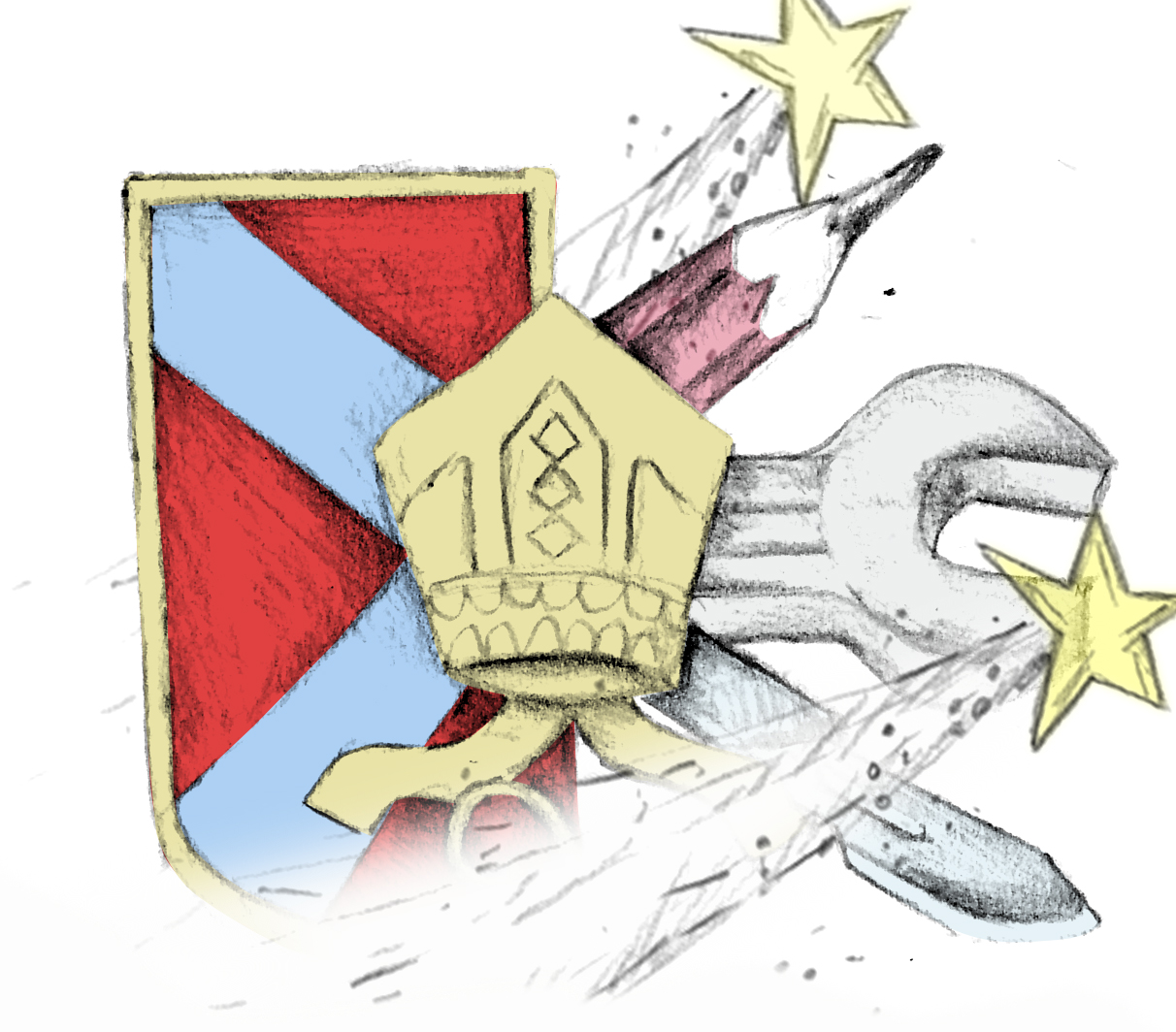
**Bishop of Hereford’s Bluecoat School**

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**GCSE NEA (Non-Examined Assessment)**

