Year 11 Overview 2024-25 – GCSE D&T

Date	Wk	Week	Unit(s)		Key Learning Outcomes (Exam Links)
Tues 2-Sep	A	1		**NEA:** Brief, specification, ideas, ongoing research	**NEA:** AO1: Identify, investigate and outline design possibilities to address needs and wants. AO2: Design and make prototypes that are fit for purpose. AO3: Analyse and evaluate: design decisions and outcomes, including for prototypes made by themselves and others. wider issues in design and technology. AO4: Demonstrate and apply knowledge and understanding of: technical principles, designing and making principles.
9-Sep	B	2	**Design principles:** Investigation		
16-Sep*	A	3			
23-Sep	B	4	**Design principles:** The work of others Companies		
30-Sept	A	5			
7-Oct	B	ST2	**Design principles:** Systems approach to designing		Theory: 3.3.3 The work companies 3.3.4 Design strategies 3.3.5 Communication of design ideas 3.1.4 Systems approach to designing
14-Oct	A	ST2			
21-Oct	B	ST2	Exam 2019 exam paper? (may need some amendments).		
Half Term					
4-Nov	A	9		**NEA:** Modelling, Making, Planning & assembly	NEA 3.2.5 Using and working with materials How to shape and form using cutting, abrasion and addition 3.2.6 Stock forms, types and sizes How materials are cut shaped and formed to a tolerance The application and use of Quality Control to include measurable and quantitative systems used during manufacture
11-Nov	B	10	Exam review		
18-Nov	A	11			
25-Nov	B	12	**Making principals:** Selection of materials and components		
2-Dec	A	13			Theory 3.3.7 Selection of materials and components 3.3.8 Tolerances
9-Dec	B	14	**Making principals:** Tolerances and allowances		
16-Dec	A	15			
Christmas Holiday					
6-Jan	B	16	**Making principals:** Material management and marking out	**NEA:** Testing, Working drawing, Manufacturing spec, evaluation	NEA Complete final prototype/ document construction. Skills development How to test and evaluate and document Further possible developments
13-Jan	A	17			
20-Jan	B	ST2	**Making principals:** Specialist tools, equipment, techniques & processes		
27-Jan	A	ST2			Theory 3.3.10 Specialist tools and equipment 3.2.9 Surface treatments and finishes
3-Feb	B	ST2	**Making principals:** Surface treatments and finishes		
10-Feb	A	21	Exam 2022 exam paper? (may need some amendments).		
Half Term					
25-Feb	B	22	**Common specialist technical principles**: Improving functionality	**NEA**	NEA Analysing & evaluating, Collation and Presentation.
3-Mar	A	23		**Common specialist technical**: Ecological and social footprint	
10-Mar	B	24	**Common specialist technical principles**: The six R's	**Common specialist technical principles**: The six R's	Theory 3.2.1. Improving functionality, Ecological and social footprint. The six R's, 3.2.3 Sources and origins, 3.2.7 Scales of production
17-Mar	A	25		**Common specialist technical principles**: Sources and origins	
24-Mar*	B	26	**Common specialist technical principles**: Sources and origins	**Common specialist technical principles**: Scales of production	
31-Mar	A	27		Revision: targeted individual/past papers/games/quizzes etc	
Easter					
22-Apr	B	28			Structured revision based on each of the theory elements of the course. (7 in total) Particular focus on the long answer questions and the specialist skills detail and technical recall needed to gain marks in the examination.
28-Apr	A	29			
5-May	B	30			
12-May	A	GCSE			
19-May	B				
Half Term					
2-Jun	A				
9-Jun	B				
16-Jun	A				
23-Jun	B				

THEORY UNIT – Design Principles (continued from yr 10) Single lessons this year.

Prior	Current	Future learning
Students have used different design styles and presentation drawings before throughout KS3 and 4. They have worked from different design influence and clients and have written simple design briefs and specifications.	This unit focuses on students being able to select the correct drawing techniques to communicate their designs on paper. Plus to gather their own research both primary and secondary about their chosen NEA context. Looks into the list of 20th century designers and design movements to enable them to study quality design and use their influence in their own designs or to be able to explain their works in examination questions.	Good selection of correct drawing styles to communicate their designs. Are able to name and explain the work of at least one designer and company/ design house within their NEA and examination questions.

