USB powered circuit with different type of LEDs..

Core Theory: Papers and boards, composite materials, smart materials.

Design: Using nets and translucent paper to create detailed and clear silhouettes

Make: Using timbers to produce a mechanical toy

Theory: Mechanisms theory including cams, levers and linkages

Design: Designing a creative and fun mechanical toy using cams, linkages and/or gears

Make: Sublimation printed work that has been scanned in, embroidered / machine stitching over the top. Piece has a combination of mixed media to portray their identity, which can be attached to a bag / placed within a photo frame.

Materials: Mixed media, polyester fabric, sublimation printing

Artists: Maurizio Anseri, Deborah Klein, Nathaniel Mary Quinn, Picasso, Susie Vickery

Design: Creating a self identity piece reflecting the student's personality, interests and features

YEAR 10

Testing / Modelling: Will my product work? What can I do to improve it?

Design: Creating ideas to produce a lettering style inspired by Graffiti artwork, also inspired by artists' use of colour & styles

Make: Layered applique piece with machine stitching over the top. Can be backed with a panel to turn into a phone case.

Artists: Matisse

Origin of food- field to plate. Function of ingredients. Review and apply Eatwell guide, designing food which fuses culture

Making: Fajitas, Tabbouleh, Curried rice & Pasta primavera

BUILDING HEALTHY FOOD HABITS FOR LIFE

Making : Bread Whirls, Chickpea/potato curry, Pasties, Roux Pasta Bake

What are the Healthy Eating Recommendations ? What is a menu plan ? Do you know what eating the colours of the rainbow are ? Did you know that some types of food are more energy dense than others ? What is HPF? Students are shown how to meal plan based on Healthy Choices of Food. In their practical they are introduced to some higher-level skills – Shaped bread, reduction and roux sauces and ruff puff pastry.

Advanced soldering: Use of PCB to develop soldering work

TEXTILES: "Graffiti Case"

FUSION FOOD

YEAR 9

Evaluate: At each stage of making, how can you improve your product? Would you change any thing?

Materials: recycled/found fabrics, all with different colours, patterns and textures

Make: Focus on high quality finish. Using mitre & tenon saws, sander and chisel for joints. Engraving with laser cutter

Design: Design a unique logo to be Laser cut using CAD.

Materials: Wood classification. Where does timber come from? What is plywood? What are it's properties?

Design: Designing for a specific user. Detailed circuits, input process and out puts. Switches, microchips, capacitors LED's

STEADY HAND TESTER

PHONE STAND

Work in more depth on projects, honing your practical skills, improving your resilience & problem solving whilst developing independence in the workshop.

Make: Basic soldering, copper tape circuit line-bending, use of card, paper and fabric to customize the product

Materials: Working with recycled fabrics. Impact of textiles on the environment

Make: Joining techniques. Sewing by hand and by sewing machine

Nutrition: Eatwell guide, 5-a-day campaign and the nutritional panels on food packaging

Making: Pasta salad, Carrot cake, Quesadilla, Pizza and Cheese & courgette scones.

Design: Designing for a specific user Simple circuits, input process and out puts.

PATCHWORK POPART CUSHION

FOOD FOR A HEALTHY LUNCHBOX

YEAR 8

Materials: Polymers Classification. What is a polymer? What is a circuit?

Evaluate: Does your product work? How can you fix problems?

Design: Basic 2D drawing techniques. Working with geometric shapes Lay planning

HAND-HELD FAN

ACRYLIC KEYRING

YEAR 7

Experience a wide range of fun and exciting projects that teach you valuable skills in the workshop, understanding different materials and how they work.

Evaluate: What makes a good keyring? How can you improve your skills?

Make: Shaping wire Heat setting Cutting to shape Embossing acrylic Abrading to a high-quality finish Drilling

Design: Designing for users Shading & Rendering

Materials: Acrylic – origin, types and material properties

Introduction to the workshop: Health and Safety

Baseline Assessment: What do you already know about DT?