**AQA Design and Technology**

**Student Guidance Handbook 2022**

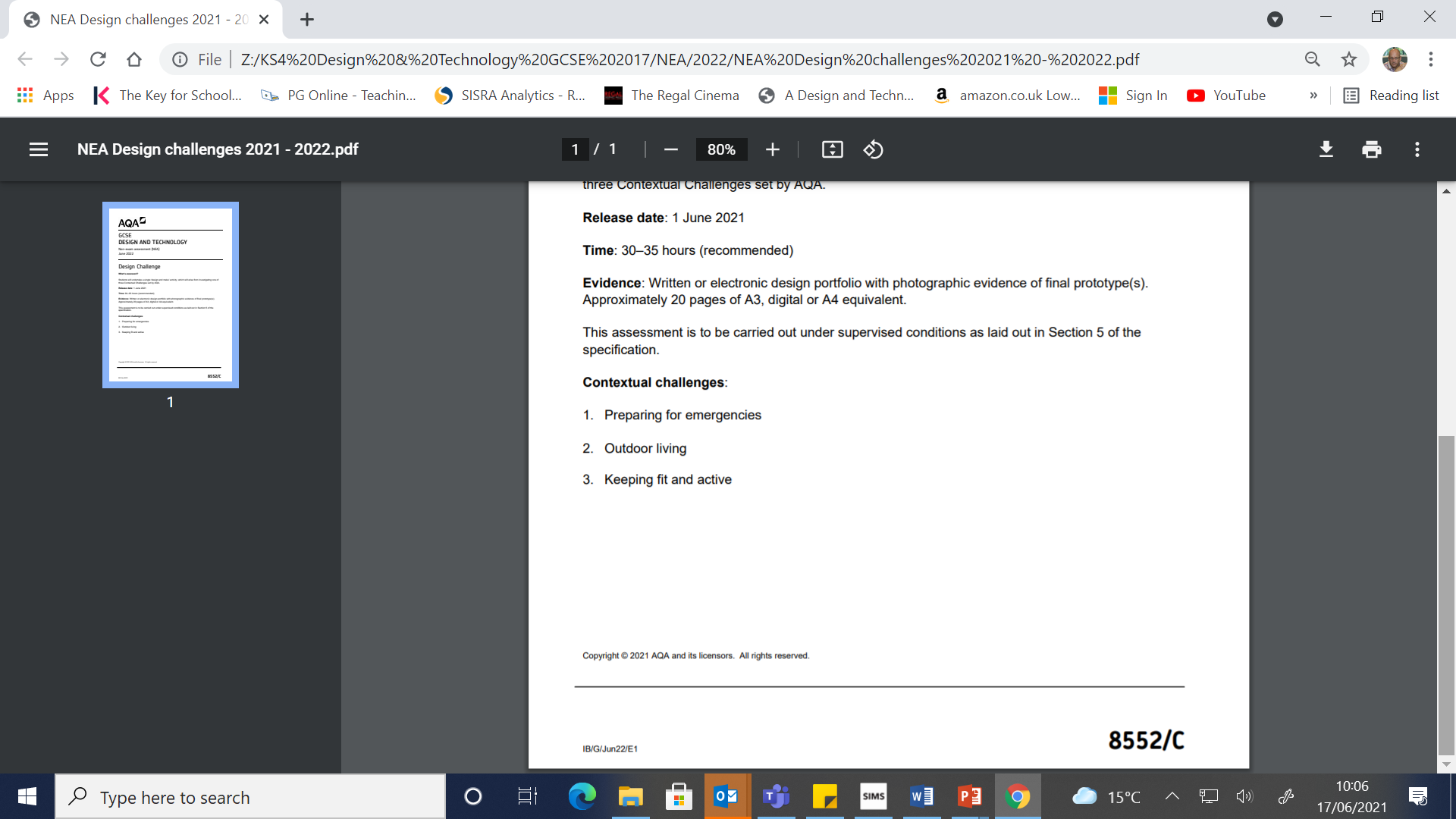
**Name …………………………………………….…**

**Form Group ……………..................**

**EPT ……….**

**Deadline for completion of your NEA is 1st April 2022**





**Non Exam