Clitheroe Royal Grammar Sixth Form: Transition Pack

Welcome to A Level
Design & Technology: Product Design

I look forward to meeting you and welcoming you to the Sixth Form.

This Transition Pack contains information to support your transition from GCSE to A Level study.

Please read all the documents ready to begin Year 12.

- Independent Learning in Design & Technology: Product Design
- Frequently Asked Questions (FAQs) about Design & Technology: Product Design
- Useful resources for exploring Design & Technology: Product Design
- Design & Technology Department Expectations
- Guidance for Non-Exam Assessment (NEA)
- Design & Technology Introductory Task

✓ **Read the Subject Information Sheet** which is available here:
CRGS Sixth Form Subject Sheet - Design & Technology

✓ **Download the exam board specification** which is available here:
AQA A Level Design and Technology: Product Design

✓ **Read the section called 'Specification at a Glance'**, focusing on the A Level content.

✓ Some of these resources will become more useful when you have moved further through the course, such as the A Level specification, so store them where you can revisit them over the next 2 years.

✓ Don't worry if some of the work sounds challenging. A Level work is more difficult than GCSE work after all. Your teachers will be supporting you through this transition. Please talk to us if you are unsure about any aspect of the course.

I look forward to seeing you soon.

Mrs M Starkie - Head of Learning, Design Technology: Product Design

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Design & Technology – A Level
Frequently Asked Questions (FAQs)

You can find more specific detail on the **AQA website**
A Level Design & Technology: Product Design and on the destination of graduates on https://hecsu.ac.uk/hecsu-group - this is the home page of the Higher Education Careers Services Unit.

Q. How many units of work are submitted at A level and how is the time allocated?

The course has three main assessments/units:

- **Paper 1: Technical principles** This is a written 2 hours and 30 minutes exam. Paper 1. 30% of the A level. The questions are based on technical principles of Design & Technology: Product Design.

- **Paper 2: Designing and making principles** This is a written 1 hour and 30 minutes exam. Paper forms 20% of the A level. Paper 2 is a two-section examination paper. Section A of paper 2 is based on Product Analysis. Section B of paper 2 based on commercial manufacture.

- **Non Exam Assessment (NEA)** This is a substantial design and make project. The NEA is worth 100 marks, which forms 50% of the A-level. This will be assessed by a written or digital design portfolio and photographic evidence of final prototype.

You will be undertaking lessons in design, theory and practical each week throughout the two-year course, developing skills for the written exams and NEA.

Q. What does a NEA portfolio in Design & Technology: Product Design consist of? Students must undertake a design and make task and produce a final prototype based on a context and design brief developed by the student. Students should also produce a concise folder.

Q. What are the examination papers questions like?
AQA provides a range of example papers. See the website for examples.

Q. What sort of facilities are available to me?
There is a well-equipped Design & Technology Room on the Chatburn Road site with space to work on a large scale. You will be expected to walk up to the site for practical lessons. A wide range of materials will be made available to you. The facilities include 5 3D printers (including 2 dual nozzle printers), CNC Router, 2 laser cutters, vinyl cutter, 2 pillar drills, low temperature casting, strip heaters, 3 hot wire cutters, 3 hegna saws, disc sander and a range of traditional tools and equipment. It is also recommended that you bring an apron to protect your clothing. You will also have access to ICT facilities for portfolio work.

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Q. What CAD programmes will I be expected to use?

You will be introduced to, and expected to use, a range of CAD programmes. You will also be expected to practise in these programmes in your own time. The software used in school are:

- **Autodesk Fusion 360** - Industry standard Integrated CAD, CAM, and CAE software. Used for 3D virtual modelling, Engineer drawings and design development. This programme will be available for you to download and use at home once you have been issued with a school email account.

- **Cura** - A programme for interpreting Autodesk Fusion 360 files into those compatible for 3D printing.

- **GeoCamm** - Only available on site. A programme used for interpreting Autodesk Fusion 360 files into those compatible for the CNC router.

- **2D Design Tools V3** - Only available on site. For 2D Design drawing to later be CAM manufactured using the laser cutter or vinyl cutter.

