

How to Succeed in Design & Technology

Course Information

Exam Board	AQA
Exam Structure	50% written examination (2 hours) and 50% NEA (25 page A3 portfolio)
Specification weblink	https://www.aqa.org.uk/
Practice exam papers weblink	Technologystudent.co.uk

Units/Topics studied

- | | |
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| <ul style="list-style-type: none"> • New & Emerging Technologies • Developments in New Materials • Mechanical Devices • Specialist technical Principles | <ul style="list-style-type: none"> • Energy Storage & Generation • Systems Approach to Designing • Materials & their Properties • Designing & Manufacturing Principles |
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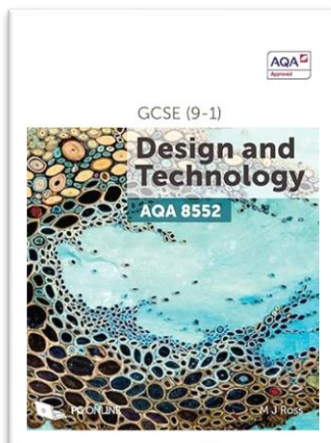
Revision strategies and materials, course work required:

For the theoretical examination:

- **Practice revising by using:** Flash cards, brainstorms, practice extended writing answers, learn key words, practice technical drawing (orthographic, isometric and perspective)
- **For quick curriculum knowledge go to:** Technologystudent.com
- **For key words, class work catch up and detailed explanations use:** **GCSE Design and Technology**
Exam board: AQA

Fully updated for the 2022 AQA Design and Technology 8552 specification
This approachable and comprehensive GCSE textbook has become a favourite with teachers and students. It covers all the topics and disciplines from the new 2022 specification for AQA 8552 Design and Technology (9-1).
This book is laid out in a single column format with clear illustrations to keep you focussed on exactly what you need to

know without missing anything. Absolutely no page clutter. There are exam-style questions on each topic to test your understanding every step of the way.



For the 25 page A3 portfolio (independent, controlled conditions):

- **Investigating a design context (10 marks)**
6-8 A3 pages of research typed into a powerpoint document: brainstorm of context, client profiling, target market profiling, existing product and market analysis, investigating the influential work of others, social, moral and environmental constraints of a design concept
- **Writing of Design Specifications and a Design Brief (10 marks)**
1-2 pages of typed up design constraints and explanations of decisions made based on research in the investigation
- **Designing an initial idea (20 marks)**
5 hand drawn and fully annotated A3 design sheets showing a range of original, innovative design concepts related to the context and taking on board the full needs and wants of targeted users such as client and market, avoiding design fixation or repetition, 2 pages of analysis of ideas against design specifications and Social, Moral and Environmental constraints
- **Developing an idea (20 marks)**
4 typed up and CAD illustrated pages that review and iterate first concepts with development and showing a range of views, 4 physically manufactured models made from rough materials in a workshop with appropriate material and tool/machine selection
- **Realising (manufacturing) a final prototype (20 marks)**
One manufactured final design using appropriately selected materials, tools and machines, one planning diagram produced in powerpoint, one manufacturing specification over several A3 pages incorporating all technical CAD drawing such as Orthographic and Isometric views with measurements, one page displaying photographs of finished product
- **Analysing and Evaluating (20 marks)**
2 pages of A3 typed up overall evaluation regarding successes and areas for improvements of the product concept, analytical and evaluative comments, annotation and justification throughout the pages of the project (not just the final few pages)



Examples of Design Pages from an NEA portfolio:

Target Market Profiling

Synopsis of Design Proposal

...the design team has been working on the design of a product that will be used to help people with back pain. The product is a chair that is designed to be used by people who have back pain. The chair is designed to be used by people who have back pain. The chair is designed to be used by people who have back pain.

Questions

1. How important are the looks of your product?

2. How much are you willing to spend on a product that will help you with your back pain?

3. What are your performance goals?

4. How important is the environment for you?

Analysis of Results

The results of the survey show that the most important factor for people with back pain is the comfort of the chair. The second most important factor is the price of the chair. The third most important factor is the appearance of the chair.

Evolution of Design Proposal

After going through the focus group questions some of my opinions on how the product should look have changed. My target user is now someone aged 30-50, who is a person who has back pain. My target user is now someone aged 30-50, who is a person who has back pain.

