DESIGN & TECHNOLOGY: Product Design

Entry Requirement: Students are expected to have achieved a Grade 6 or higher in Design and Technology at GCSE.

Examination Board: OCR

Course Content and Assessment

Technical principles This paper is set out through four sets of questions that predominantly cover technical principles within each endorsed title. Learners will be required to: • analyse existing products •demonstrate applied mathematical skills •demonstrate their technical knowledge of materials, product functionality, manufacturing processes and techniques • demonstrate their understanding of wider social, moral and environmental issues that impact on the design and manufacturing industries.	Principles of… 80 marks 1 hour 30 minutes written paper	26.7% of total A level
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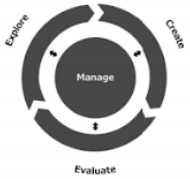
The 'Iterative Design Project' requires learners to undertake a substantial design, make and evaluate project centred on the iterative processes of explore, create and evaluate. Learners identify a design opportunity or problem from a context of their own choice, and create a portfolio of evidence in real time through the project to demonstrate their competence.	Iterative Design Project 150 marks Approx. approx 65 hours Non exam assessment  **Fig. 1** Iterative Design Wheel © Designing Our Tomorrow, University of Cambridge	50% of total A level

Inspiring a future in design and technology – Drawing on authentic design practice and contemporary technologies students will be free to explore design possibilities that excite and engage them, giving a strong foundation for further study and developing thinking and design skills that will support them in any future direction.

Product Design is focused towards consumer products and applications; their analysis in respect of materials, components, and marketability to understand their selection and uses in industrial and commercial practices of product development.

The Iterative Design Project may focus on Product Design or Textiles with focus towards engineered and electronic products and systems/ Textiles garments or a 3D product; the analysis of these in respect of function, operation, components and materials, in order to understand their application and uses in products/systems that have commercial viability.

Teaching and Learning Methods

A range of Teaching and Learning methods are adopted. Students are guided through a range of practical activities to develop the skills and techniques required to create their own designs. Independent working is encouraged whilst guidance is offered throughout the course.
There is a significant amount of technical understanding and practical workshop skills. This includes CAD/CAM Solidworks, 3D printers and laser cutters.
There is some practical investigative work where some materials will be provided by the school.
Theory lessons may involve practical elements as well as written studies.

Homework

There is an expectation that students work independently for a suggested time of 5 hours per week. Good organisational skill and a willingness to use time outside of lessons is required.

Trips and Visits

Industrial visits as and when available.

Key Features

Design and manufacture of products using a range of materials supported by theoretical aspects. This course would provide degree preparation and entry, and career opportunities in Product Design, Engineering, Architecture, Graphic Design, Interior Design, Surveying, Illustrating and many more.