

HONLEY HIGH SCHOOL

CURRICULUM GUIDE 2023-2024

DESIGN TECHNOLOGY & CONSTRUCTION

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STRIVE FOR THE HIGHEST





D&T Year 7

AUTUMN 1

<p>Workshop Introduction General introduction to specialist workshops including H&S and fire procedure.</p>	<p>Boat Project The boat project provides students with the skills and knowledge to cut shape and finish wood. During the project, students are guided through the process of cutting and shaping using a range of techniques and then given the opportunity to work independently on other sections to create a finished boat</p>	<p>Prior Learning Students will draw on their experiences of cutting and wasting materials from KS2</p>
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AUTUMN 2

<p>Woods Building on the practical knowledge gained in the boat project, this project gives students an insight into the properties and features of natural and man-made timbers. The project will provide students with the ability to identify and select materials for different applications.</p>	<p>2D Drawing Skills Good sketching skills underpin successful design. This project shows students how to sketch and render objects and shapes in 2D providing the starting point to becoming successful designers.</p>	<p>Prior Learning Students will draw on their experiences of materials and drawing from KS2</p>
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SPRING 1

<p>Mechanisms Students build and experiment with a range of different mechanisms before tackling a design challenge</p>	<p>Design Challenge The design and make challenge is a chance for students to showcase their skills and imagination by creating innovative solutions to an everyday problem.</p>	<p>Prior Learning Most students will have some basic experience of mechanisms from KS2. Students will draw upon their knowledge of drawing from the previous term.</p>
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SPRING 2

<p>Design Challenge The design and make challenge is a chance for students to showcase their skills and imagination by creating innovative solutions to an everyday problem</p>	<p>Prior Learning Students are required to use their knowledge of 2D and 3D sketching techniques to create a range of ideas.</p>
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SUMMER 1

<p>Design Challenge Students plan and manufacture their design from the previous term</p>	<p>Prior Learning Students draw upon their practical experiences in KS2 and those learnt during the boat project.</p>
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SUMMER 2

<p>Structures Students learn about a range of structures used to support and span and tackle a mini design and build challenge</p>	<p>Orthographic Drawing Students learn how to create orthographic drawings of a range of different objects including Lego bricks</p>	<p>Prior Learning Students will build on and apply their technical knowledge of structures and mechanisms.</p>
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CAREERS LINKS

ICT teacher, graphic designer, games developer, product designer, engineer, using CAD as a designer, architect or engineer, fashion designer, fabric specialist, costume designer, textile technician or textile developer, careers in catering, as a chef, food hygiene, product development, manufacturing and many more.

CHARACTER LINKS

Teamwork, responsibility when using tools and equipment (performance virtues), resilience, learning from failure, awareness of the needs of others, awareness of environmental issues (civic virtues), critical thinking, problem solving, making judgements, awareness of health and wellbeing (moral virtues).

KEY ASSESSMENT DATES

Students' knowledge and understanding will be assessed through practical and graphic outcomes and end-of-topic tests.



AUTUMN 1

Phone Stand including Polymers

Students develop their knowledge and understanding of materials and process through the manufacture of an acrylic phone stand. Students revisit machines and processes from Yr7 as well as learning new processes such as buffing and line bending. Students learn about the differences and properties of 'Thermoforming' and 'Thermosetting' polymers.

Prior Learning
Workshop safety. Measuring and marking with accuracy and precision. Practical use of hand tools and machinery.

AUTUMN 2

Moisture Tester

Students learn about a range of electronic components and learn how to join them to create a plant moisture tester.

One- and Two-Point Perspective

Students learn how to draw in One- and Two-point perspective

Prior Learning
Students may have encountered perspective drawing

SPRING 1

Art Deco Clock

Students research the Art Deco design style and create a range of ideas for an Art deco inspired clock.

Prior Learning
Student will use drawing techniques and design strategies from YR7

Art Deco Clock

Student plan and make their Art deco inspired clock

Prior Learning
Knowledge of materials properties and manufacturing processes.

SUMMER 1

Storage box

Students will develop their understanding of woodworking with the manufacture of a small wooden storage box made with rebate joints

Isometric

Students will learn how to create an isometric drawing with colour of the storage box they have made.

Prior Learning
Knowledge of materials properties and manufacturing processes.

SUMMER 2

Bots

Students will use computers to control and sense Bots in the world around them.

SMART / Modern Materials

Students explore the possible applications and advantages of a range of smart and modern materials. These include Memory Shaping Alloys, Thermochromic Paints and Hydrogels.