GW- Know what 3rd angle Orthographic Projection, oblique, one and 2 point perspective and Isometric drawing is. Know the difference between primary and secondary data and can see how it helps understand the client's needs. Can write a basic design brief and produce a manufacturing specification. Know that the environment, and social and economic challenges influence designing and making in some ways. Able to use some design strategies to help produce imaginative and creative design ideas with some development. Students can record and justify some design ideas. They can respond to the key client wants and needs. Are able to critically evaluate prototypes and suggest some modifications. Can investigate, analyse and evaluate the work of others and how it can inform their designing. Be able to use to work of at least one designer, design movement or company, to explain design developments in an examination.

BI- Can use 3rd angle Orthographic Projection, oblique, one and 2 point perspective and Isometric drawing to communicate their ideas. Understand how primary and secondary data can be collected to assist the understanding of client and user needs. Know how to write a design brief and produce a manufacturing specification. Understand how the environment, and social and economic challenges influence designing and making. Be able to use a range of design strategies to help produce imaginative and creative design ideas. Understand how to explore and develop design ideas. Understand how to develop, communicate, record and justify design ideas. Be aware of a range of techniques to support clear communication of design ideas. Know how to design and develop prototypes in response to client wants and needs. Be able to critically evaluate prototypes and suggest modifications. Know how to investigate, analyse and evaluate the work of others. Understand how investigating the work of other designers can inform your designing. Be able to use to work of designers, design movements and companies, to explain in some detail design developments in an examination.

EW- Can use and interoperate 3rd angle Orthographic Projection, oblique, one and 2 point perspective and Isometric drawings well as part of their ideas and development. Understand the importance of primary and secondary data is to assist the understanding of client and user needs. Know how to write a design brief and produce a detailed manufacturing specification. Understand how the environment, and social and economic challenges influence designing and making. Able to use a wide range of design strategies to help produce imaginative and creative design ideas, clearly understand how to explore and develop design ideas, communicate, record and justify them. Use a range of techniques to support clear communication of design ideas, design and develop prototypes in response to client wants and needs. Be able to critically evaluate prototypes and suggest modifications, know how to investigate, analyse and evaluate the work of others. Understand how investigating the work of other designers informs your designing. Use to work of a number of designers, design movements and companies to explain in detail design developments in an examination.

Key learning outcomes:
Revision and practice of 3rd angle Orthographic Projection and Isometric drawing. Introduction of one and 2 point perspective, exploded views.
Investigate using, primary and secondary data the importance of research and what type of research is required. Anthropometric, ergonomic. Use of data and charts. How it helps to build a true brief and specification.
Design strategies we can use and the communication of design ideas. Collaborative, User-centered design, Systems approach, Iterative design. Collaboration of designers. Design fixation.
The work of other designers. Artists, Designers, Design companies, Design movements, Trends and fashions, The built environment, Abstract patterns, nature and science. How can an investigation into the work of others be broken into different elements? Materials, Processes, Aesthetics, Design concepts, Form and function, Fitness for purpose, identify target market for product, Manufacture / administration infrastructure, Consistency with other products from the same designer.
Look at the designers and design movements recognised by AQA and case study at least one. The work of other companies (ones named by AQA), Influence on modern society and culture, Designers and design companies will be influenced by those who have gone before, Companies aim to build upon and improve design, to create a product that's more effective and also more desirable. Material development and technological innovations will continue to aid in the advancement of design.

Links to history and culture:
Popular culture, Design history, war time developments, cultural demographic data. Famous people and historic pieces of design history.
Subject links:
Business studies, Maths, History, science.
Careers that can be discussed:
Researcher, Designer, Engineer, Architect, materials specialist, fashion designer, interior designer, craftsman, Data management, Data collection, etc
Key words for their learning:
Collaboration, 3rd angle orthographic projection, isometric, oblique, primary research, secondary research, anthropometrics, ergonomics, design movements. A range of designer's names and design movements, brief, specification, analysis, influence, design fixation.