Analysing Existing Products

Product Analysis Concept	Aesthetics	Ergonomics	Functionality	Who is the target user?	Which features are good and why?	Overall market viability and rating	
	The kneeling chair comes with a minimalist design. It doesn't get too much into the details of its design, but you can see how they've changed the colors of the chair to make it look like a modern piece of furniture.	When you sit in the chair you are not in an upright position. This allows the natural shape of your spine. The open shape of the chair helps avoid lower back pain. The cushioning is soft and allows for easy sitting.	The seat allows for the chair to push back three ways to use it. One way is by standing, the other by sitting. Another way is by sitting on the seat and using the footrest. The chair is also very easy to use.	The kneeling 'footrest' can be adjusted to height for different people's heights. Additionally, there is a more cushioned area on the chair for extra support. The product is also very easy to use.	The target user for this product is someone who is looking for a chair that is comfortable and easy to use. The target user is someone who is looking for a chair that is comfortable and easy to use.	One of the features that I found very useful was the adjustability for the angle of the chair. This allows for a more custom experience. Additionally, it has a soft cushion on the bottom which doesn't seem significant but helps a lot.	I would give this product a 7/10. This is due to the ergonomics, functionality, and appearance. However, it does seem to have some issues with the lack of portability.
	The MOPF 7.8 Board does not have a very modern aesthetic. It looks like a simple piece of equipment that is designed to be used by people who are looking for a simple and easy-to-use product.	The ergonomics of the product are not great. It is designed to be used by people who are looking for a simple and easy-to-use product. The ergonomics of the product are not great.	The storage box has a very simple design. It is designed to be used by people who are looking for a simple and easy-to-use product. The storage box has a very simple design.	The target user for this product is someone who is looking for a simple and easy-to-use product. The target user is someone who is looking for a simple and easy-to-use product.	I would give this product a 6/10. The product looks like a simple piece of equipment that is designed to be used by people who are looking for a simple and easy-to-use product.		
	The 3D ESDIton Bombard storage box has a very simple design. It is designed to be used by people who are looking for a simple and easy-to-use product. The 3D ESDIton Bombard storage box has a very simple design.	The ergonomics of the product are not great. It is designed to be used by people who are looking for a simple and easy-to-use product. The ergonomics of the product are not great.	The target user for this product is someone who is looking for a simple and easy-to-use product. The target user is someone who is looking for a simple and easy-to-use product.	The target user for this product is someone who is looking for a simple and easy-to-use product. The target user is someone who is looking for a simple and easy-to-use product.	I would give this product a 6/10. The product looks like a simple piece of equipment that is designed to be used by people who are looking for a simple and easy-to-use product.		

Client Profiling

My Client Description

My client is a 30-year-old male who is looking for a chair that is comfortable and easy to use. He is looking for a chair that is comfortable and easy to use. He is looking for a chair that is comfortable and easy to use.

Mood board

The mood board shows a variety of colors and textures that the client likes. The colors are mostly neutral and the textures are mostly smooth.

Client Interview

The client interview was conducted over a video call. The client was asked a series of questions about his needs and preferences. The client was asked a series of questions about his needs and preferences.

Generating design sheets

Anthropometrics

The average height of a person is 1.75m. This data helps us to determine the size of the chair. The data helps us to determine the size of the chair.

Design Process

The design process involved several steps. First, we conducted a client interview. Then, we created a mood board. Finally, we generated design sheets.

Manufacturing Process

The manufacturing process involves several steps. First, we create a prototype. Then, we create a final product. Finally, we create a final product.

Queen Bee Product one Anthropomorphism

The Queen Bee product is a safety alarm designed for young adults who often travel alone. The product is a safety alarm designed for young adults who often travel alone.

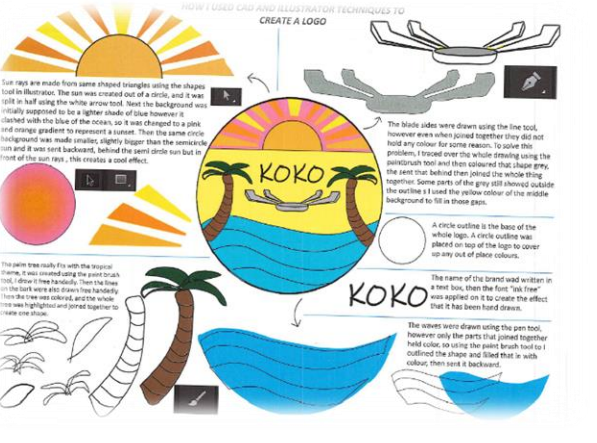
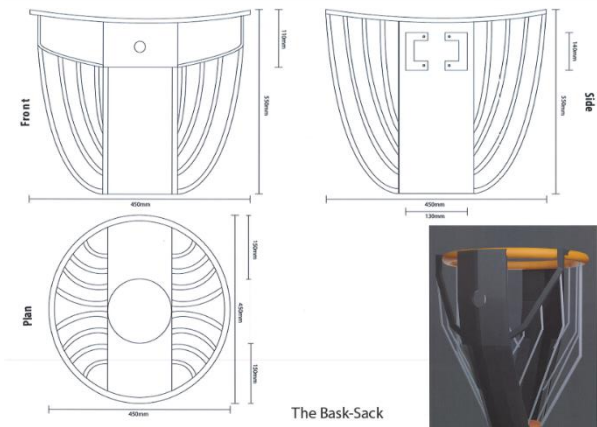
Back of Product