Prior Learning
KS2 / KS3 Science

CAREERS LINKS

ICT Teacher, Graphic Designer, Games Developer, Product Designer, Engineer, CAD Designer, Architect or Engineer, Fashion Designer, Fabric Specialist, Costume Designer, Textile Technician or Textile Developer, Careers in Catering, Food hygiene, Product Development, Manufacturing and many more.

CHARACTER LINKS

Teamwork, responsibility when using tools and equipment (performance virtues), resilience, learning from failure, awareness of the needs of others, awareness of environmental issues (civic virtues), critical thinking, problem solving, making judgements, awareness of health and wellbeing (moral virtues).

KEY ASSESSMENT DATES

Students' knowledge and understanding will be assessed through practical and graphic outcomes and end-of-topic tests.

NITIMUR IN EXCELSIS – STRIVE FOR THE HIGHEST



Textiles, Food and DT Year 9

TEXTILES

EDO MORALES

Students will re-cap health and safety, Student will learn a range of new embellishment techniques and use these to create an artefact design based on the artist Edo Morales.

EDO MORALES

Students will continue their work on Edo Morales applying their knowledge to make their finished artefact.

Prior Learning

Build on skills and knowledge from Years 7 and 8 - students learnt how to set up a sewing machine, basic skills, complete a simple applique technique and know how to use mood boards and research to inspire their own design work including annotating their design.

CAREERS LINKS

FOOD - good preparation for any career in the food, drink and hospitality industry: Recipe and Product development, Food Promotion, Sales and Advertising, Food Hygiene, Education, Child Care Sector, Dietician, Catering
TEXTILES – Designer, Fabric Specialist, Costume Designer, Textiles Technician, Manufacturing, Product Development
DT – Graphic Designer, Product Designer, Construction, DIY, Architect, Engineer

FOOD

PASTA AND BREAD MAKING

Students will develop knowledge and skill on pastry and bread making.

PASTA AND BREAD MAKING

Students will develop knowledge and skill on raising agents. They will begin to look at nutritional analysis.

Prior Learning

Build on skills learning in Y7 & Y8– students learnt how to work safely and hygienically and rubbing in method for pastry.

CHARACTER LINKS

Teamwork, responsibility when using tools and equipment, resilience, awareness of the needs of others, critical thinking, problem solving, awareness of health and safety, creativeness

DESIGN & TECHNOLOGY

STRUCTURES PROJECT

Students will learn about conventional house construction and what the different parts of a house must do for it to retain structural stability.

Students will build a model house and learn why various construction techniques are applied during the building process.

PEWSTER CASTING

Students will learn about the sources and production of metal and some of the ways it is shaped and formed. They will design and finish a small pewter key ring.

CAD/CAM

Students will gain experience of using Google Sketch Up and draw a range of different objects including chocolate bards and boats.

Prior Learning

Students have prior knowledge of 2D and 3D drawing techniques, awareness of stress and strain (Y7 structures project and physics lessons) properties of materials and manufacturing processes. They may have some knowledge of Google Sketch Up from ICT lessons.

KEY ASSESSMENT DATES

Students' knowledge and understanding will be assessed through practical and graphic outcomes and end-of-topic tests.

Subjects rotate every ½ term

NITIMUR IN EXCELSIS – STRIVE FOR THE HIGHEST



DT Year 10

AUTUMN 1

<p>One- and Two-point Perspective Students develop their drawing skills with One- and Two-point perspective sketching</p>	<p>Soma Cube Students apply their drawing skills to create a solution to the Soma cube before making a cube</p>	<p>Coat Hook Students test their designing and making skills, creating ideas and a finished prototype coat hook made from recycled table legs</p>	<p>Prior Learning Students will draw upon design and sketching skills from KS3 along with knowledge of materials.</p>
<p>Coat Hook Students test their designing and making skills, creating ideas and a finished prototype coat hook made from recycled table legs</p>	<p>Theory: Metal Materials Building on KS3 knowledge and understanding of metal materials, this topic delves deeper into the features and uses of metal materials</p>	<p>Phone Stand Students learn to interpret orthographic drawing to manufacture a mobile phone stand / speaker</p>	<p>Prior Learning Students will draw upon design and sketching skills from KS3 along with knowledge of materials.</p>

CAREERS LINKS

ICT teacher, graphic designer, games developer, product designer, engineer, using CAD as a designer, architect or engineer, fashion designer, fabric specialist, costume designer, textile technician or textile developer, careers in catering, as a chef, food hygiene, product development, manufacturing and many more.

