PRODUCT DESIGN
Innovation – Creativity – Problem solving
You will learn to design and manufacture products that solve genuine, relevant problems within different contexts whilst considering your own and others' needs, wants and values.

Entry Requirements
B grade or higher in one of the following subjects: Graphics, Resistant Materials or Engineering only

Complementary Subjects
Other subjects which go well with Product Design are: Physics, Maths, Chemistry, Art and Business/Economics.

Assessment overview
50% Exam
50% Coursework

Component 1: Principles of Design and Technology (Paper code: 9070/01)*
Written examination: 2 hours 30 minutes
50% of the qualification
120 marks
Content overview
Topic 1: Materials
Topic 2: Performance characteristics of materials
Topic 3: Processes and techniques
Topic 4: Digital technologies
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: Design for maintenance and the cleaner environment
Topic 10: Current legislation
Topic 11: Information handling, Modelling and forward planning
Topic 12: Further processes and techniques.
Assessment overview
- The paper includes calculations, short-answer and open-response questions, as well as extended-writing questions focused on:
  - Analysis and evaluation of design decisions and outcomes, against a technical principle, for prototypes made by others
  - Analysis and evaluation of wider issues in design technology, including social, moral, ethical and environmental impacts.
- Students must answer all questions.
- Students must have calculators and rulers in the examination.

Component 2: Independent Design and Make Project (Paper code: 9070/02)
Non-examined assessment
50% of the qualification
120 marks
Content overview
- Students individually and/or in consultation with a client identify a problem and design context.
- Students will develop a range of potential solutions which include the use of computer aided design and evidence of modeling.
- Students will be expected to make decisions about the designing and development of the prototype in conjunction with the opinions of the user group or client.
- Students will receive one potential solution through practical making activities with evidence of project management and plan for production.
- Students will incorporate issues related to sustainability and the impact their prototype may have on the environment.
- Students are expected to analyse and evaluate design decisions and outcomes for prototypes made by themselves and others.
- Students are expected to analyse and evaluate the wider issues in design technology, including social, moral, ethical and environmental impacts.
Assessment overview
- The investigation report is internally assessed and externally moderated.
- Students will produce a substantial design, make and evaluate project which consists of a portfolio and a prototype
- The portfolio will contain approximately 40 sides of A3 paper (or electronic equivalent)
- There are four parts to the assessment:
  - 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

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EXAM
All students will sit the same exam and will therefore cover the same core theory, as outlines opposite. As the course is fully linear the exam will at the end of the second year of study.

COURSEWORK
The coursework component will allow students the flexibility to choose an area they wish, linking to the subjects they studied at GCSE. The main project is assessed at the end of the second year.

Graphic Design
Engineering
Resistant Materials
Here students’ will undertake a substantial design, make and evaluate project which will test their skills in designing and making a scaled physical outcome. They will be expected to build on skills acquired and develop creative products that solve a real design problem for a real client.

Possible project themes:
- Architecture
- Interior Design
- Graphic Communication
- Packaging Design
- Furniture Design
- Storage
- Lamps
- Inclusive Design
- Structural Engineering
- Electronic Design
- Sustainable Design

Core Design Skills
As part of the course, all students will be taught key communication and presentation skills as well as advanced drawing techniques and learn how to use various CAD programs.

Core Practical Skills
ALL students will have the option to attend additional skill based training on different machinery and manufacturing techniques to ensure design ideas can be successfully converted into high quality outcomes.

Career Options
With a qualification in Product Design you can go onto Higher Education, Further Education or directly into an apprenticeship. Career pathways include; research and development, manufacturing engineering, electronics, furniture design, CAD, CGI, product design, graphic design, architecture, industrial design and interior design, advertising and marketing, branding and website design.

For further information contact:
Mr. D Bennett  Email: dbennett@swchs.net
'I love to achieve my best and I feel that the teachers are super supportive and are always there to help.'

Tom Porter  Past student

'I chose this subject as I have an interest in design and I wanted to also know how things are made. This course will feed directly into my chosen degree. This course gives me massive opportunities and it has a wealth of equipment'

Elly Roberts  Past student