

A -Level Product Design

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A-Level Design and Technology: Product Design

Entry Requirements: 5 in the relevant Design Technology and 5 in Mathematics

Exam Board: OCR

" Good design is innovative. Good design must be useful. Good design is aesthetic design. Good design makes a product understandable. Good design is honest. Good design is unobtrusive. Good design is durable. Good design is coherent down to the last detail. Good design is environmentally friendly. And last but not least, good design is as little design as possible." - Dieter Rams

A product designer plays a crucial role in shaping how people interact with products, ensuring they are not only functional but also intuitive and enjoyable to use. By combining creativity, technical knowledge, and user-centred thinking, designers bridge the gap between a product's purpose and the user's needs. However, they often face challenges such as balancing user expectations and adapting to constantly changing feedback. To solve these problems, product designers rely on research, prototyping, and testing, allowing them to explore ideas and refine solutions iteratively. They use empathy to understand users, collaboration to integrate diverse perspectives, and critical thinking to overcome obstacles, ultimately creating products that are both effective, sustainable and meaningful.

Main Syllabus Area:

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.

At A-Level:

Principles Exam: 26.7% of A-Level
(1 hr 30 minutes -written paper)

- Analyse existing products

- Demonstrate their technical knowledge of materials, product functionality, manufacturing processes and techniques
- Demonstrate applied mathematical skills
- Demonstrate their understanding of wider social, moral and environmental issues that impact on design/manufacturing industries.

Problem Solving: 23.3% of A-level**(1hr 45 minutes -written paper)**

- Apply their knowledge, understanding and skills of designing and manufacturing prototypes and products
- Demonstrate their higher thinking skills to solve problems and evaluate situations and suitability of design solutions.

Iterative Design Project: 50% of A-level**(Approx. 65 hrs Non-Examined Assessment)**

- 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.

Method of Assessment:

Exams: 50% Externally Assessed

Iterative Design Project: 50% Internally Assessed

Qualities Required:

You should be passionate about designing and making creative products. You need to enjoy coursework and the problem-solving processes in reaching a Final Design. Exploring a range of possible solutions using rigorous, analytical and fluent communication skills to propose the most viable conclusion should be one of your targets.

Links with other subjects:

Product Design is an excellent choice in any combination of other subjects as it promotes problem solving/creativity in a commercially realistic setting. Particularly strong vocational combinations might include Business, Physics, Mathematics, Art or Computer Science.

Career prospects:

- Any career within design including Graphic Design, Interior Design, 3-D Design, Product Design, Industrial Design, Marketing, Product Development and Production, Sports Equipment Developer, Illustration, Trend Predictor, Advertising, Pattern Cutter amongst hosts of others.
- Also, many kinds of engineering and technical careers including Design Engineer, Special Effects, Animatronics, Music Technology, Automotive Design or designing any product from a Bicycle to a Formula one race car.

Destinations for A-Level Product Design

Students have, in the past, included -Product Design/Architecture/Civil Engineering/Fashion Design degrees at Lincoln University, Sheffield Hallam University, University of Sheffield, Leeds University, and a number of other Russell Group institutions.

Extension and Enrichment Opportunities

Visits to places of industrial interest are vital to the understanding of Product Design. Many links exist between our department and outside agencies, and professional help is often sought for project work, involving state of the art processes.

Reading list

Core Textbooks:

- OCR A-Level Design and Technology: Product Design Dave Sumpner & Will Potts (Hodder)
- Design and Technology -my revision notes -Simon Arnold

Recommended Design Books:

- The Design of Everyday Things -Don Norman
- Cradle to Cradle -William McDonough & Michael Braungart
- Design as Art -Bruno Munari

Magazines & Journals:

- Dezeen -<https://www.dezeen.com/>
- Design Week
- Creative Review
- E&T Magazine (Engineering & Technology)

Independent Study**Consolidate Class Notes:**

- Review and summarise notes after each lesson using the OCR A-Level Product Design textbook (Dave Sumpner & Will Potts).
- Create visual summaries such as mind maps, timelines, or flashcards using Quizlet
- Listen to podcasts made from ppts on the walk home (coming soon)
- Complete the Microsoft form quizzes for each section

Practice Exam Technique:

Access and complete past papers via the OCR website:

<https://www.ocr.org.uk/qualifications/as-and-a-level/design-and-technology-h004-h006-h404-h406-from-2017/assessment/>

Use the official mark schemes and examiner reports to self-assess and identify areas for improvement.

Listening and Watching:**Podcasts:**

- 99% Invisible -Stories behind design and architecture
- Design Matters with Debbie Millman
- The Honest Designers Show

Documentaries/TV Programmes:

- Abstract: The Art of Design -Netflix
- The Genius of Design -BBC
- Big Life Fix -BBC
- How It's Made -Discovery/YouTube

Engaging with Design Outside the Classroom:

- Maintain a personal sketchbook and portfolio of ideas
- Visit museums and exhibitions (Design Museum, V&A, etc.)
- Follow major design competitions and events (e.g. James Dyson Award)