AUTUMN 2

<p>Making Task: Phone Stand Students learn to interpret orthographic drawing to manufacture a mobile phone stand / speaker</p>	<p>Theory: Wooden Materials Building on KS3 knowledge and understanding of wooden materials, this topic delves deeper into the features and uses of wooden materials</p>	<p>Prior Learning During KS3 students will have worked extensively with wooden materials.</p>
<p>Spatula Students learning how wood can be bent before making a laminated spatula</p>	<p>Skills Stick – Wood Students learn about a range of wood joints and manufacturing processes</p>	<p>Prior Learning During KS3 students will have worked extensively with wooden materials.</p>

CHARACTER LINKS

Teamwork, responsibility when using tools and equipment (performance virtues), resilience, learning from failure, awareness of the needs of others, awareness of environmental issues (civic virtues), critical thinking, problem solving, making judgements, awareness of health and wellbeing (moral virtues).

SUMMER 1

<p>Skills Stick- Metal Students learn about a range of metal joining and manufacturing processes.</p>	<p>Polymers + LED Light Students develop further knowledge of Polymers and make a cast resin LED light</p>	<p>Prior Learning During KS3 students gained working knowledge of metals and polymers.</p>
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KEY ASSESSMENT DATES

Students will complete either in or end of topic assessment.

SUMMER 2

<p>Exam Preparation Students revisit prior knowledge and develop techniques and strategies to support the mock exams</p>	<p>Core technical Principals Students will explore the following topics: Energy generation and storage / New and emerging technologies / Systems approach to designing / Mechanical devices / Materials and properties</p>	<p>Prior Learning</p>
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Year 10 mock exam - June

NITIMUR IN EXCELSIS – STRIVE FOR THE HIGHEST



DT Year 11

AUTUMN 1

NEA-Task Analysis and Design Brief Students explore the task set by the exam board before research and creating a design brief.	NEA Ideas Students generate a range of solutions to the design task.	Ongoing Theory and Exam Questions Students will revisit the theory studied in year 10 and answer exam style questions to embed the knowledge.	Prior Learning The NEA task is designed to draw upon skills, knowledge and understand from all aspects of KS3 and Yr10 Design Technology
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AUTUMN 2

Mock Examination Preparation	NEA Development Students use a range of techniques to develop one of their initial ideas into a final solution. students liaise with their clients' during development ensuring designs are fit for purpose	Prior Learning The NEA task is designed to draw upon skills, knowledge and understand from all aspects of KS3 and Yr10 Design Technology
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SPRING 1

NEA Development Students use a range of techniques to develop one of their initial ideas into a final solution. students liaise with their clients' during development ensuring designs are fit for purpose	Manufacturing Specification and Planning for Manufacture Students plan the materials they need and the processes they will use, including a time plan and risk assessment for the making task	NEA Making Students use a range of materials and techniques to manufacture their product	Prior Learning The NEA task is designed to draw upon skills, knowledge and understand from all aspects of KS3 and Yr10 Design Technology
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SPRING 2

NEA Making Students use a range of materials and techniques to manufacture their product	NEA Evaluating Students evaluate their work against their intentions, get user feedback and test the product in a real situation	Prior Learning The NEA task is designed to draw upon skills, knowledge and understand from all aspects of KS3 and Yr10 Design Technology
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SUMMER 1

Exam Revision Students will revisit the theory studied in year 10 and answer exam style questions to embed the knowledge in preparation for the examination	Prior Learning Revision reinforces knowledge covered throughout all areas of technology across all year groups
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CAREERS LINKS

ICT teacher, graphic designer, games developer, product designer, engineer, using CAD as a designer, architect or engineer, fashion designer, fabric specialist, costume designer, textile technician or textile developer, careers in catering, as a chef, food hygiene, product development, manufacturing and many more.

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KEY ASSESSMENT DATES

November mock exam
Terminal exam June

NITIMUR IN EXCELSIS – STRIVE FOR THE HIGHEST



Construction Year 10

AUTUMN 1

<p>Unit: 1.8 Health & Safety Students will learn about the 1974 Health and Safety at Work Act covering areas of legislation and how they are applied within the Construction industry</p>	<p>Partition Wall Students will plan and build a section of a partition wall including plaster board and electrical sockets</p>	<p>Prior Learning Students will have some prior learning from KS3 in regard to the impact of HASAWA in the workplace. Students will have some prior learning from KS3 practical work that can be applied in terms of marking up materials and using workshop machines.</p>
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CAREERS LINKS

Joinery, carpentry, plasterer. wall/floor tiling, plumbing, kitchen & bathroom fitting. Pathways to higher/further education. Local colleges and apprenticeship applications. Architecture, planning officer, project manager, site manager. Health and safety officer, roles within the HSE, law, site management. Quantity surveyor, project management, materials supply, finance/budget control