How will we know they have learnt it?
Notes in books, active during questions in lessons, worksheets, summery of learning sheets. Better use of key terms in NEA portfolios. Performance in ST1 exam in yr 11.
Where has Equality Diversity and Inclusion (EDI) been included for teaching the curriculum?
Through discussion on individual designers of their day, contributions to society and design movements at key times in historical change. Eg Coco Chanel, Alexander Macqueen, Vivienne Westwood. Plus ……. Women in war time design. GBTQ+ Agenda.

NEA TASK 4 double lessons over 2 weeks. (Sept to Feb)

GW- Simple Identifying & investigating of design possibilities. Producing a design brief &

Prior	Current	Future learning
Introduced the context from the examination board for assessment in the summer of 2023 (released in June 2022) To selecting the best context for the individual student. To plan the research, client and brief for further study over the summer.	Student have chosen their contextual challenge and have had the summer to give it some thought, found a client and possibly gathered some research.	Further learning in their chosen material and prototype development and building by early 2023. Successful completion of NEA for the examination.

specification which allows the project to continue with some guidelines. Produce simple design ideas with some development. Realising design ideas or explain how it would be done. Prototypes are fit for purpose and allow the client to visualise the idea and give feedback. Analysing & evaluating throughout development and on completion.
BI- Identifying & investigate design possibilities to a good depth. Producing a clear design brief & detailed specification which allows the project to continue with guidelines. Produce a range of design ideas, developing at least one idea in depth. Realising design ideas or explain how it would be done. Prototypes are fit for purpose and allow the client to visualise/ use the prototype and give feedback. Detailed analysing & evaluating throughout development and on completion of the project.
EW- Identifying & investigate design possibilities in great depth. Producing a clear design brief & detailed specification which allows the project to continue with a clear focus. A manufacturing specification is also completed. Produce a wide and varied range of design ideas with no design fixation and develop at least one idea in great depth. Realising design

Key learning outcomes
Successful completion of the NEA task at the students target level or above.
Following the iterative design process to produce a range of ideas, developed to prototyped stage tested, evaluated, modifications explained and clients' opinions taken into account. Materials knowledge developed as well as their production skills. All well catalogued in the written portfolio. Students will also need to understand the marking criteria for the NEA task to help them maximise their marks.
Links to history and culture:
Dependant on individual project selected.
Subject links:
Dependant on individual project selected. Maths and ICT skills.
Careers that can be discussed:
Researcher, Designer, materials specialist, etc, but also on individual project selected.
Key words for their learning:
Key words from the design process, plus- Design context, iterative design, primary and secondary data, client, marking Criteria. Plus material specific terms.
How will we know they have learnt it?
Portfolio completion and a prototype which has been built and tested with their client. It shows depth of study and has at least met the criteria for their target grade. They have a wider range of skills and the experience of both the process and the working of materials has increased their knowledge and understanding which can be applied to examination questions.
Where has Equality Diversity and Inclusion (EDI) been included for teaching the curriculum?
This maybe done individually through their client dependant on project. Discussion on inclusion when designing or maybe diversity very dependant on projects selected.

ideas or explain how it would be done in great detail. Prototypes are clearly fit for purpose and allow the client to visualise/ use the prototype and give feedback. Detailed analysing & evaluating throughout every stage of the development is evident and on completion of the project.

THEORY UNIT – Making Principles (5 single lessons)

Prior	Current	Future learning
Students have made products since Yr7. They are familiar with the basic tools and processes.	To develop the making skills terms and accuracy. To introduce industry wide techniques and terms as they work on their NEA task to allow them to use and apply the theory to practical use.	Building terms and understanding into their NEA portfolio. To use terms and understanding in the examination. Life skills.

GW- Be able recognise different materials and components. Understand and use tolerances to ensure accuracy is considered when making a product. Understand how effective design planning can minimise waste and what Tessellation is. Understand how to select and use specialist tools, equipment, techniques and processes. Know basic health and safety rules. Know and understand that surface treatments and finishes are applied for functional and aesthetic purposes.

BI- Be able to select and use materials and components appropriate to a specific task. Understand how a range of materials are formed to designated tolerances and why tolerances are applied during making activities. Understand the value of using measurement and marking out to create an accurate prototype, understand the use of datum points and coordinates. Be aware of relevant health and safety issues when using specialist tools, equipment, techniques and processes to protect yourself and others from harm. You understand how to prepare different surfaces for treatments and finishes.