- **Inkscape** – Only available for use on site. For any Graphics based products

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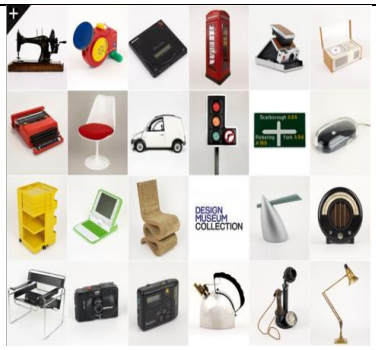
A Level Design & Technology
Useful Resources

Congratulations! By choosing to study Design & Technology: Product Design at A Level you are giving yourself the opportunity to become a highly effective, creative, independent learner with excellent problem-solving skills, alongside honing and developing your manufacturing skills with varied materials as you explore concepts in depth.

You may find these websites and apps a useful starting point as you begin your A Level journey:

Downloadable form	Screenshots	Name and description
App, Magazine and website ***Website:*** **https://www.wallpaper.com/**		**Wallpaper Case Studies -** Wallpaper* magazine is the world's number one global design publication, championing the best in art, architecture, interiors, fashion and contemporary lifestyle. This is an awesome tool that enables you to quickly pick a topic and flick through many a creative design with instant access to information about the design and the designer. Quick inspiration tool!
website **https://designmuseum.org/**		**The Design Museum Collection** - Presents remarkable objects from London's Design Museum; these key pieces from the collection are explored through film, audio, text and photographs. Search options include: time, material, colour, location, manufacturer and designer. Classic pieces include: the Anglepoise lamp, the Dyson vacuum.
Website ***https://www.dezeen.com***		**Dezeen -** The world's most influential architecture, interiors and design magazine, packed full of video's and interviews with designers who deal with current issues. This helps with listening, reading and evaluating relevant and current product design.

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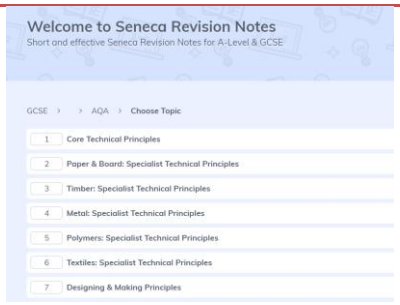
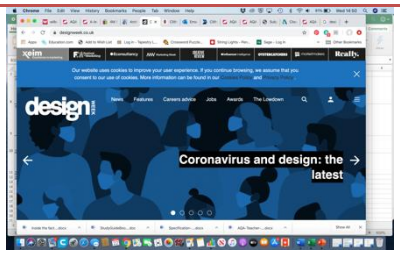
Design & Technology: AQA GCSE SENECA NOTES		A website with lots of free specific DT technical information **and revision quizzes for Product Design. The website currently does not have A-Level content but it is worthwhile regularly visiting the GCSE content, especially in specialist areas you did not study in depth in GCSE.**
design WEEK **Design Week** **https://www.designweek.co.uk**		A weekly web-magazine on all things design. Has some great current case-studies.

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Design & Technology Department Expectations

Please ensure that you read the following information and share it with your parents/carers.

Expectations
By opting to do an A Level Design & Technology: Product Design course you are making a commitment. We are committed to providing you with the best possible opportunities to develop your design and technology ability. In return our expectation is that you will do your best at all times and work effectively to reach your potential. As an A Level student you will experience greater freedom than in the past, but there are a number of ground rules that must be kept in mind:

Deadlines
Internal deadlines for all projects, assignments and the NEA work must be met. Deadlines will be clearly communicated to you by your teacher. Pressure of work from other subject areas should not be used as an excuse for missed deadlines or underdeveloped work. You will be provided with clear guidance throughout the course to ensure that your work is progressing at the correct pace.

Respect for workshop, machines and equipment
The expectation is that you will tidy up effectively at the end of each design and technology session. This includes putting away of work, cleaning of equipment (including machines), returning equipment to the correct storage space and vacuum down of surfaces. You will be provided with a space to store your work in. Work that is needlessly left out might get lost or damaged.