The back of the product is made of a durable material. It is designed to be used by people who are looking for a simple and easy-to-use product.

Packaging

The packaging is designed to be easy to use. It is designed to be used by people who are looking for a simple and easy-to-use product.

Using CAD to develop a concept



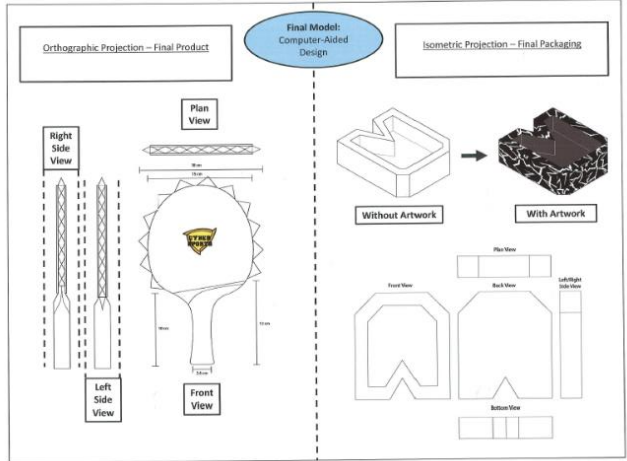
Modelling an idea and analysing the result

THE kokoblend

This product is a blender bottle prototype that has been constructed out of foam but has been designed to be made from plastic. The bottle and accessories were created from foam then were added on a sanding block to make the sides more rounded and smooth. After finishing the overall shape, the bottle was then painted with a spray paint to give it a finished appearance. I wanted to make this bottle safe to use so I used a 3D printer to create a lid and a cap for the bottle. The lid and cap were made from foam and were designed to fit the bottle perfectly. The lid and cap were made from foam and were designed to fit the bottle perfectly. The lid and cap were made from foam and were designed to fit the bottle perfectly.

Type of test	Reason for test	Result	Conclusion
Appearance	To ensure the product will look modern and appealing. Does it fit the 'kokoblend' theme?	2 3 3 4 5 6 7 8 9 10	Looks like a real product. However, the dimensions of the bottle were not quite as I had planned. The bottle was a bit too tall and the cap was a bit too small.
Safety	To ensure that when the product is used it will be safe and healthy for the user.	1 2 3 4 5 6 7 8 9 10	Model revised 1 and 2 but still not quite right. I know when I design a product I need to think about safety and health.
Ergonomics	To ensure that when the product is used it will be comfortable and easy to use.	2 3 3 4 5 6 7 8 9 10	Product fits comfortably into the hand. The bottle is a good size and the cap is a good size. The bottle is a good size and the cap is a good size.

Final prototype photography taken by the student



The Bask-Sack

Type of test	What was I testing for?	Result of test	Overall Rating
Ergonomics	Can I use the bag for carrying things? The handle is comfortable to hold and the bag is easy to use. The bag is made from a material that is comfortable to touch and the bag is easy to use.	7/10	Good
Strength test	Can I use the bag for carrying things? The bag is made from a material that is strong and the bag is easy to use. The bag is made from a material that is strong and the bag is easy to use.	8/10	Good
Aesthetics	Can I use the bag for carrying things? The bag is made from a material that is attractive and the bag is easy to use. The bag is made from a material that is attractive and the bag is easy to use.	8/10	Good
Functionality	Can I use the bag for carrying things? The bag is made from a material that is functional and the bag is easy to use. The bag is made from a material that is functional and the bag is easy to use.	8/10	Good

Client/Peer and Focus Group Feedback

When I asked my client about the aesthetics of the product he said he liked the look of the product. He said he liked the look of the product. He said he liked the look of the product.

Process Used

- Research - In order to find the best material for the bag I researched different materials.
- Design - I designed the bag and the handle.
- Prototyping - I made a prototype of the bag and the handle.
- Testing - I tested the bag and the handle.
- Final Product - I made the final product.

Planning for manufacture flow chart