EW – plus, understand how functionality, availability and cost affect the selection of materials and components. Understand how additional material may be required or removed by a cutting method, seam allowance or joint overlap. Be able to recognise and characterise the appropriate tools and methods to mark out a range of materials to create prototypes. Be able to complete your own risk assessment when using specialist tools, equipment, techniques and processes to protect yourself and others from harm. Understand how to select and apply appropriate surface treatments and finishes to a range of surfaces.

Key learning outcomes:
Selecting the correct materials and components considering functionality, time, cost and quality.
Understand what Tolerances is and material allowances are and why they matter.
Material management and marking out with the correct tools for the materials. Understand tessellation and why it maters in mass production. Material wastage. Quality control and quality assurance.
Specialist tools, equipment, techniques and processes as well as H&S risk assessment and limiting risk.
Surface treatments and finishes types off why they are used and application off.

Links to history and culture:
Product evolution, material invention and processing. Worldwide production of goods. Why some jobs are done in some countries.
Subject links:
Business studies, Geography, History, Science, Maths.
Careers that can be discussed:
Materials specialist, Craftsman, engineer, fashion designer, Production workers, man vs robot, etc
Key words for their learning:
Standard components, functionality, quality control, quality assurance, tolerances, material allowances, Tessellation, datum, coordinates, Risk assessment, H&S, PPE. aesthetics, 'key'
How will we know they have learnt it?
Notes in books, active during questions in lessons, worksheets, summery of learning sheets. Better use of key terms in practical lessons and portfolios. Performance in exam.
Where has Equality Diversity and Inclusion (EDI) been included for teaching the curriculum?
Types of Jobs, who does what in different nations, equality, fair pay, H&S conditions and international law, human rights.

THEORY UNIT – Common specialist technical principles (8 hours over double and single lessons)

Prior	Current	Future learning
Students have completed the section on forces and stresses in a yr. 10 project so that section will be left for revision. They have touched on other sections at KS3 &4.	To ensure students have a good understanding of how this topic maybe examined and to ensure time is given to practice longer answer questions.	Materials knowledge and use in examination situation to produce detailed technical answers.

GW- Understand that materials can be manipulated. Understand that greenhouse gases and carbon are produced during the manufacture of products. Be aware of the role that consumers play in reducing waste and the demand on finite resources. Understand how products are produced in different volumes.

BI – Understand how materials may be enhanced to resist and work with forces and stresses to improve functionality. Understand the impact that a consumer society has on natural resources and the environment including deforestation, mining, drilling, farming and product miles. Can name and explain all 6 R's in relation to general rules and give examples relating to their specialist material area. Explain when and why different manufacturing methods are used for different production volumes.

EW – Plus, suggest how materials can be altered to enhance their working properties and give examples where this happens and why. Be aware of the need for social and governmental responsibility to address safe working conditions and pollution. Understand the hierarchy of options in responsible and sustainable design. Be able to link the use of relevant specialist processes to the appropriate level of production.

Key learning outcomes:
Improving functionality of materials and linking back to structure and materials work.
Understanding a material or products Ecological and social footprint.
Understanding 6R's and recycling and the latest developments in this area.
Understanding the 4 scales of production.
Links to history and culture:
Product evolution, material processing. Worldwide production of goods and disposal of waste.
Subject links:
Geography, History, Science. FP&N
Careers that can be discussed:
Designer, materials specialist, Buyer, chemical scientist, environmentalist, machine operator, craftsperson, machine maintenance workers, engineers, manual vs skilled labour. Workers around the globe.
Key words for their learning:
Strengthening, enhancing, Stiffening, ecological, social footprint, greenhouse effect, carbon footprint, deforestation, product miles, legislation, H&S laws, sustainability, reduce, reuse, rethink, repair, refuse, recycle. Miniaturisation, upcycling, planned obsolescence, WEEE directive. One-off, Batch, Mass and Continuous production.
How will we know they have learnt it?
Notes in books, active during questions in lessons, worksheets, summery of learning sheets. Better use of key terms in practical lessons and portfolios. Performance on examination questions.
Where has Equality Diversity and Inclusion (EDI) been included for teaching the curriculum?
H&S executive, rights for all workers. Is it the same in all countries, laws to protect them.