

Subject: **Product design** Year group: **12/13 NEA**

YEAR 12

| Half Term 1 | Half Term 2 | Half Term 3 | Half Term 4 | Half Term 5 | Half Term 6 |
|--|---|--|---|--|---|
| <p>Topic</p> <p>Theory topics – Paper and boards, Polymers</p> <p>Assessments relating to theory covered</p> <p>Homework graded</p> <p>Mini project (book making, lamination and industrial stapling)</p> <p>Mini project (desk tidy, formers, laser cutting, strip bending, vacuum forming)</p> | <p>Topic</p> <p>Theory topics – Timber, metals</p> <p>Assessments relating to theory covered</p> <p>Homework graded</p> <p>Mini project (laser cutting, molds and metal casting)</p> <p>Magazine project (TINKERCAD and 3D printing)</p> <p><u>End of term assessments</u> Technical principles Design and make principles</p> <p>Revision sessions Handouts and PPTs issued Do Nows for exam prep</p> | <p>Topic</p> <p>Mini project (Sensory toy project, various techniques and processes)</p> <p>Assessments relating to theory covered</p> <p>Homework graded</p> | <p>Topic</p> <p>Large project (Sensory toy project, various techniques and processes)</p> <p>Assessments relating to theory covered</p> <p>Homework graded</p> | <p>Topic</p> <p>Mini project (Sensory toy project, various techniques and processes)</p> <p>Assessments relating to theory covered</p> <p>Homework graded</p> <p><u>End of course Exams</u> Core technical principles Design and make principles Specialist technical principles</p> <p>Revision sessions Handouts and PPTs issued Do Nows for exam prep</p> | <p>Topic</p> <p>NEA A01 Contents slide Mind map Task analysis Mood board Design theme Individual research Target Market Questionnaire/results The 6R's</p> <p><u>End of term assessments</u> Technical principles Design and make principles</p> <p>Revision sessions Handouts and PPTs issued Do Nows for exam prep</p> |
| <p>TECHNICAL PRINCIPLES – List of theory topics that are covered throughout the year. Delivered by ADi and CBU and are taught alongside the mini projects to provide context.</p> <ul style="list-style-type: none"> • Materials and their applications • Performance characteristics • Enhancement of materials • Forming, redistribution and addition processes • The use of finishes • Modern industrial and commercial practice • Digital design and manufacture • The requirements for product design and development • Health and safety | | | | | |

- Protecting designs and intellectual property
- Design and manufacturing, maintenance, repair and disposal
- Feasibility studies
- Enterprise and marketing in the development of products
- Design communication
- Modern manufacturing and systems

DESIGNING AND MAKING PRINCIPLES - List of theory topics that are covered throughout the year. Delivered by ADi and CBU and are taught alongside the mini projects to provide context.

- Design methods and processes
- Design Theory
- How technology and culture changes can impact on the work of designers
- Design processes
- Critical analysis and evaluation
- Selecting appropriate tools, equipment and processes
- Accuracy in design and manufacture
- Responsible design
- Design for manufacture and project management
- National and international standards in product design

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| Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy Drawing (isometric, oblique, orthographic projection) Freehand sketching 3D modelling software Card construction and hand building | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy |
| <u>Resources</u> PPTs Homework tasks Question sheet and guidelines Laptops | <u>Resources</u> Homework tasks Question sheet and guidelines Laptops | <u>Resources</u> Homework tasks Question sheet and guidelines Laptops | <u>Resources</u> Homework tasks Question sheet and guidelines Laptops | <u>Resources</u> Homework tasks Question sheet and guidelines Laptops | <u>Resources</u> Exemplars for past NEA Support PPTs Tasks for SMHW Lesson Tasks and content structure |

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| <p>Workshop tools and equipment Do Nows Exemplars (digital and physical) Progress trackers</p> <p><u>Link to artist / theme</u></p> | <p>Workshop tools and equipment Do Nows Exemplars (digital and physical) Progress trackers</p> <p><u>Link to artist / theme</u></p> | <p>Workshop tools and equipment Do Nows Exemplars (digital and physical) Progress trackers</p> <p><u>Link to artist / theme</u></p> | <p>Workshop tools and equipment Do Nows Exemplars (digital and physical) Progress trackers</p> <p><u>Link to artist / theme</u></p> | <p>Workshop tools and equipment Do Nows Exemplars (digital and physical) Progress trackers</p> <p><u>Link to artist / theme</u></p> | <p>Feedback sheets TWILIGHT SESSIONS Progress trackers</p> <p><u>Link to artist / theme</u> Chosen theme selected by the student (there are no theme headings provided by the exam board Design theme chosen by the student Inspiration selected by the student to support progress <u>Link to artist / theme</u></p> |
| Assessment | Assessment | Assessment | Assessment | Assessment | Assessment |
| <p>CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback, homework set on Show My Homework Work reviews</p> | <p>CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback, homework set on Show My Homework Work reviews</p> | <p>CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback, homework set on Show My Homework Work reviews</p> | <p>CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback, homework set on Show My Homework Work reviews</p> | <p>CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback, homework set on Show My Homework Work reviews</p> | <p>CW/ HW In class assessments, data reviews, verbal feedback weekly, written feedback, homework set on Show My Homework Work reviews</p> |

Skills developed through the year:

In Y12, students build on a range of skills from GCSE and A Level based in the workshop, classrooms and computer rooms to develop their understanding and apply this to their mini projects and major projects, theory and assessment and their NEA coursework. These areas are RESEARCH, DESIGN, MAKE, TEST AND EVALUATE and these core theme must be covered in order to meet the specification of the course.

Extra-Curricular Opportunities:

Catch-up sessions offered to students after school to expand their knowledge, understanding and enjoyment of the subject. This also supports their NEA projects where student have access to laptops/computers for research and designing and the workshop for product development, experimentation and testing/evaluation.

YEAR 13

| Half Term 1 | Half Term 2 | Half Term 3 | Half Term 4 | Half Term 5 | Half Term 6 |
|--|--|---|---|---|------------------------------------|
| Topic NEA A01 Contents slide Mind map Task analysis Mood board Design theme Individual research Target Market Questionnaire/results The 6R's | Topic NEA A01/A02 Anthropometrics/Ergonomics ACCESSFMMx3 Individual research Social, moral, economic and sustainability issues Individual research Design Brief Specification 4 areas of focus for designing Initial sketches Design evaluation grid CAD Modelling Prototyping Cutting list <u>End of term mock</u> Core technical principles Design and make principles Specialist technical principles Revision sessions Handouts and PPTs issued Do Nows for exam prep | Topic NEA A01/A02/A03 Material selection Material finishing Orthographic projection Prototyping Making final product Learning journey Production plan | Topic NEA A01/A02/A03/A04 Individual research Material selection Material finishing Orthographic projection Making final product Learning journey Production plan User testing Evaluation | Topic NEA A01/A02/A03/A04 Making final product Learning journey Production plan User testing Evaluation <u>End of course Exams</u> Core technical principles Design and make principles Specialist technical principles Revision sessions Handouts and PPTs issued Do Nows for exam prep | Topic END OF COURSE |
| Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy | Skills Research Analysis Data gathering/analysis Evaluation Interview and oracy | Skills END OF COURSE |

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