AUTUMN 2

<p>Partition Wall Continuation of theory and practical unit from half term 1</p>	<p>Unit 1.1: The Sector Students will learn about the different elements of the building sector including commercial and residential building as well as water supplies and sewerage systems</p>	<p>Unit: 1.2 The Built Environment Life Cycle Students will look at the entire life cycle of a range of building materials from extraction to disposal.</p>	<p>Prior Learning Students will have some prior learning from KS3 practical work that can be applied in terms of marking up materials and using workshop machines.</p>
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CHARACTER LINKS

Performance virtues of teamwork, resilience, perseverance and confidence are fostered when students are working with materials, tools and processes they may not have experienced before. Intellectual virtues of judgement, curiosity and reasoning are vital when completing the practical elements of this qualification

SPRING 1

<p>Basic Electrical work Students will learn how to wire up a plug, how to assemble a one-way lighting circuit and how to assemble and simple ring main.</p>	<p>Prior Learning KS3 Science</p>
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SPRING 2

<p>Unit: 1.3 Types of Building Students will look at the features and components of residential and non-residential buildings, bridges and roads.</p>	<p>Unit: 1.4 Technologies and Materials Students will look at the technologies and materials that are used to build, support and shelter modern buildings</p>	<p>Unit: 1.7 Trade Professionals Students will learn about the different professionals involved in the planning, design building and maintaining of built structures.</p>	<p>Prior Learning Students will draw upon previous content from Year 10 along with elements of knowledge from the Year 9 construction project</p>
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SUMMER 1

<p>Brickwork / Plumbing Students will learn either the basic steps to plumb and test a radiator or how to mix mortar and lay bricks</p>	<p>Prior Learning Some students may have prior experience in plumbing and brickwork from working at home.</p>
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KEY ASSESSMENT DATES

Students will complete either in or end of topic assessment.

SUMMER 2

<p>Revision Students revisit prior knowledge and develop techniques and strategies to support the mock exams</p>	<p>Unit: 1.5 Building Structures and forms Students will look at the main types of traditional and modern methods of construction</p>	<p>Unit: 1.6 Sustainable construction Students will look at how the construction industry can meet the needs of current society without effecting future generations.</p>	<p>Prior Learning Students will draw upon previous content from Year 10 along with elements of knowledge from the Year 9 construction project</p>
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Year 10 mock exam - June

NITIMUR IN EXCELSIS – STRIVE FOR THE HIGHEST



Construction Year 11

AUTUMN 1

Unit 3 – Application of Building Skills and Method of Work

Students will respond to a brief demonstrating their understanding of three construction disciplines. Students must assess material requirements and produce a written report explaining how they will go about undertaking the practical piece before commencing manufacture. The production of their practical piece must be recorded at major milestones and evidenced for assessment.

Prior Learning

Students have undertaken the basic skills required to access this assessed unit during the course of Year 10

CAREERS LINKS

Joinery, carpentry, plasterer, wall/floor tiling, plumbing, kitchen & bathroom fitting. Pathways to higher/further education. Local colleges and apprenticeship applications. Architecture, planning officer, project manager, site manager. Health and safety officer, roles within the HSE, law, site management. Quantity surveyor, project management, materials supply, finance/budget control

AUTUMN 2

Unit 3 – Application of Building Skills and Method of Work

Students will complete the production of their practical piece and then evaluate their work against the requirements of the brief. Students will then organise and submit their digital report along with their photographic evidence log.

Prior Learning

Students have undertaken the basic skills required to access this assessed unit during the course of Year 10.

CHARACTER LINKS

Performance virtues of teamwork, resilience, perseverance and confidence are fostered when students are working with materials, tools and processes they may not have experienced before. Intellectual virtues of judgement, curiosity and reasoning are vital when completing the practical elements of this qualification

SPRING 1

Unit 3 – Application of Building Skills and Method of Work

Students will complete the production of their practical piece and then evaluate their work against the requirements of the brief. Students will then organise and submit their digital report along with their photographic evidence log.

Prior Learning

This work builds upon the basic electrical work conducted in Year 10 and elements of electronics and joinery from KS3 to support the construction of a working lamp.

KEY ASSESSMENT DATES

November mock exam
Terminal exam June

SPRING 2

Unit 3 / Unit 1

Completion of Unit 3 and Revision of Unit 1 topics

Prior Learning

SUMMER 1

Unit 1

Revision

Prior Learning

Students run through key Unit 1 & 3 content from Year 10 to prepare them for exams.

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