Assessment (NEA)**

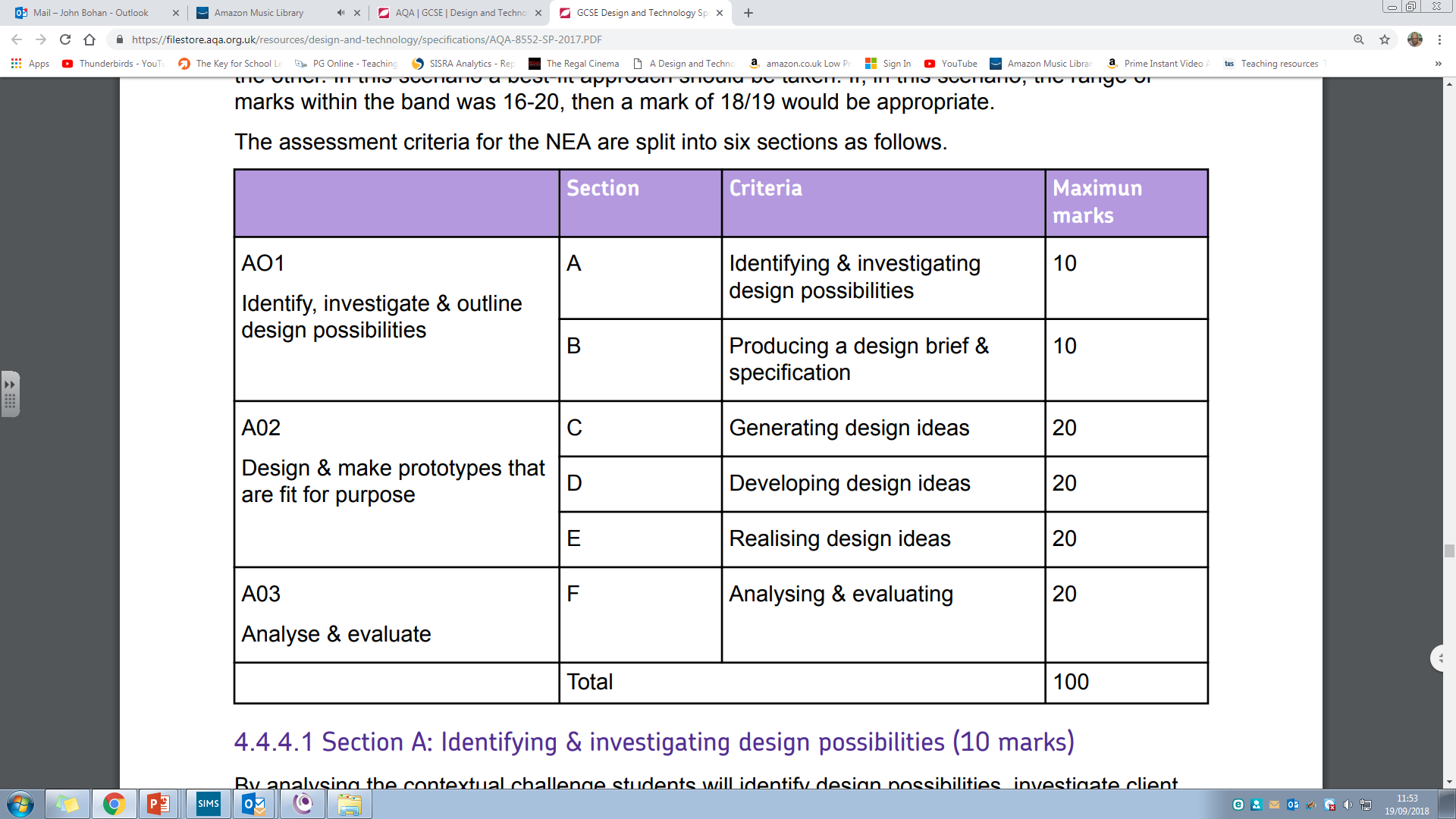
The NEA (your Major Project) is an extremely important piece of work.

It is worth 50% of your final GCSE grade. If you don’t do well in this project you will not do well overall in the qualification.

