GREATER PETERBOROUGH UTC

A Level Product Design

Overview: A Level Product Design explores the creative, technical, and practical aspects of designing and creating innovative products. It integrates aspects of engineering, design theory, and problem-solving, offering a balance of theoretical understanding and hands-on practice. Studying this course at our UTC gives students access to industry-standard equipment, specialist workshops, and opportunities to collaborate with local industry partners, providing invaluable experience that prepares them for both university and employment in design and technology fields.

Why Study A Level Product Design?
This course is ideal for students who have a passion for creativity, innovation, and problem-solving. It provides an opportunity to learn about modern materials, production processes, and the lifecycle of a product, from concept to creation. A Level Product Design at our UTC emphasizes real-world applications and sustainability, helping students to develop the skills needed to design products that are both functional and innovative. It is particularly beneficial for students considering careers in engineering, architecture, industrial design, and product management.

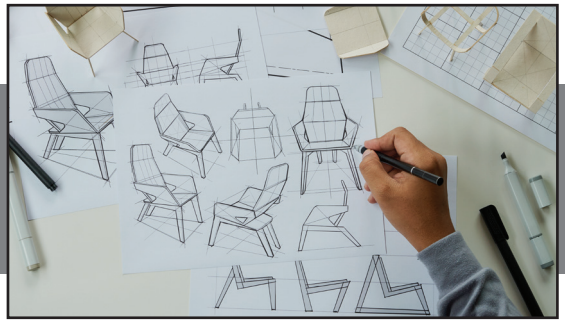
Potential Career Pathways:
A Level Product Design is a stepping stone to degrees in Product Design, Engineering, Architecture, Industrial Design, and more. It opens doors to creative and technical roles in industries such as automotive design, manufacturing, and sustainable product development. Students will also be well-prepared for apprenticeships in design, engineering, and manufacturing.

Topics Covered:

- *P3.1.1: Materials and Their Applications*
- *3.1.2: Performance Characteristics of Materials*
- *3.1.3: Enhancement of Materials*
- *3.1.4: Forming, Redistribution, and Addition Processes*
- *3.1.4.5: The Use of Adhesives and Fixings*
- *3.1.5: The Use of Finishes*
- *3.1.6: Modern Industrial and Commercial Practice*
- *3.1.6.2: Efficient Use of Materials*
- *3.1.7: Digital Design and Manufacture*
- *3.1.8: Requirements for Product Design and Development*
- *3.1.9: Health and Safety*
- *3.1.10: Protecting Designs and Intellectual Property*
- *3.1.11: Design for Manufacturing, Maintenance, Repair, and Disposal*
- *3.1.12: Feasibility Studies*
- *3.1.13: Enterprise and Marketing in Product Development*
- *3.1.14: Design Communication*
- *3.2.1: Design Methods and Processes*
- *3.2.2: Design Theory*
- *3.2.3: Impact of Technology and Cultural Changes on Design*
- *3.2.3.4: Product Life Cycle*
- *3.2.4: Design Processes*
- *3.2.5: Critical Analysis and Evaluation*
- *3.2.6: Selecting Appropriate Tools, Equipment, and Processes*
- *3.2.7: Accuracy in Design and Manufacture*
- *3.2.8: Responsible Design*
- *3.2.9: Design for Manufacture and Project Management*
- *3.2.10: National and International Standards in Product Design*

Assessment:

- *Paper 1:*
  - *Assesses: Technical Principles*
  - *Written Exam: 2 hours 30 minutes*
  - *120 marks, 30% of A Level*
- *Paper 2:*
  - *Assesses: Designing and Making Principles*
  - *Written Exam: 1 hour 30 minutes*
  - *80 marks, 20% of A Level*
  - *Questions include:*
    - *Section A: Product Analysis (30 marks)*
    - *Section B: Commercial Manufacture (50 marks)*
- *Non-Exam Assessment (NEA):*
  - *Assesses: Practical application of technical principles, designing and making principles*
  - *Substantial design and make project*
  - *100 marks, 50% of A Level*
  - *Evidence: Written or digital design portfolio and photographic evidence of final prototype*

Entry Requirements:

- Grade 5 in GCSE English Language, Maths, and a Design and Technology-related subject (or equivalent).