@Sixth Sheringham

Design & Technology PROBLEM SOLVED!

Learning Journey

6th Form Transition: Progression to A-Level D&T Product Design Bridging task – Design History...

YEAR 11

AO1:Research & investigation Over the summer you are tasked 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?

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

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

AO2: Planning for make & Diary of make: Develop A detailed plan of your making including H&S issues and time plans. Keep a photo diary of your skills!

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

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

FINAL GCSE EXAM

EXAM REVISION

PD - Spiritual: Designing for a sense of self and fosters creativity

AO2: Realise Design Ideas: Manufacture your product using skills and processes used throughout your D&T journey.

AO2: Final Design Details: Use models, formal drawings and CAD work to produce an accurate final design proposal.

Technical Knowledge: Working to tolerances, technical diagrams, marking out on metals, families of metals and deforming technical terms

Technical Knowledge: Adhesives, treads, rivets, welding, Fluidizing,

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

GCSE NEA COURSEWORK 1st JUNE

UNIT 6&7: FINAL NEA PROJECT 50%

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

Making: Develop CAD using skills, introduction to Milling metals, welding & brazing, cutting and shaping metals & polymers.

Designing: Designing for children. How do we make a product fun, educational and safe?

Technical Knowledge: Modern, Smart and Composite Materials – Changing the properties!

PD - Social: Ecological and Social Footprint. The responsibility of designer.

UNIT 3: Materials

BEVEL GUAGE SKILLS PROJECT

UNIT 5: Timbers - Specialism

Evaluate: Will my product work? What can I do to improve it?

Design: Reference key design movements top to develop a stylish functional product.

Making: Use a wide range of tools and specialist processes, Joints & Finishes

Making: Develop your final design through an iterative processes

UNIT 4: Common Specialist Technical Principles

Designing: Designing for others – user centered design

Technical Knowledge: Working with hardwoods and specialist timbers.

UNIT 2: Energy, Systems, Materials & Devices

UNIT 1: New & Emerging Technologies

OUTSIDE THE BOX SKILLS PROJECT

GCSE D&T: Introduction to GCSE D&T, the course content, units and structure. 50% NEA, 50% Exam

KS4

YEAR 10

Workshop Health & Safety Refresher!

Careers: Awareness of pathways and links to careers such as: Product & Industrial Design, Graphic Design, Engineering, Architecture, Advertising, Construction, Manufacturing...

Making: Specialist Techniques GRP, Vacuum Forming, Lamination

GRP & LAMINATION COAT HOOK SKILLS PROJECT

PD: How cultures and societies influence the design of products.

Evaluate: How would your design develop if you made it again?

Making: Wood joints Multi-material make of final developed idea

Technical Knowledge: Timbers - hard woods and softwoods, why do we use them?

Evaluate: Using Product Analysis to help develop designs

SUSTAINABLE DESIGNER LIGHTING SKILLS PROJECT

Designing: What materials will be appropriate for your product? What materials are sustainable?

Making: Your lamp MUST include a 'made' material in a sustainable way!

PD - Moral: Finite Resources

Technical Knowledge: Exploring Mechanisms & Motion

YEAR 9

Baseline Assessment: Mechanisms, motion, design, woods

Designing: Creative Design Ideas Developing a chosen idea

Maths: Ratios, Mechanical Advantage, Velocity Ratio

Technical Knowledge: CAMS. Cranks, Levers, Linkages, Gears, Pulleys etc

Designing: Developing a Design Brief and justifying Specifications for an intended market

MECHANICAL TOY PROJECT

Careers: Careers in Programming / Control

Designing: Isometric drawing

Maths: Circles, Nets, Developments, Flowcharts, % Waster, Scales, Logic & Area

Baseline Assessment: Electronics, Control, H&S, CAD/CAM

Evaluate: Seeking User feedback, how can you improve your product? Would you change anything?

Making: Composite Materials Using the Laser Cutter independently

Making: PCB and Technical Soldering

PD - Social: Designing for a specific user group

Technical Knowledge: Micro-Controllers & Programming Control

Designing: Developing a Design Brief and Research for chosen intended market

Workshop Health & Safety Refresher!

THERMO-METER CLOCK PROJECT

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

Technical Knowledge: Developing Flowcharts to Create Programs

Technical Knowledge: Sensors & Input, Process, Output

Designing & Making: Designing and developing, modeling and downloading a microcontroller program

Designing & Making: Developing programs to include procedures

Designing: Designing and templating clock designs. How do we make a product fit a target market?

Technical Knowledge: CAD / CAM What is computer aided design? Learn to use more advanced features of 2D software to design products

PD - Cultural: importance of storytelling in world civilisations through the medium of anthropomorphism.

PD - Social: Teamwork is the corner stone of all practical sessions irrespective of project title. Without this progress as a cohort cannot be made.

Evaluate: Self reflection & evaluating against a specification. How can you improve your skills?

PUPPET PROJECT

YEAR 8

Technical Knowledge: Sustainability issues around working with Polymers

Baseline Assessment: Materials, H&S, Sustainability

Making: Independence & multi tasking Introduction to BIG machines

Technical Knowledge: Intro to Flowcharts

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

Workshop Health & Safety Refresher!

Making: Accuracy in the use of hand tools Wood Joints

Making: Thermo – Forming Using the Vacuum Former to give character

Technical Knowledge: Wood classification. Where does timber come from?

Maths: Reading Technical Drawings Tolerances Accuracy of measurement

Design: Developing freehand designing skills & Rendering

Careers: Research into what careers might CAD / CAM be used?

Technical Knowledge: Polymers Classification. What is a polymer? Sources of Polymers

Making: Introduction to PCB's and Soldering

Designing: Introduction to Design Brief's and Specifications for an intended market

Making: Heating and Folding Acrylics. Shaping and personalization of wire shapes. Final Assembly with Graphic Backboard.

Maths: NETS & Developments Ohms Law

Technical Knowledge: Intro to Flowcharts

Designing: Designing for users Modeling of Electronics on Crocodile Technology CAD Introduction

Designing: User Requirements

Technical Knowledge: Introduction to Basic Electronics and Control – Thyristor Switching Circuits

Making: What is CAM? Use the laser cutter to produce sliding base of the case!

Baseline Assessment: Working with Plastics & Electronics, CAD CAM, Designing for a user

STEADY HAND GAME PROJECT

YEAR 7

Primary D&T

Secondary D&T

Year 6 Transition Primary D&T Egg Race Competition

Introduction to the Workshop / Food Room: 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.