It is essential that you complete all of the work to the best of your ability and do so within the deadlines that I give you.

You are limited to a maximum of 35 hours to complete all of the work required, both paperwork and prototyping. This sounds like a lot but it really is not.

Below is the breakdown of the assessment requirements of the NEA.



You can see that the total marks are 100.

The project is broken down into 3 Assessment Objectives (AOs), two of which are broken down into sub-sections.

You will work through each of these sections in turn producing a range of research and design sheets in order to fulfil the requirements of the mark scheme.

**There is limited time so you will not be able to revisit work later on in the project. It must all be completed to deadline or you will lose marks.**

**NEA Guidance**

**AO1a Sheets 2-5: Investigating the design context (10 marks)**

Should include the following

1. An outline of the problem you have identified – this should be a problem that you have identified from thinking about the NEA context
2. A mind map investigating the design context
3. Information about the possible location where the product might be used
4. A list of the research tasks that you need to perform in order to investigate the problem fully.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

WWW/EBI

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Design possibilities identified and thoroughly explored, directly linked to a contextual challenge demonstrating excellent understanding of the problems/opportunities.  A user/client has been clearly identified and is entirely relevant in all aspects to the contextual challenge and student has undertaken a comprehensive investigation of their needs and wants, with a clear explanation and justification of all aspects of these.  Comprehensive investigation into the work of others that clearly informs ideas. Excellent design focus and full understanding of the impact on society including; economic and social effects.  Extensive evidence that investigation of design possibilities has taken place throughout the project with excellent justification and understanding of possibilities identified. | 10 |

**Deadline for completion: second week of July of Year 10**

**NEA Guidance**

**AO1a Sheets 2-5: Product Evaluation (10 marks)**

Should include the following

1. A detailed Product Evaluation of a product which solves the same problem that you have identified in the previous sheet.

You should use the following headings

**Aesthetics – Customer - Cost – Environment – Size- Safety - Function - Materials**

The sheet should include a range of photographs of the product in order to illustrate the function and aesthetics

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

WWW/EBI

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Design possibilities identified and thoroughly explored, directly linked to a contextual challenge demonstrating excellent understanding of the problems/opportunities.  A user/client has been clearly identified and is entirely relevant in all aspects to the contextual challenge and student has undertaken a comprehensive investigation of their needs and wants, with a clear explanation and justification of all aspects of these.  Comprehensive investigation into the work of others that clearly informs ideas. Excellent design focus and full understanding of the impact on society including; economic and social effects.  Extensive evidence that investigation of design possibilities has taken place throughout the project with excellent justification and understanding of possibilities identified. | 10 |

**Deadline for completion: second week of July of Year 10**

**NEA Guidance**

**AO1a Sheets 2-5: Client Interview and Location Visit (10 marks)**

Should include the following

1. Written evidence of a Client interview showing all questions asked and the responses given.

You can also include any comments that the client makes that arise from the conversation that you have had.

You should include a photo of the client, but it is not compulsory.

1. Details of your location visit including photos and analysis of the problems/opportunities that you have identified from your visit.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

WWW/EBI

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Design possibilities identified and thoroughly explored, directly linked to a contextual challenge demonstrating excellent understanding of the problems/opportunities.  A user/client has been clearly identified and is entirely relevant in all aspects to the contextual challenge and student has undertaken a comprehensive investigation of their needs and wants, with a clear explanation and justification of all aspects of these.  Comprehensive investigation into the work of others that clearly informs ideas. Excellent design focus and full understanding of the impact on society including; economic and social effects.  Extensive evidence that investigation of design possibilities has taken place throughout the project with excellent justification and understanding of possibilities identified. | 10 |

**Deadline for completion: second week of July of Year 10**

**NEA Guidance**

**AO1b Sheet 6: Research Summary, Brief & Specification (10 marks)**

Should include the following

1. A summary chart detailing each piece of research and what you have found out from it. You must also state where/how you found out this information.
2. An initial Design Brief stating – What you are going to design, who the user is, a brief description of where and how it might be used. “ I intend to design and make …”
3. A Design Specification describing your initial thoughts on the product under the following headings:

**Aesthetics – Customer - Cost – Environment – Size- Safety - Function – Materials/Manufacture**

You do not need a summary box on this sheet.

