DESIGN TECHNOLOGY

DESBOROUGH COLLEGE

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

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

NEA COURSEWORK

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 ideas?.

GCSE NEA CONTEXTS

Design: Practise NEA portfolio for realistic development and insight, with defined user and output

Materials / Make: Use materials you have not combined before such as concrete, acrylic and timber to develop a unique stylized product.

DESIGNERLEY THINKING AND CAD

Design: Designing for a range of products and user. How do we make a product fun, educational and safe? How is prototyping effective?

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

Testing / Modelling: Use various testing and modelling methods to develop your product

Make: Develop your design through iterative processes and SolidWorks modelling to create realistic models for use in CAM manufacturing

PROTOTYPING AND DEVELOPMENT

KS4

YEAR 10

Make: Use a wide range of skills, materials and processes to develop your unique product.

Design: Focus your idea of this project to bring together all the skills you have learnt over the past 3 years. Test yourself.

Train Project: Carriage 3

Make: Use a wide range of tools and processes to produce your final product. You decide!

Design: Using removal techniques to develop an organic shaped box based on nature & biomimicry.

Train Project: Carriage 2

Make: Addition processes & wood joints. Using skills to develop high quality craftsmanship products.

Design: Practicing Isometric Projection and rendering skills. Orthographic projection. Using Solidworks as a way of parametric modelling

Materials: Working with Softwoods and specialist timbers. Working properties and recognizing materials.

Train Project: Carriage 1

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

Cams / motions & movements: What do cams do? How do they work?

Design: Isometric projection, CAD development

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

Make: Can you make an accurate product using machines and tools independently?

Evaluate: What skills have you developed? Test your product and consider how you would improve it.

MECHANICAL TOY PROJECT

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

Make: Develop independence in CAD using 2D design software to make complex design ideas. Basic circuitry and soldering

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

Materials: Working with acrylics and circuitry to develop a working night light.

Make: What is CAM? Use the laser cutter to produce your final product!

5V LED LAMP PROJECT

YEAR 9

Before choosing options at the end of year 9, focus your studies in GCSE DT in years 9 - 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.

Make: Thermo - Forming Shaping manufactured boards

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

Materials: Working with acrylics, cutting and finishing techniques.

Design: CAD What is computer aided design? Learn to use the basics of 2D software to design products

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

Evaluate: How has CAD / CAM helped you make a product?

Design: Designing with restrictions Orthographic Projection & Rendering

AIRPLANE PROJECT

STEM LINK Area and perimeter of planes Forces and motion Aerodynamics

STEM LINK Measuring shapes and areas Whole number calculations Shapes Measuring

STEM LINK Light and circuits Circuit geometry and development

YEAR 8

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

PENCIL CASE PROJECT

STEM LINK Designing with Materials Material structure

STEM LINK Timber Cell structure Cork investigation Proportions in Design

BELT BALANCER PROJECT

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

Make: Wood joints Use of hand tools and machines

Design: Designing for users Rendering CAD design development

Materials: Wood classification. Where does timber come from?

Baseline Assessment: What do you already know about DT?

Introduction to the workshop: Health and Safety

YEAR 7

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.