KS3

DESIGN TECHNOLOGY

Systems route

YEAR 11

FINAL GCSE EXAM

Core content and specialist knowledge: Revise and practice exam papers in preparation for your final exam in DT.

EXAM REVISION

AO3: Evaluate & Test: Gain feedback throughout your project, and test your final product – have you met your brief?

AO2: Realise Design ideas: Manufacture your product using skills and processes used throughout your DT journey.

AO2: Generate & Develop Design Ideas: Develop your sketches and communicate ideas. Developing them using modelling techniques

NEA COURSEWORK

AO1: Specification & Brief: Clarify the needs and wants of the project writing your own brief & specification

AO1:Research & investigation Follow on from your summer task to further understand the context. Client interviews, product, site analysis and designer research.

Initial Concept Sketches: What ideas do you have already? Can you visualize them?

Investigate the design possibilities: What is the design context? What research can you carry

GCSE NEA CONTEXTS

Systems Theory: Materials processing, treatments & finishing techniques

Make: through hole soldering & drilling on individualized PCBs. Assembling & finishing cases to a high quality.

Systems Theory: Planning and production methods

Design: using CAD to design templates for photoetching. Using CAD to design & adapt advanced circuits. Sketching designs for product ideas by hand. Using 2D design for accurately laser cutting casings in layers.

Security Project

Systems Theory: Materials and stock forms

Research & Specification: Conducting research into the problem. Identifying a user, [illegible]

Display Stand

Make: Using flying leads with inputs & outputs. Neat & accurate cable management. Programming in products. Making cases using slot joints/ tabs.

Systems Theory: Design contexts, Sources, origins & sustainability.

Design: looking at fashions and trends to produce 3D isometric designs advertising an interest area. Conducting market research. Exploded drawings. Using CAD to program microcontrollers.

Make: Using MDF layers. Finishing techniques. PCB soldering skills & using 555 timers. Using recycled materials

Core Theory: Informing design decisions

Board Game

Design: Designing a board game for a specific target market. 2D design for customizing designs Simple circuits on CAD modelling software (Yenka)

Core Theory: New and emerging technologies

YEAR 10

Speaker project

Make: Using stripboard/wiring to assemble a USB powered circuit with different type of LEDs.

Core Theory: Papers and boards, composite materials, smart materials.

Design: Using nets and translucent paper to create detailed and clear silhouettes

Make: Using timbers to produce a mechanical toy

Mechanisms Project

Theory: Mechanisms theory including cams, levers, linkages and gears

Design: Designing a creative and fun mechanical toy using cams, linkages and/or gears

TEXTILES: DAY OF THE DEAD

Make: Sublimation printed work that has been scanned in, embroidered / machine stitching over the top. Piece has a combination of mixed media to portray their identity, which can be attached to a bag / placed within a photo frame.

Materials: Mixed media, polyester fabric, sublimation printing

Artists: Maurizio Anseri, Deborah Klein, Nathaniel Mary Quinn, Picasso, Susie Vickery

Design: Creating a self identity piece reflecting the student's personality, interests and features

KS4

After choosing GCSE options in year 9, we focus your studies in years 10 & 11, through exciting, real life projects. Deepen your understanding of DT in the world around us whilst developing products that help various needs and users.

BUILDING HEALTHY FOOD HABITS FOR LIFE

Making : Bread Whirls, Chickpea/potato curry, Pasties, Roux Pasta Bake

What are the Healthy Eating Recommendations ? What is a menu plan ? Do you know what eating the colours of the rainbow are ? Did you know that some types of food are more energy dense than others ? What is HPF? Students are shown how to meal plan based on Healthy Choices of Food. In their practical they are introduced to some higher-level skills – Shaped bread, reduction and roux sauces and ruff puff pastry.

