

1c. Curriculum Overview: Design and Technology



SAINTS PETER AND PAUL
CATHOLIC HIGH SCHOOL

Year 10 Construction			
Refer to	Term 1 – September to December	Term 2 – January to March	Term 3 – April to July
Level 1 and 2 Award Construction	<p><u>What are the students learning?</u></p> <p><u>Unit 1</u></p> <ul style="list-style-type: none"> • Introduction to the qualification – structure and assessment • Buildings and Structures • Infrastructure and civil engineering products • Introduction to the construction sector - Introducing: <ul style="list-style-type: none"> ○ Building services engineering ○ Professional and managerial roles • The Built Environment life cycle: <ul style="list-style-type: none"> ○ Raw material extraction ○ Manufacturing ○ Construction • The Built Environment life cycle: <ul style="list-style-type: none"> ○ Operation and Maintenance ○ Demolition • Disposal, re-use or recycling <p><u>Unit 3</u> Learning activities to cover areas of content for trade-based task 1 – Joinery / Carpentry</p> <p><u>What are the key standardised assessments?</u> Unit 1 – End of unit assessment and Nov mock Unit 3 – Ongoing carpentry assessment</p> <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> • Recall homework • Revision tasks 	<p><u>What are the students learning?</u></p> <p><u>Unit1</u></p> <ul style="list-style-type: none"> • Types of building and structure: <ul style="list-style-type: none"> ○ Different forms of infrastructure construction • Types of building and structure: <ul style="list-style-type: none"> ○ Different forms of low-rise buildings • Technologies and materials: <ul style="list-style-type: none"> ○ Main elements and components of low-rise buildings ○ Main materials involved in constructing walls and installing building services • Technologies and materials: <ul style="list-style-type: none"> ○ Main materials involved in fitting roofs and finishing interiors ○ Renewable technologies and materials <p><u>Unit 3</u> Learning activities to cover areas of content for trade-based task 2 - Tiling</p> <p><u>What are the key standardised assessments?</u> Unit 1 – End of unit assessments – review of all unit 1 covered to date Unit 3 – Ongoing assessment of tiling project</p> <p><u>What are the standardised homework's?</u> Recall homework Revision tasks</p>	<p><u>What are the students learning?</u></p> <p><u>Unit 1</u></p> <ul style="list-style-type: none"> • Building structures and forms: <ul style="list-style-type: none"> ○ Cellular constructions, rectangular and portal frames ○ Heritage and traditional methods • Sustainable construction methods: <ul style="list-style-type: none"> ○ The benefits of sustainable construction ○ Pollution and the preservation of the natural environment ○ Sustainable materials used to create building frames, walls and roofs ○ Waste disposal, re-use and recycling <p><u>Unit 3</u> Learning activities to cover areas of content for trade-based task 3 - Plumbing Introduction to NEA task</p> <p><u>What are the key standardised assessments?</u> Unit 1 – End of unit assessments – review of all unit 1 covered to date Unit 3 – Ongoing assessment of plumbing project Unit 3 – Begin final assessment of NEA</p> <p><u>What are the standardised homework's?</u> Recall homework Revision tasks</p>

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Level 1 and 2 Award Construction	<p><u>What are the students learning?</u> <u>Unit 1</u></p> <ul style="list-style-type: none"> • Trade employment and careers: <ul style="list-style-type: none"> ○ Bricklaying, stonemasonry, plastering, carpentry and joinery ○ Electrical installation, plumbing installation, pointing and decorating, flooring and tiling • Health and safety: <ul style="list-style-type: none"> ○ Risks during construction of built environment projects ○ Procedures and risk assessments ○ Relevant legislation ○ Personal protective equipment ○ Working safely with gas, water and electricity ○ Working at height and in enclosed spaces <p><u>Unit 3</u> Non- Examination Assessment task 1</p> <p><u>What are the key standardised assessments?</u> Unit 1 – End of unit assessment and Nov mock Unit 3 – Ongoing NEA assessment</p> <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> • Recall homework • Revision tasks • NEA catch up 	<p><u>What are the students learning?</u> <u>Unit 1</u> Revision of all unit 1 content</p> <p><u>Unit 3</u> Non- Examination Assessment task 2</p> <p><u>What are the key standardised assessments?</u> Unit 1 - end of unit assessment and Nov mock Unit 3 – Ongoing NEA assessment</p> <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> • Recall homework • Revision tasks • NEA catch up 	<p><u>What are the students learning?</u> <u>Unit 1</u> Revision of all unit 1 content</p> <p><u>Unit 3</u> Non- Examination Assessment task 3</p> <p><u>What are the key standardised assessments?</u> Unit 1 - end of unit assessment and Nov mock Unit 3 – Ongoing NEA assessment</p> <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> • Recall homework • Revision tasks • NEA catch up

