

DESIGN JOURNEY

YEAR 11: students will be focusing on their NEA during the majority of the year as their work from a set context from the exam board and respond appropriately until an Easter deadline for the examination board. Students will then refocus on exam preparation using their knowledge organisers from previous years as a structure for revision.

YEAR 10: students are developing their independence in the subject and increasing their use of experimentation through their design briefs. Students are becoming more familiar with ways in which they should present their work as well as how to work from a design brief working iteratively depending on their process and findings so as to prepare them for their final NEA in Year 11. Alongside this, students are still being taught practical skills that will help them to gain a greater knowledge of practical processes. Exam questions become a familiar occurrence in relation to the projects as students consolidate their knowledge.

YEAR 7: Introduces students to Design and Technology and the different areas it can encompass. Students will look at more "traditional" methods of construction so as to understand how to select appropriate tools and processes as well as look at new and emerging technologies and how they can benefit industry. Students will understand the health and safety elements of the subject and how to effectively use the workshops and sustainability in design

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YEAR 8: will establish understanding of plastics and plastic processes, metals and metal processes and develop their ability of designing for a user and purpose with two more focussed design briefs. This year students will become more adept at understanding designing techniques and processes to reach outcomes and will also include work on electronics and soldering. Students will also look at graphical design as part of designing their own logos/branding, micro-controllers and architecture

A Level
Students will learn key areas of the course through different mini projects with both individual and design team outcomes preparing you both theoretically and practically for the NEA and written exams in Year 13. The work we do at A Level prepares students for future careers in design and engineering sectors.

Careers in Design Industries:
Product Design, Industrial Design, Architecture
All Engineering sectors, Automotive industries, Aerospace, Textile Design, Fashion Design, Interior Design, Furniture,



Finham Park School
PRODUCT DESIGN

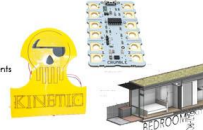
- A01**
Identify, investigate and outline design possibilities
- A02**
Design and make prototypes that are fit for purpose:
Generating design ideas
Developing design ideas
Realising design ideas
- A03**
Analyse and evaluate

- Practise NEA/ Final NEA**
Responding to a design need
Writing a design brief
Planning own research
Writing a Design Specification
Iterative design process
Self-evaluation
Working to meet a clients need
Developing a design idea
Critically analysing and evaluating design ideas in response to research
Prototyping in a range of materials and processes utilising skills learnt from previous years
Digital presentations
Planning of own time and project work
Producing technical drawings using CAD
Production plans and GANTT charts
Working independently to achieve an individual final outcome
- Exam Preparation**
Exam technique
Weaker areas of knowledge
Difficult areas of knowledge
Layout and organisation of paper

- Silicon Spa**
Sketchup and 3D printers
Designing for a target market
Domestic and local contexts
Research and exploration
User needs and understanding your target market
Solving own design problems
Designing innovative and appealing products
Presenting and communicating Design ideas
Annotating sketches
Critique and refine ideas
New and emerging technologies and their uses within industry
Digital Presentations



- Sustainable Light**
A range of different 3D drawing methods and design presentation including: Isometric Drawing, Orthographic Drawing, Perspective Drawing.
Product Analysis
4rs and Sustainability
Vacuum Forming
Production Planning
Soldering and understanding simple circuits
Health and Safety in the workshop and using tools and equipment in the classroom.



- Speaker**
Thermofforming and Thermosetting plastics
Plastic processes
Electrical and electronic systems
Soldering and constructing a circuit
Printed Circuit boards and basic electronic components
Read and relevant design problems
Product comparison
Graphical design
Branding and logo development
Font design and typography
Packaging and uses of
Health and construction of packaging
Use of jigs and formers



- Innovative Architecture**
Target Markets and Customer Profiles
Existing Products research
Where do metals come from
Material research into ferrous, non-ferrous metals and alloys
Initial Design ideas
Developed Designs
Final Design/Working drawing
Cardboard model for testing and prototyping purposes.

- Year 9 Design & Technology**
Multitool
Research to aid the design process
Iterative designing of multitool
Engineering Sketching
Modelling making with mixed materials
Material Requirements Plan (MRP)
Working drawings BS EN ISO 5457
2D Design of casing and tooling, acrylic laser cutting CAM



- Lanterns based on 20th Century Design**
20th Design movements
Designers
Designing in the style of
Computer input and output devices
The benefits of CAD/CAM in industry
Further knowledge of electrical components and construction
Fault finding and critical evaluating using feedback loops
Use of pre manufactured components
Wastage
Shaping and forming materials

- Biomimicry**
Anthropometrics and ergonomics
Innovation and original design
Designers
Product analysis
Designing from a stimulus
3D drawing techniques
Self-assembly and temporary fittings
Presenting design ideas using 3D CAD software
Prototyping and modelling
Producing technical drawings by hand
Producing their own individual outcome

- Lanterns**
Review of plastics and plastic process
Correct tool and processes for working with plastic by hand
Working within tolerances
Shaping plastics
Finishing plastic
Achieving high quality finishes



- Ergonomic Handle**
Smart and modern materials
Modelling and prototyping using Styrofoam
Rendering and presenting design ideas
Analysing effective design with a user
User centred design
Inclusive design considering anthropometrics and ergonomics
Presenting and interpreting data and graphs

- Wood Joints**
Traditional wood joint knowledge and skills
Independent construction
Accuracy
Benchtop workshop tools
A range of fabrication techniques within timber work
Critical analysis, and feedback loops
Marking out and calculating sizes and proportions