YEAR 9

FUSION FOOD

Origin of food- field to plate. Function of ingredients. Review and apply Eatwell guide, designing food which fuses culture

Making: Fajitas, Tabbouleh, Curried rice & Pasta primavera

Artists: Matisse

TEXTILES: Graffiti Phone Case

Make: Layered applique piece with machine stitching over the top. Can be backed with a panel to turn into a phone case.

Design: Creating ideas to produce a lettering style inspired by Graffiti artwork, also inspired by artists' use of colour & styles

Testing / Modelling: Will my product work? What can I do to improve it?

Design: Isometric projection, CAD development CAM – use of laser cutter to customize casing

Advanced soldering: Use of PCB to develop soldering work

PHONE STAND

Materials: Wood classification. Where does timber come from? What is plywood? What are it's properties?

Design: Designing for a user and client. What is an isometric projection? Develop design ideas using CAD

Make: Focus on high quality finish. Using mitre & tenon saws, sander and chisel for joints. Engraving with laser cutter

Materials: recycled/found fabrics, all with different colours, patterns and textures

Evaluate: At each stage of making, how can you improve your product? Would you change any thing?

STEADY HAND TESTER

Design: Designing for a specific user. Detailed circuits, input process and out puts. Switches, microchips, capacitors LED's

Work in more depth on projects, honing your practical skills, improving your resilience & problem solving whilst developing independence in the workshop.

YEAR 8

FOOD FOR A HEALTHY LUNCHBOX

Making: Pasta salad, Carrot cake, Quesadilla, Pizza and Cheese & courgette scones.

Nutrition: Eatwell guide, 5-a-day campaign and the nutritional panels on food packaging

PATCHWORK POPART CUSHION

Make: Joining techniques. Sewing by hand and by sewing machine

Materials: Working with recycled fabrics. Impact of textiles on the environment

Make: Basic soldering, copper tape circuit line-bending, use of card, paper and fabric to customize the product

Design: Designing for a specific user Simple circuits, input process and out puts.

HAND HELD FAN

Design: Basic 2D drawing techniques. Working with geometric shapes Lay planning

Evaluate: Does your product work? How can you fix problems?

Materials: Polymers Classification. What is a polymer? What is a circuit?

Experience a wide range of fun and exciting projects that teach you valuable skills in the workshop, understanding different materials and how they work.

YEAR 7

ACRYLIC KEYRING

Introduction to the workshop: Health and Safety

Materials: Acrylic – origin, types and material properties

Design: Designing for users Shading & Rendering

Make: Shaping wire Heat setting Cutting to shape Embossing acrylic Abrading to a high-quality finish Drilling

Evaluate: What makes a good keyring? How can you improve your skills?

Baseline Assessment: What do you already know about DT?

KS3

DESIGN TECHNOLOGY

Food route

YEAR 11

FINAL GCSE EXAM 50% final grade

Food Science and Nutrition: Revise and practice exam papers in preparation for your final exam in FOOD.

EXAM REVISION

Analyse & Evaluate your Final dishes Detailed analysis of your final dishes – how well did they meet the specification ?

PLANNING FOR AND MAKING THE FINAL DISHES: Using the knowledge from your technical cooks – plan for at least 3 final dishes to be cooked in your 3 hour practical exam

NEA2 COURSEWORK 35% final grade

PLAN AND COOK 4 DISHES. Using your research. Make sure they are suitable for your brief and contain as many high level technical skills as possible

SELECT YOUR BRIEF: Do your research – it needs to be relevant. Summarise what you have found.

