Holy Family Catholic School – Faculty of Mathematics
Subject –Design and Technology
Autumn Half-Term 1 Year 11

Learning Intention	Vocab	Concept	Retrieval	Success Criteria	Red Zone
Week 1 1 - Understanding the course expectations	Expectations, NEA	Course expectations	Expectations, Components,	• I can understand the content and expectations of the course. • I can understand NEA component 1 and NEA component 2.	Complete the planning sheet concerning how to structure and plan your NEA component.
2 – Forces and stresses in materials	Tension, compression, torsion, shear, stresses, forces	Specialist technical principles	Tension, compression, torsion, shear, stresses, forces	• I can recognise 4 main forces. • I can describe their effect on materials. • I can explain the difference between dynamic and static loads.	Complete the worksheet on forces and stresses.
3 – **Practical learning** Wood-based materials	Rulers Try squares Marking gauges Metric accuracy	Applying material knowledge and techniques	Rulers Try squares Marking gauges Metric accuracy	• I can select appropriate marking tools. • I can use the tools appropriately and accurately.	Complete the practical tasks using the correct tools and equipment to accurately mark your work.

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Week 2 4 - Material functionality	Enhance, resist, forces, stresses, functionality	Specialist technical principles	Enhance, resist, forces, stresses, functionality	• I can define the term functionality. • I can explain how materials can be enhanced to resist forces. • I can identify common enhancement techniques.	Complete the worksheet on material functionality.
5 – **NEA component**	Design possibilities Investigation Justification Societal impact Economic and social effects	Identifying and investigating design possibilities	Design possibilities Investigation Justification Societal impact Economic and social effects	• I can identify design possibilities. • I can investigate possible design options. • I can outline the possibilities and solutions available.	Analyse the contextual challenge to identify design possibilities, investigate client needs and wants and consider factors including economic and social challenges.
Week 3 6- Ecological and social footprint	Greenhouse gases, Carbon Product miles Pollution	Specialist technical principles	Greenhouse gases, Carbon Product miles Pollution	• I can define carbon footprint. • I can explain the role of greenhouse gases in global warming. • I can identify the impact of consumer society on the environment.	Complete the worksheet on ecological and social footprint.
7- **Practical learning** Wood based materials	PPE Safety Workshop Machinery Behaviour	Applying material knowledge and techniques	PPE Safety Workshop Machinery Behaviour	• I can select appropriate PPE. • I can use machinery in a safe manner. • I can show appropriate behaviour and attitudes in the workshop.	Complete the practical tasks using the correct tools and equipment to accurately shape and cut your work while showing awareness of safety in the workshop.

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8 – **NEA component**	Design possibilities Investigation Justification Societal impact Economic and social effects	Identifying and investigating design possibilities	Design possibilities Investigation Justification Societal impact Economic and social effects	• I can identify design possibilities. • I can investigate possible design options. • I can outline the possibilities and solutions available.	Analyse the contextual challenge to identify design possibilities, investigate client needs and wants and consider factors including economic and social challenges.
Week 4 9 - The 6 R's	Consumers Waste Finite resources Hierarchy Sustainable	Specialist technical principles	Consumers Waste Finite resources Hierarchy Sustainable	• I can describe the 6R's. • I can explain their role in reducing waste and demand on resources. • I can the hierarchy of options in sustainable design.	Complete the worksheet the 6R's
10 – **Practical learning** Wood based materials	Joining Screws Nails Adhesives Joints Tools	Applying material knowledge and techniques	Joining Screws Nails Adhesives Joints Tools	• I can use screws, nails, adhesives. • I am able to describe other joining techniques. • I can select tools appropriately.	Complete the practical tasks using the correct tools and equipment to accurately join your workpieces together.
Week 5 11- Scales of production	Products Volumes Manufacturing methods Processes Levels of production	Specialist technical principles	Products Volumes Manufacturing methods Processes Levels of production	• I can explain how products are produced in different volumes. • I can describe different manufacturing processes.	Complete the worksheet on scales of production.

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				• I can identify relevant processes to the specific level of production.	
12 – **Practical learning** Wood based materials	Safety Machinery Planning Modification PPE	Applying material knowledge and techniques	Safety Machinery Planning Modification PPE	• I can select appropriate PPE. • I can use machinery in a safe manner. • I am able to demonstrate appropriate behaviour and attitudes in the workshop.	Complete the practical learning lesson demonstrating safety awareness and utilising appropriate techniques to complete the task.
13 – **NEA component**	Design possibilities Investigation Justification Societal impact Economic and social effects	Identifying and investigating design possibilities	Design possibilities Investigation Justification Societal impact Economic and social effects	• I can identify design possibilities. • I can investigate possible design options. • I can outline the possibilities and solutions available.	Analyse the contextual challenge to identify design possibilities, investigate client needs and wants and consider factors including economic and social challenges.
Week 6 14 – **Practical learning** Wood based materials	Safety Machinery Planning Modification PPE	Applying material knowledge and techniques	Safety Machinery Planning Modification PPE	• I can select appropriate finishes such as paint, varnish and stain. • I can select finishes appropriate to specific materials.	Complete the practical learning lesson demonstrating safety awareness and utilising appropriate finishing techniques to complete the task.
15 – Papers and boards – production, use and manufacturing	Primary sources Papers Boards Ecological Commercial products	Specialist technical principles	Primary sources Papers Boards Ecological	• I can identify primary sources of papers and boards. • I can explain the ecological issues in manufacturing and	Complete the worksheet on papers and boards.

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			Commercial products	recycling paper and boards. • I can describe the different properties of papers and boards	
Week 7 16 - Papers and boards – shaping, cutting and processing	Marking out Sizing Waste Deform Reform finish	Specialist technical principles	Marking out Sizing Waste Deform Reform finish	• I can explain the process of shaping and cutting paper and boards. • I can describe the techniques used. • I can identify the standard components used.	Complete the worksheet papers and boards.
17 – **NEA component**	Design possibilities Investigation Justification Societal impact Economic and social effects	Identifying and investigating design possibilities	Design possibilities Investigation Justification Societal impact Economic and social effects	• I can identify design possibilities. • I can investigate possible design options. • I can outline the possibilities and solutions available.	Analyse the contextual challenge to identify design possibilities, investigate client needs and wants and consider factors including economic and social challenges.
18 – **Practical learning** Wood based materials - continued	Finish Stain Protection Enhancement Specific	Applying material knowledge and techniques	Finish Stain Protection Enhancement Specific	• I can select appropriate finishes such as paint, varnish and stain. • I can select finishes appropriate to specific materials.	Complete the practical learning lesson demonstrating safety awareness and utilising appropriate finishing techniques to complete the task.
Week 8 19 – Timber based materials –	Stock forms Components Quantities Forming	Specialist technical principles	Stock forms Components Quantities Forming	• I can identify primary sources of timber materials.	Complete the worksheet on timber-based materials.

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production, use and manufacturing	Processing		Processing	• I can explain the ecological issues in manufacturing and recycling timber materials. • I can describe the different properties of timber materials.	
20 – **Practical learning** final lesson	Finish Stain Protection Modifications Conclusions	Applying material knowledge and techniques	Finish Stain Protection Modifications Conclusions	• I can select appropriate finishes such as paint, varnish and stain. • I can select finishes appropriate to specific materials.	Complete the practical learning lesson demonstrating safety awareness and utilising appropriate finishing techniques to complete the task.