Homework
You will be set homework every week and you are expected to complete it on time and to the best of your ability. You will also be expected to develop your design and project work (CAD and by hand) proactively at home.

Be ready to work
You must attend every lesson and arrive promptly. You should also ensure that you have the correct equipment with you to progress your work.

Attendance at help sessions
If it is felt that you are not making appropriate progress you will be given the opportunity to attend an after-school help session. The expectation is that you will attend until your work is back on track.

Practical Lessons
You will be expected to walk to the Chatburn Road site to attend all practical lessons. Theory lessons will be at the York Street site.

Non-Exam Assessment (NEA) in Design & Technology

As well as completing 2 written papers, students studying A-Level Design & Technology: Product Design will also be assessed in a third component: The NEA.

When?
The NEA is a substantial design and make task that is undertaken in the latter half of Year 12 and first half of Year 13.

What is expected in the NEA?
Students must undertake a design and make task and produce a final prototype based on a context and design brief developed by the student. Students should produce a concise folder. It is recommended that this folder should not exceed 45 pages. Students who do not follow these guidelines will penalise themselves by not meeting the expectations of the assessment appropriately.

How is it assessed?
This component makes up 50% of the A Level and is comprised of three assessment objectives:

AO1 (30 marks)
- Identifying and investigating design possibilities
- Producing a design brief and specification

A02 (50 marks)
- Development of design proposal(s)
- Development of design prototype(s)

A03 (20 marks)
- Analysing and evaluating 20

Is there a time limit, can I work on my NEA at home?
There are deadlines. However, time limits for completion of the NEA are not specified by the AQA because the process of producing the design portfolio is iterative and undertaken independently, while the final prototype is manufactured under immediate guidance or supervision in school. At CRGS, we expect students to be selective in their choice of material to include, and to manage their time appropriately.

Where can I find out more about the NEA?
In the course specification (pages 49-64)
https://filestore.aqa.org.uk/resources/design-and-technology/specifications/AQA-7552-SP-2017.PDF

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Design Technology
Introductory Tasks

Welcome to the Design Technology Department!

Core Tasks:	**In order to prepare for the first few weeks of the course, I would like you to complete these tasks ready to begin Year 12:** 1. **Watch** a series of very short clips from the Open University on The History/Evolution of Design; https://www.youtube.com/playlist?list=PLhQpDGfX5e7CJ87BDeuTdXTpxl0YM2Tdb. Over the next few weeks as you notice products and architecture, try and decide which design period they are from/based on. 2. **Practise sketching** a good product designer continually practises their sketching skills. This will improve consistency, accuracy and speed. Sketching is a fundamental skill in product design. You should aim to be sketching every day for 5-10 minutes. Just choose an object and try and sketch it. Don't panic if you are not confident at sketching products, it is a skill you can improve; check out product, designer, maker on YouTube for some sketching tips. https://www.youtube.com/channel/UC62Ngsd_ZBWkX-6yFV-10UQ Please bring a minimum of three pages of product sketches (eg. Radios, chairs, lamps, kettles) with you to your first lesson. I suggest you try out a variety of techniques from the YouTube channel above. 3. **Learn** the key words and terminology from the GCSE Design & Technology, so you are ready to build on this in A-level https://www.aqa.org.uk/resources/design-and-technology/gcse/design-and-technology/teach/subject-specific-vocabulary 4. Using the websites listed in the 'Useful resources' section, choose two products/articles that interest you and be ready to share with the class a 1-2 minute presentation of what you found out, and why it interested you.

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Possible additional tasks:	1. **Watch** the documentary series 'Inside the Factory' available on BBC iplayer. 2. Widen your knowledge of design - **Visit** a museum/gallery (virtually or in person) specifically focusing on design history, manufacturing and product design. Suggestions (UK based); Design Museum- London, Design Council- London, The Science Museum- London, MoSi- Manchester, Tate modern- London, Tate Liverpool, V&A-London,
Useful websites/resources if you want to do some further research:	1. **Browse** some of the websites listed in the 'Useful resources' section.