Product Design

Brief Overview of the Course
(for further details, please see our Sixth Form Prospectus
Sixth Form Prospectus • Sir Thomas Rich's School (strschool.co.uk)*)*

Exam Board: AQA

Specification web link: https://www.aqa.org.uk/subjects/design-and-technology/as-and-a-level/design-and-technology-product-design-7552

Topics Covered:
Year 12

- Papers & Boards
- National and International Standards
- Health & Safety
- Polymers (plastics)
- Design for manufacturing, maintenance, repair & disposal
- Responsible Design
- Smart, Modern & Composite materials
- Requirements for product design & development
- Critical analysis and evaluation
- Accuracy in design and manufacture
- Woods (timbers)
- Design methods and processes
- Design theory
- Technology & cultural changes
- Metals
- Coursework Project (from April of Y12)

Topics Covered:
Year 13

- Material properties & testing
- Enhancement of Materials
- Digital Design & Manufacture
- Modern industrial scales of practice
- Design for manufacture & project management
- Protecting designs & intellectual property
- Enterprise & marketing in the development of products
- Feasibility studies
- Revision and exam preparation (February onwards)
- Coursework (completion May)

Please follow the instructions in the boxes below. The aim of these activities is to introduce you to the study of this subject at Advanced Level by:

- reinforcing your core knowledge and understanding of product design;
- encouraging you to think more deeply about product design;
- supporting you to develop a deeper understanding of and appreciation for product design as an academic discipline.

Core Knowledge and Understanding Task

Whether you have studied product design or design and technology before or not, there are elements of core knowledge and understanding that you must have prior to starting the A Level course.

Please provide a written answer to each of the following questions. There are links below to help you discover the answers.

Product Analysis:

Find an image of the **Eames Lounge Chair** designed by Charles and Ray Eames.

1) What were the technological and innovative developments used in the chair? What might have led to some of these technological developments?

2) What were the social and economic influences of the time that led to the design of the chair?

3) From the point of view of a modern consumer, what do you think about the design of the chair? Fully justify your responses.

4) What are the four main materials used on the chair? List and describe the properties of those materials and justify why they were used in its construction.

5) What is environmental impact of each of those materials, from a sustainability point of view? Consider the benefits as well as the disadvantages.

Technical Principles:

1) Define what is meant by a 'Smart Material'. Give an example of one and a product in which it is used.

2) Define what is meant by a 'Modern Material'. Give an example of one and a product in which it is used.

3) What does 'BSI' mean?

4) What is the difference between a 'Patent' and 'Design rights'?

Links to support:

https://www.eamesoffice.com/

https://www.youtube.com/watch?v=SFaLpbmP0Yw&t=30s

www.technologystudent.com

The Bigger Picture Task

As well as reinforcing your core knowledge and understanding, our A Level curriculum will expose you to what are called the 'established orthodoxies' within each subject, which can include key research, important people who have contributed to the field, as well as broader methods and theories that exist within the subject.

Prior to starting the A Level course, it is important that you are aware of the following themes and topics so that you can develop an understanding of how they contribute to some of the established orthodoxies within the study of Product Design.

- User Centred Design
- Iterative Design
- Inclusive Design

To better understand the three key concepts above, find three examples of products that you think 'fits' each concept. Why do the they?
You will first have to research into these concepts to fully understand them.

An important figure in modern design is Dieter Rams. He wrote the 10 principles of good design. Find out what these are, and then find an example of a product that fits these principles. Why does it?

Links to support:

https://designmuseum.org/

Influential academics and practitioners:

Seymour Powell – www.seymourpowell.com

James Dyson – www.jamesdysonfoundation.co.uk

Philippe Starck – www.starck.com

Karim Rashid – www.karimrashid.com

Tom Dixon – www.tomdixon.net

Recommended Reading List and the Department's 'Top Pick' Title

As an A Level student, we want you to value academic endeavour (scholarship) and develop a thirst for learning in your chosen subject. Our curriculum will help you to understand that scholarship is not just about learning facts, it is about nurturing powerful knowledge.

We will help you with this by directing you to resources that will not only deepen your knowledge and strengthen your understanding of the A Level content, but also broaden it beyond that of the exam board specification.

Please find the full subject reading list alongside our prospectus on the Sixth Form section of the STRS website here: https://strschool.co.uk/sixthform/prospectus. We would encourage you to explore as many of these titles as you can.

From the published reading list, the most highly recommended book(s)/article(s) to read before September are:

The Design of *Everyday Things* by Donald A. Norman

Once you have read the recommended book/chapter/article, consider the following:

- What did you learn from the reading?
- Have you identified any patterns or made any connections?
- What unanswered questions has the reading left you with?
- Did you agree entirely with what you have read? If so, why? If not, why not?
- Are there any themes or topics that you would like to explore further?

Other Recommended Activities

Please find below a selection of suggested additional activities that the department feel it would be useful for you to explore prior to starting the A Level course in September.

The BBC How To Make series:

https://www.youtube.com/watch?v=5_8m8iPs2nU

https://www.youtube.com/watch?v=Am7lcnOrnv0

https://www.youtube.com/watch?v=AKiRU-WZvyw

www.technologystudent.com

Podcasts:

Design Better Podcast by @InVision

MakerCast by @Podcast4Makers

ZURBsoapbox by @ZURB

The Product Design Show by @ENGINEERINGcom

Journals and magazines:

Dezeen: https://www.dezeen.com/

Material District: https://materialdistrict.com/

Design Week: https://www.designweek.co.uk/landing-page/product/

It's Nice That: https://www.itsnicethat.com/product-design

Wired: https://www.wired.com/tag/product-design/

DATA Magazine: https://www.data.org.uk/membership/member-benefits/membership-magazines-publications/

Relevant films:

Objectified (2009) by Gary Hustwit – NETFLIX

Abstract: The Art of Design – NETFLIX

The Toys That Made Us by Donald Ian Black – NETFLIX

Design Disruptors by Invision - NETFLIX

Made in Britain Series - ITV

Kevin McClouds Rough Guide to the Future – All4

Influential academics and practitioners:

Seymour Powell – www.seymourpowell.com

James Dyson – www.jamesdysonfoundation.co.uk

Philippe Starck – www.starck.com

Karim Rashid – www.karimrashid.com

Tom Dixon – www.tomdixon.net