NEA1 COURSEWORK 15% final grade

Analyse & Evaluate Look at your results, discuss if they are what you expected, if not why not? Evaluate your findings

Investigation Write a series of experiments to test your hypothesis. Investigate the physical and chemical properties of ingredients

Research Research the science related to their chosen brief. Write a hypothesis based on your research

In Year 11 one lesson in five will be theory – first focusing on unfinished exam content and then on revising topics from Year 10

YEAR 10

CARBOHYDRATES

Making:Term 1: Vegetable Soup & Cheese scones, Cottage Pie Roux Pasta Bake

Macronutrients: Introduction to basic nutrition, understand why we need energy and where we get it from. Focus on Carbohydrates – their source, function and the effects of deficiency and excess

BREAD & EGGS

Bread: Function of ingredients, raising agents. Science of yeast and non yeast doughs. Lean and enriched doughs

Making Term 2: Bread rolls, Meringues, Choux & Cinnamon rolls

Eggs: Sources, nutritional value. Storage, ethical and environmental considerations in animal welfare standards

PROTEIN: HBV/LBV

Sources, types and nutritional value. Primary and secondary processing. **Knife skills:** portioning, filleting & de-skinning

FATS & OILS

Making: Term 3: Fish cakes. Curry pastes – the composition and ingredients from different regions of Asia

Making Term 4: Quiche, Choux, Sausage rolls, Samosas

FOOD PROVENANCE

How is food produced locally and globally ?
How can the climate affect food production and what impact does food have on the environment? What is a carbon footprint? What is seasonal food? How can we ensure good living conditions for both humans and animals ?

NUTRITIONAL NEEDS

KS4

After choosing GCSE options in year 9, we focus your studies in years 10 & 11, through exciting, real life projects. Deepen your understanding of DT in the world around us whilst developing products that help various needs and users.

SPEAKER PROJECT

Core Theory: Electronics

Design: Designing for a target audience and using CAD to embellish speaker for specific user

Make: Soldering PCB's, making cases using cutomised lasercut parts.

Mechanisms Project

Theory: Mechanisms theory including cams, levers, linkages and gears

Make: Using timbers to produce a mechanical toy

Design: Designing a creative and fun mechanical toy using cams, linkages and/or gears

DAY OF THE DEAD BAG

Make: Sublimation printed work that has been scanned in, embroidered / machine stitching over the top. Piece has a combination of mixed media to portray their identity, which can be attached to a bag / placed within a photo frame.

Materials: Mixed media, polyester fabric, sublimation printing

Artists: Maurizio Anseri, Deborah Klein, Nathaniel Mary Quinn, Picasso, Susie Vickery

Design: Creating a self identity piece reflecting the student's personality, interests and features

BUILDING HEALTHY FOOD HABITS FOR LIFE

Making: Chickpea/potato curry, Pasties, Roux Pasta Bake

What are the Healthy Eating Recommendations ? What is a menu plan ? Do you know what eating the colours of the rainbow are ? Did you know that some types of food are more energy dense than others ? What is HPF? Students are shown how to meal plan based on Healthy Choices of Food. In their practical they are introduced to some higher-level skills – Shaped bread, reduction and roux sauces and ruff puff pastry.

YEAR 9

TEXTILES: Graffiti Phone Case

Design: Isometric projection, CAD development CAM – use of laser cutter to customize casing

Testing / Modelling: Will my product work? What can I do to improve it?

Advanced soldering: soldering flying leads onto compontents

Design: Creating ideas to produce a lettering style inspired by Graffiti artwork, also inspired by artists' use of colour & styles

Make: Layered applique piece with machine stitching over the top. Can be backed with a panel to turn into a phone case.

Artists: Matisse

FUSION FOOD

Origin of food- field to plate. Function of ingredients. Review and apply Eatwell guide, designing food which fuses culture

Making: Curried vegetable rice, Fajitas, Pizza & 'Your fusion dish'

STEADY HAND TESTER

Design: Designing for a specific user. Detailed circuits, input process and out puts. Switches, capacitors, motors.

Evaluate: At each stage of making, how can you improve your product? Would you change any thing?

Materials: recycled/found fabrics, all with different colours, patterns and textures

Make: Focus on high quality finish. Using mitre & tenon saws, sander and chisel for joints. Engraving with laser cutter

Design: Designing for a user and client. What is an isometric projection? Develop design ideas using CAD

PHONE STAND

Materials: Wood classification. Where does timber come from? What is plywood? What are it's properties?

