

## Key Stage Five Curriculum – Design and Technology Design Engineering – Carre’s Grammar School

<b>Subject</b>						
	<b>Autumn 1</b>	<b>Autumn 2</b>	<b>Spring 3</b>	<b>Spring 4</b>	<b>Summer 5</b>	<b>Summer 6</b>
	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>• NEA Introduction</li> <li>• Transition Work Review</li> <li>• Possible challenges discussed</li> <li>• Exploration of Contexts</li> <li>• Investigation of Stakeholders</li> <li>• Feasibility of Contexts</li> <li>• Generating a Design Brief</li> <li>• Investigate existing products and systems</li> <li>• Ongoing analysis and evaluation of primary and/or secondary sources</li> </ul>	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>• Exploration of materials through research and testing</li> <li>• List of Technical Requirements</li> <li>• Through an iterative approach of design, develop and evaluate a range of design proposals will be presented</li> <li>• Ongoing evaluation to manage design progression</li> </ul>	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>• Through an iterative approach of design, develop and evaluate a range of design proposals will be presented</li> <li>• Ongoing evaluation to manage design progression</li> </ul>	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>• Through an iterative approach of design, develop and evaluate a range of design proposals will be presented</li> <li>• Ongoing evaluation to manage design progression</li> </ul>	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>• Development of Final Design Solutions. This is to include a range of presentation drawings</li> </ul>	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>• Planning for the making the final prototype using established planning tools</li> <li>• Production of Risk Assessments</li> </ul>
<b>Year 1</b>	<p><b><u>Theory Work</u></b></p> <p>1. Identifying Requirements</p> <p>2. Learning from Existing Products and Practice</p>	<p><b><u>Theory Work</u></b></p> <p>3. Implications of Wider Issues</p>	<p><b><u>Theory Work</u></b></p> <p>5. Materials and Components considerations</p>	<p><b><u>Theory Work</u></b></p> <p>6. Technical Understanding</p>		
<b>Year 2</b>	<p>7. Manufacturing processes and techniques</p>	<p>8. Viability of Design Solutions</p>	<p>9. Health and Safety</p> <p>5. Materials and Components considerations</p>	<p>5. Materials and Components considerations</p> <p>6. Technical Understanding</p>		
	<b>Assessment</b>		<b>Assessment</b>		<b>Assessment</b>	

## Key Stage Five Curriculum – Design and Technology Design Engineering – Carre’s Grammar School

	Year 12 Induction Assessment AFL Formative Assessment		Year 12 Formal Assessment		AFL Formative Assessment	
Year 1	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>Use of specialist techniques, processes, tools and equipment to produce quality and viable prototypes</li> </ul> <p><b>Theory Work</b></p> <p>7.Manufacturing processes and techniques</p>	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>Use of specialist techniques, processes, tools and equipment to produce quality and viable prototypes</li> </ul> <p><b>Theory Work</b></p> <p>8.Viability of Design Solutions</p>	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>Use of specialist techniques, processes, tools and equipment to produce quality and viable prototypes</li> <li>Feasibility of the final prototype tested</li> <li>Evaluation of the final prototype</li> </ul> <p><b>Theory Work</b></p> <p>9.Health and Safety</p> <p>5.Materials and Components considerations</p>	<p><b>NEA</b></p> <ul style="list-style-type: none"> <li>Ensuring that all photos, videos and associated files work and are embedded electronically.</li> </ul> <p><b>Theory Work</b></p> <p>5.Materials and Components considerations</p> <p>6. Technical Understanding</p>	<p><b>Theory Work</b></p> <p><b>Student led revision – addressing areas that they feel they need support with</b></p>	<p><b>Theory Work</b></p> <p><b>Student led revision – addressing areas that they feel they need support with</b></p>
Year 2	<p>1.Identifying Requirements</p> <p>2.Learning from Existing Products and Practice</p>	<p>3.Implications of Wider Issues</p>	<p>5.Materials and Components considerations</p>	<p>6. Technical Understanding</p>		
	<p><b>Assessment</b></p> <p>Year 13 Mock Examination</p>		<p><b>Assessment</b></p> <p>Year 13 Mock Examination AFL Formative Assessment</p>		<p><b>Assessment</b></p> <p>Summative Assessment of NEA AFL</p>	

Additional explanation if required.

Topic 4 Design Thinking and Communication and Topic 9 Health and Safety are covered within the NEA.

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Indicative Design and Technology NEA Coverage, taken from the Specification. Due to the iterative nature of the NEA Strands are completely out of order when compared with the NEA matrix.

## Year 12 Autumn 1 –

*Strand 1 - Investigations of the context and feasibility study of potential approaches*

*Strand 1 - Design brief*

*Strand 1 - Investigations of user and stakeholder needs and wants and the outlining of stakeholder requirements (non-technical specification)*

*Strand 1 - Investigations of existing products and design practices*

*Strand 5 - Analysis and evaluation of primary and/or secondary sources*

## Year 12 Autumn 2 –

*Strand 1 - Exploration of materials and possible technical requirements*

*Strand 5 - Analysis and evaluation of primary and/or secondary sources*

## Year 12 Spring 3 –

*Strand 2 - Generation of initial ideas*

*Strand 3 - Quality of initial ideas*

*Strand 2 - Design developments*

*Strand 3 - Quality of design developments*

*Strand 2 -Critical thinking*

*Strand 5 - Ongoing evaluation to manage design progression*

## Year 12 Spring 4 –

*Strand 2 - Generation of initial ideas*

*Strand 3 - Quality of initial ideas*

*Strand 2 - Design developments*

*Strand 3 - Quality of final design solution(s)*

*Strand 2 -Critical thinking*

*Strand 5 - Ongoing evaluation to manage design progression*

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## Year 12 Summer 5 –

*Strand 2 - Development of final design solution(s)*

*Strand 3 - Quality of final design solution(s)*

## Year 12 Summer 6 –

*Strand 4 - Quality of planning for making the final prototype(s)*

*Strand 5 - Risk Assessments*

## Year 13 Autumn 1 –

*Strand 4 -Quality of final prototype(s)*

*Strand 4 -Use of specialist techniques and processes*

*Strand 4 -Use of specialist tools and equipment*

*Strand 4 -Viability of the final prototype(s)*

## Year 13 Autumn 2 –

*Strand 4 -Quality of final prototype(s)*

*Strand 4 -Use of specialist techniques and processes*

*Strand 4 -Use of specialist tools and equipment*

*Strand 4 -Viability of the final prototype(s)*

## Year 13 Spring 3 –

*Strand 4 -Quality of final prototype(s)*

*Strand 4 -Use of specialist techniques and processes*

*Strand 4 -Use of specialist tools and equipment*

*Strand 4 -Viability of the final prototype(s)*

*Strand 5 - Feasibility of the final prototype(s)*

*Strand 5 - Evaluation of the final prototype(s)*

*Strand 1 - Technical specification*

## Year 13 Spring 4 –

*Ensuring that all photos, videos and associated files work and are embedded electronically.*