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GCSE Design and Technology	<p>Specialist Technical Principles</p> <p><u>What are the students learning?</u> All students should develop an in-depth knowledge and understanding of the following specialist technical principles:</p> <ul style="list-style-type: none"> • selection of materials or components • forces and stresses • ecological and social footprint • sources and origins • using and working with materials • stock forms, types and sizes • scales of production • specialist techniques and processes • surface treatments and finishes. • The points above are delivered through a range of theory and focus practical tasks. <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> • End of topic assessment and Nov mock • Focus Practical tasks <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> • Exam questions focusing on individual topics e.g. Material Properties or Mechanisms 	<p>Core Technical Principles</p> <p><u>What are the students learning?</u> To make effective design choices students will need a breadth of core technical knowledge and understanding that consists of:</p> <ul style="list-style-type: none"> • new and emerging technologies • energy generation and storage • developments in new materials • systems approach to designing • mechanical devices • materials and their working properties. • The points above are delivered through a range of theory and focus practical tasks. <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> • NEA written coursework <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> • Revision template for mock exam • Exam questions focusing on individual topics e.g. Material Properties or Mechanisms 	<p>Designing and Making Principles</p> <p>Non-Exam Assessment - Sections A (June – July).</p> <p><u>What are the students learning?</u> Students should know and understand that all design and technology activities take place within a wide range of contexts. They learn how the prototypes they develop must satisfy wants or needs and be fit for their intended use. For example, the home, school, work or leisure. They will need to demonstrate and apply knowledge and understanding of designing and making principles in relation to the following areas:</p> <ul style="list-style-type: none"> • investigation, primary and secondary data • environmental, social and economic challenge • the work of others • design strategies • communication of design ideas • prototype development • selection of materials and components • tolerances • material management • specialist tools and equipment • specialist techniques and processes. <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> • End of topic assessment and a mock exam

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			<p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none">• Non-Examination Assessment
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GCSE Design and Technology	<p>Non Exam Assessment - Sections A, B and C. Specialist Technical Principles Revision</p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> It's intended to be an iterative process so the learning activities will be directed by the student and will depend on their project. Students are to investigate context provided from exam board Create design briefs and specifications for chosen problem Develop a range of design ideas to meet the specifications and solve design problem. Revision of units 1.1 - 1.6 Core Technical Principles <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> NEA written coursework <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> Exam questions focusing on individual topics e.g. Material Properties or Mechanisms Revision tasks NEA catch up 	<p>Non-Exam Assessment Section D, E and F. Mock Exams</p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> Students will develop design ideas through paper modelling and 3d virtual modelling using sketch up etc. Students will use a range of manufacturing techniques to make their chosen design Students will complete written evaluations to include client feedback and suggested improvements. <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> NEA written coursework <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> Revision template for mock exam Exam questions focusing on individual topics e.g. Material Properties or Mechanisms 	<p>Exam Revision - Review Core Technical Principles/Specialist Principles</p> <p><u>What are the students learning?</u></p> <ul style="list-style-type: none"> Students will review and complete revision tasks based on the three main sections of the exam Students will work on exam technique e.g. terms used, exam question style <p><u>What are the key standardised assessments?</u></p> <ul style="list-style-type: none"> Review of Mock exam <p><u>What are the standardised homework's?</u></p> <ul style="list-style-type: none"> Exam questions focusing on individual topics e.g. Material Properties or Mechanisms