WWW/EBI

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Comprehensive design brief which clearly justifies how they have  considered their user/client’s needs and wants and links directly to the  context selected.  Comprehensive design specification with very high level of justification  linking to the needs and wants of the client/user. Fully informs subsequent  design stages. | 10 |

**Deadline for completion: second week of July of Year 10**

**NEA Guidance**

**AO2c Sheet 7-9: Design Ideas (20 marks)**

Should include the following:

1. A range of design ideas drawn in a combination of isometric and 2 dimensions, you must demonstrate an **ITERATIVE** design process.
2. The designs should be inspired by the work of another designer or a specific design style. You may need to gather images of the work of a famous designer and base the designs on these images. YOU CANNOT JUST COPY THEIR DESIGNS!
3. You must explain how the shape of your designs is influenced by any images that you have used.
4. There must be detailed analysis on each page.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

WW/EBI

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Imaginative, creative and innovative ideas have been generated, fully  avoiding design fixation and with full consideration of functionality,  aesthetics and innovation.  Ideas have been generated, that take full account of on-going investigation  that is both fully relevant and focused.  Extensive experimentation and excellent communication is evident, using a wide range of techniques.  Imaginative use of different design strategies for different purposes and as part of a fully integrated approach to designing. | 20 |

**Deadline for completion: end of September of Year 11**

**NEA Guidance**

**AO2c Sheet 7-9: Iterative and user centred design (20 marks)**

Should include the following:

1. A range of design ideas drawn in a combination of isometric and 2 dimensions, you must demonstrate an **ITERATIVE** design process.
2. You must demonstrate a clear design strategy on each sheet.
3. There must be detailed analysis on each page which reflects your design specification.
4. There must be **no** evidence of ‘design fixation’.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

WWW/EBI

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Imaginative, creative and innovative ideas have been generated, fully  avoiding design fixation and with full consideration of functionality,  aesthetics and innovation.  Ideas have been generated, that take full account of on-going investigation  that is both fully relevant and focused.  Extensive experimentation and excellent communication is evident, using a wide range of techniques.  Imaginative use of different design strategies for different purposes and as part of a fully integrated approach to designing. | 20 |

**Deadline for completion: end of September of Year 11**

**NEA Guidance**

**AO2d Sheet 10: Sketch models of three designs, with evaluation**

Should include the following

1. Images of three card models that you have made.
2. There should be a detailed evaluation of each model and design, against the design specification.
3. You must also have evidence of gathering of peer opinion, or if possible your client.
4. In your summary you must explain which design you are going to take forward to develop further.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

WWW/EBI

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Very detailed development work is evident, using a wide range of 2D/3D techniques (including CAD where appropriate) in order to develop a prototype.  Excellent modelling, using a wide variety of methods to test their design  ideas, fully meeting all requirements.  Fully appropriate materials/components selected with extensive research  into their working properties and availability.  Fully detailed manufacturing specification is produced with comprehensive  justification to inform manufacture. | 20 |

**Deadline for completion: Before October half term of Year 11**

**NEA Guidance**

**AO2d Sheet 11: Further development of two sketch model designs**

Should include the following

1. Images of two card development models of one design that you have made, developing the function and aesthetics of your design.
2. There should be a detailed evaluation of each model and design explaining in detail what changes you made, why you made them and where these decisions came from.
3. In your summary you must explain what you have found out and how the decision has developed including any decisions you have made about the design, such as material choices etc. Use ACCESS FM.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Very detailed development work is evident, using a wide range of 2D/3D  techniques (including CAD where appropriate) in order to develop a  prototype.  Excellent modelling, using a wide variety of methods to test their design  ideas, fully meeting all requirements.  Fully appropriate materials/components selected with extensive research  into their working properties and availability.  Fully detailed manufacturing specification is produced with comprehensive  justification to inform manufacture. | 20 |

**Deadline for completion: Before October half term of Year 11**

**NEA Guidance**

**AO2d Sheet 12: Final sketch model development (20 marks)**

Should include the following

1. Images of your full size prototype model and manufacture, showing all key features.
2. Detailed analysis of the design under the following headings:

**Aesthetics – Customer - Cost – Environment – Size- Safety - Function – Materials/Manufacture**

1. All analysis MUST be linked back to the design specification, evidence of client feedback about the design outcome must also be on this sheet.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Extensive evidence that various iterations are as a direct result of considerations linked to testing, analysis and evaluation of the prototype, including well considered feedback from third parties.  Comprehensive testing of all aspects of the final prototype against the design brief and specification.  Fully detailed and justified reference is made to any modifications both proposed and undertaken.  Excellent ongoing analysis and evaluation evident throughout the project that clearly influences the design brief and the design and manufacturing specifications. | 20 |

**Deadline for completion: Second week in November of Year 11**

**NEA Guidance**

**AO2d Sheet 13: Orthographic and Computer Aided Drawings**

Should include the following

1. Scale images of your orthographic drawing, either by hand or using CAD, showing all key features.
2. Detailed analysis of the designs and screen shots from Solid Works, either of the completed prototype or component parts.
3. All analysis MUST be linked back to the design specification, evidence of client feedback about the design outcome must also be on this sheet.
4. Evidence of Techsoft 2D Design, for any planned use of CAM, such as the laser cutter.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Very detailed development work is evident, using a wide range of 2D/3D  techniques (including CAD where appropriate) in order to develop a  prototype.  Excellent modelling, using a wide variety of methods to test their design  ideas, fully meeting all requirements.  Fully appropriate materials/components selected with extensive research  into their working properties and availability.  Fully detailed manufacturing specification is produced with comprehensive justification to inform manufacture. | 20 |

**Deadline for completion: Final week in November of Year 11**

**NEA Guidance**

**AO2e Sheet 14:** **Materials and Components Analysis**

Should include the following

1. Appropriate materials/components selected.
2. Good research into their working properties and availability.
3. Detailed analysis including reasons for selecting any KD fittings.
4. Analysis MUST be linked back to the design specification, evidence of client feedback about the design outcome must also be on this sheet.
5. Identified and appropriate finish, reflecting on aesthetic quality.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  Very detailed development work is evident, using a wide range of 2D/3D  techniques (including CAD where appropriate) in order to develop a  prototype.  Excellent modelling, using a wide variety of methods to test their design  ideas, fully meeting all requirements.  Fully appropriate materials/components selected with extensive research  into their working properties and availability.  Fully detailed manufacturing specification is produced with comprehensive justification to inform manufacture. | 20 |

**Deadline for completion: Final week in November of Year 11**

**NEA Guidance**

**AO2e Sheet 15: Cutting List and Final Working Drawing**

Should include the following

1. Detailed cutting list with appropriate materials/components selected.
2. Any cutting list given to Mrs Shaw 72 hours in advance.
3. Detailed working drawing.
4. Analysis MUST be linked back to the design specification, evidence of client feedback about the design outcome must also be on this sheet.
5. Identified and appropriate finish, reflecting on aesthetic quality.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  The correct tools, materials and equipment (including CAM where  appropriate) have been used or operated safely with a good level, of skill.  Detailed quality control is evident to ensure the prototype is mostly accurate  through partial application of tolerances.  Prototype shows a good level of making/finishing skills that are largely  consistent and appropriate to the desired outcome.  A good quality prototype that may have potential to be commercially viable  has been produced which mostly meets the needs of the client/user. | 20 |

**Deadline for completion: Final week in November of Year 11**

**NEA Guidance**

**AO2e Sheet 16-17: Final 3D Drawing & Manufacturing Specification**

Should include the following

1. Detailed final 3D drawing, fully rendered, hand drawn or CAD.
2. Analysis MUST be linked back to the design specification, evidence of client feedback about the design outcome must also be on this sheet.
3. Fully detailed manufacturing specification is produced with comprehensive justification to inform manufacture.
4. Identified and appropriate finish, reflecting on aesthetic quality.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  The correct tools, materials and equipment (including CAM where  appropriate) have been used or operated safely with a good level, of skill.  Detailed quality control is evident to ensure the prototype is mostly accurate through partial application of tolerances.  Fully appropriate materials/components selected with extensive research  into their working properties and availability.  Fully detailed manufacturing specification is produced with comprehensive justification to inform manufacture. | 20 |

