Product Design

Design and Technology

Course objectives	Students on this course will become able to recognise important design needs and develop an understanding of how current global issues, including integrating technology, impacts on today's world. The course will also encourage creativity and innovation where students will have the confidence to innovate and produce creative design solutions as they develop their own design brief with a client/end user.
Main qualifications	• A Level
Awarding Body	• Edexcel
Duration/ Lessons per week	• 5 x 2 hour sessions over a two week timetable
Entry requirements	• GCSE grade 5 or above at GCSE Design & Technology or a Merit in WJEC Engineering. • An interest in designing and making (essential). • Willingness to embrace ICT and CAD/CAM to present, develop and model designs.
Progression opportunities	• We live in a world where good design is implicit in almost every aspect of our lives, from the cars we drive to the magazines we read, and beyond into the technology of the future. Product Design is the gateway into an exciting and ever expanding world filled with opportunities, of which our students can take full advantage. • Students can progress from this qualification onto further education and/or work-based study including product design, engineering and architecture. • Also this qualification can lead onto further training in the design, creative, engineering and/ or manufacturing industries.
Costs	• Year 12 Students will undertake a visit during the year that will require a contribution toward transport costs. • Year 13 students may be asked for a contribution towards material costs for their final year projects dependant upon the quantity and availability of their chosen materials.

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Course content

Component 2:
Independent Design and Make Project.

- Students will produce a substantial design, make and evaluate project which consists of a portfolio of approximately 40 sides of A3 paper and 4 parts.
- Part 1: Identifying Opportunities for Design Identification of a design problem, investigation of needs and research and specification
- Part 2: Designing a Prototype Design ideas, development of design idea, final design solution, review of development and final design and communication of design ideas
- Part 3: Making a Prototype Design, manufacture and realisation of a final prototype, including tools and equipment and quality and accuracy
- Part 4: Evaluating own Design and Prototype Testing and evaluation

Component 1:
Principles of D&T

- Topic 1: Materials
- Topic 2: Performance characteristics of materials
- Topic 3: Processes and techniques
- Topic 4: Digital technology
- Topic 5: Factors influencing the development of products
- Topic 6: Effects of technological developments
- Topic 7: Potential hazards and risk assessment
- Topic 8: Features of manufacturing industries
- Topic 9: Designing for maintenance and a clean environment
- Topic 10: Current legislation
- Topic 11: Information handling, Modelling & forward planning
- Topic 12: Further processes and techniques.

Assessment

- The course comprises one externally-examined paper and one non-examined assessment component.

Component 1 :Principles of Design and Technology

- This includes a 2.5 hour written examination and is worth 50% of the qualification

Component 2: Independent Design and Make Project

- This is a non-examined assessment and involves the production of an A3 portfolio showing evidence of an in-depth design & make activity and is worth 50% of the
- qualification.

Staff contact

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