Work in more depth on projects, honing your practical skills, improving your resilience & problem solving whilst developing independence in the workshop.

YEAR 8

HAND HELD FAN

Make: Simple circuit including soldering Scissors, files and sandpaper used to shape the case. Use of plastic to create the fan casing

Design Designing for a specific user Simple circuits, input process and out puts.

Materials: Electrical components. What is a circuit?

Evaluate: Does your product work? How can you fix problems?

PATCHWORK POPART CUSHION

Materials: Working with recycled fabrics. Impact of textiles on the environment

Make: Joining techniques. Sewing by hand and by sewing machine

Design: Basic 2D drawing techniques. Working with geometric shapes Lay planning

FOOD FOR A HEALTHY LUNCHBOX

Nutrition: Eatwell guide, 5-a-day campaign and the nutritional panels on food packaging

Making: Pasta salad, Carrot cake, Quesadilla, Pizza and Cheese & courgette scones.

YEAR 7

ACRYLIC KEYRING

Evaluate: What makes a good keyring? How can you improve your skills?

Make: Shaping wire Heat setting Cutting to shape Embossing acrylic Abrading to a high-quality finish Drilling

Design: Designing for users Shading & Rendering

Materials: Acrylic – origin, types and material properties

Baseline Assessment: What do you already know about DT?

Introduction to the workshop: Health and Safety

KS3

Experience a wide range of fun and exciting projects that teach you valuable skills in the workshop, understanding different materials and how they work.

ART & DESIGN TEXTILES

Textile Design Route

AO3: Record ideas, observations and insights relevant to intentions as work progresses

AO1: Develop ideas through investigations, demonstrating critical understanding of sources

AO2: Refine work by exploring ideas, selecting and experimenting with appropriate media, materials, techniques and processes

AO4: Present a personal and meaningful response that realises intentions and demonstrates understanding of visual language

Students are regularly made aware of the Assessment Objectives to meet

Exam board set a range of themes
Students pick one theme to investigate and prepare a textile outcome for their supervised exam

GCSE EXAM (10 HRS)

Exam preparation (40%)

SUSTAINED PROJECT (CONT'D)

YEAR 11

Techniques/Making: coursework to reflect a variety of textile techniques, with a final outcome exploring the chosen theme to a high artistic standard

Artists: Rosalind Monks, Abby Diamond, Sophie Standing, Nigel Cheney, etc.

Materials: mixed media and textile materials

Design: Carrying out a sustained project to investigate a specific subject within ANIMALS & INSECTS

Sustained Project: Nature (Animals & Insects)

KS4

After choosing GCSE options in year 9, we focus your studies in years 10 & 11, through exciting, real life projects. Deepen your understanding of DT in the world around us whilst developing products that help various needs and users.

Design: exploring mixed media to create a range of fashion and fabric illustrations inspired by different artists

Techniques/Making: sublimation printing and creative techniques; leading to creating a shoulder/tote bag

Artists: Corinne Young, Gordon Hopkins, Angie Lewin

Design: using mixed media to create a variety of botanical studies

Materials: inks, felt, solvy, fancy yarns & threads/fibres

Techniques/Making: creating 3D shaped plants/flowers with shape and form as the main focus

Materials: polycotton, found fabrics

Artists: Rene Gruau, Alexander McQueen, Gaudi

Techniques and Illustration project (Bag, Shorts or Skirt)

Sustained Project: Nature (Botanical)

Make: Screen printed and heat transfer printed artwork, with applique and machine stitching over the top.

Materials: Mixed media, polyester fabric, heat transfer paints

Artists:Thanyeea McArdle

Design: Day of the Dead inspired decorative skull panel on a drawstring bag

TEXTILES Day of the Dead

Core Theory: Papers and boards, composite materials, smart materials.