**Deadline for completion: Final week in November of Year 11**

**NEA Guidance**

**AO2e Sheet 18-19: Manufacturing Diary**

Should include the following

1. Between 12 – 16 evidence photographs of your prototype being manufactured.
2. Each photo must be accompanied by a detailed annotation explaining the materials, tools and processes being used.
3. Any modifications should be identified to the moderator, all evidence should be date stamped.
4. Identified and appropriate finish, reflecting on aesthetic quality.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| **Mark band Description**  The correct tools, materials and equipment (including CAM where  appropriate) have been consistently used or operated safely with an  exceptionally high level of skill.  A high level of quality control is evident to ensure the prototype is accurate by consistently applying very close tolerances.  Prototype shows an exceptionally high level of making/finishing skills that  are fully consistent and appropriate to the desired outcome.  An exceptionally high quality prototype that has the potential to be  commercially viable has been produced and fully meets the needs of the client/user. | 20 |

**Deadline for completion: Before February half term of Year 11**

**NEA Guidance**

**AO3 Sheet 20-22: Final Evaluation of Prototype**

Should include the following

1. Extensive evidence that various iterations are as a direct result considerations linked to testing, analysis and evaluation of the prototype, including well considered feedback from third parties.
2. Comprehensive testing of all aspects of the final prototype against the design brief and specification.
3. Successes and failures highlighted clearly to the moderator. Use ACCESS FM to support evaluation.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| Extensive evidence that various iterations are as a direct result of  considerations linked to testing, analysis and evaluation of the prototype,  including well considered feedback from third parties.  Comprehensive testing of all aspects of the final prototype against the  design brief and specification. Fully detailed and justified reference is made to any modifications both proposed and undertaken.  Excellent ongoing analysis and evaluation evident throughout the project  that clearly influences the design brief and the design and manufacturing specifications. | 20 |

**Deadline for completion: Third week in March of Year 11**

**NEA Guidance**

**Sheet 20-22: Final Testing and Client Feedback**

Should include the following

1. Fully detailed and justified reference is made to any proposed modifications proposed following testing.

2. Excellent ongoing analysis and evaluation evident throughout the project that clearly influences the design brief and the design and manufacturing specifications.

3. Successes and failures highlighted clearly to the moderator. Photographic evidence of testing with client and further improvements suggested.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| Extensive evidence that various iterations are as a direct result of  considerations linked to testing, analysis and evaluation of the prototype,  including well considered feedback from third parties.  Comprehensive testing of all aspects of the final prototype against the  design brief and specification. Fully detailed and justified reference is made to any modifications both proposed and undertaken.  Excellent ongoing analysis and evaluation evident throughout the project  that clearly influences the design brief and the design and manufacturing specifications. | 20 |

**Deadline for completion: Third week in March of Year 11**

**NEA Guidance**

**Sheet 20-22:** **Continuation of Iterative Design Process**

Should include the following

1. Fully detailed and justified reference is made to any modifications both proposed and undertaken.
2. Extensive evidence of further iterations of the design through sketching and possible additional models, as a direct result of testing, analysis and evaluation of the prototype.
3. Well considered feedback from third parties and client, clearly influenced by the original design specifications.

You must include a summary box on each sheet stating what you have found out and how it will influence your designs or thinking.

Notes

The assessment criteria addressed by this page is highlight below.

|  |  |
| --- | --- |
| Assessment Criteria | Marks Available |
| Extensive evidence that various iterations are as a direct result of  considerations linked to testing, analysis and evaluation of the prototype,  including well considered feedback from third parties.  Comprehensive testing of all aspects of the final prototype against the  design brief and specification. Fully detailed and justified reference is made to any modifications both proposed and undertaken.  Excellent ongoing analysis and evaluation evident throughout the project  that clearly influences the design brief and the design and manufacturing specifications. | 20 |

**Deadline for completion of your NEA is 1st April 2022**

**There is NO extension offered by AQA**