Design: Using nets and translucent paper to create detailed and clear silhouettes

Make: Using stripboard/wiring to assemble a USB powered circuit with different type of LEDs..

Theory: Mechanisms theory including cams, levers, linkages and gears

Design: Designing a creative and fun mechanical toy using cams, linkages and/or gears

Make: Using timbers to produce a mechanical toy

Speaker project

Mechanisms Project

YEAR 10

Design: Isometric projection, CAD development CAM – use of laser cutter to customize casing

Testing / Modelling: Will my product work? What can I do to improve it?

Advanced soldering: Use of PCB to develop soldering work

Design: Creating ideas to produce a lettering style inspired by Graffiti artwork, also inspired by artists' use of colour & styles

Make: Layered applique piece with machine stitching over the top. Can be backed with a panel to turn into a phone case.

Artists: Matisse

TEXTILES: Graffiti Phone Case

Origin of food- field to plate. Function of ingredients. Review and apply Eatwell guide, designing food which fuses culture

FUSION FOOD

Making: Fajitas, Tabbouleh, Curried rice & Pasta primavera

BUILDING HEALTHY FOOD HABITS FOR LIFE

Making : Bread Whirls, Chickpea/potato curry, Pasties, Roux Pasta Bake

What are the Healthy Eating Recommendations ? What is a menu plan ? Do you know what eating the colours of the rainbow are ? Did you know that some types of food are more energy dense than others ? What is HPF? Students are shown how to meal plan based on Healthy Choices of Food. In their practical they are introduced to some higher- level skills – Shaped bread, reduction and roux sauces and ruff puff pastry.

YEAR 9

Design: Designing for a specific user. Detailed circuits, input process and out puts. Switches, microchips, capacitors LED's

Evaluate: At each stage of making, how can you improve your product? Would you change anything?

Materials: recycled/found fabrics, all with different colours, patterns and textures

Make: Focus on high quality finish. Using mitre & tenon saws, sander and chisel for joints. Engraving with laser cutter

Design: Designing for a user and client. What is an isometric projection? Develop design ideas using CAD

Materials: Wood classification. Where does timber come from? What is plywood? What are it's properties?

STEADY HAND TESTER

PHONE STAND

Make: Basic soldering, copper tape circuit
Use of card, paper and fabric to customize the product

Design: Designing for a specific user
Simple circuits, input process and out puts.

Make: Create a patchwork cushion with a Pop Art inspired panel, to suit individual designs. Use of fabric crayons to create Pop Art panel

Materials: Recycled fabrics, promotes sustainability.

Nutrition: Eatwell guide, 5-a-day campaign and the nutritional panels on food packaging

Making: Pasta salad, Carrot cake, Quesadilla, Pizza and Cheese & courgette scones.

PATCHWORK POP ART CUSHION

FOOD FOR A HEALTHY LUNCHBOX

YEAR 8

Work in more depth on projects, honing your practical skills, improving your resilience & problem solving whilst developing independence in the workshop.

Materials: Polymers Classification. What is a polymer? What is a circuit?

Evaluate: Does your product work? How can you fix problems?

Artists: Roy Lichtenstein, Andy Warhol, Bridget

Design: creating basic 2D sketches, including Pop Art styles. Working with geometric shapes, using templates to draw around / include seam allowance

HAND HELD FAN

ACRYLIC KEYRING

YEAR 7

Experience a wide range of fun and exciting projects that teach you valuable skills in the workshop, understanding different materials and how they work.

Evaluate: What makes a good keyring? How can you improve your skills?

Make: Shaping wire
Heat setting
Cutting to shape
Embossing acrylic
Abrading to a high-quality finish
Drilling

Design: Designing for users
Shading & Rendering

Materials: Acrylic – origin, types and material properties

Introduction to the workshop: Health and Safety

Baseline Assessment: What do you already know about DT?

KS3