



YEAR 12 TERM 2

'An ambitious curriculum that meets the needs of all'

Medium Term Planning - Topic: Industrial and Commercial Practice



In addition to working further on objectives from Year 11, pupils will be taught, following National Curriculum guidelines, the following this term:

Curriculum Intent

- To gain knowledge and understanding of different scales of production methods. Including: one off (bespoke), batch, mass/line, unit production systems, quick response manufacturing and vertical in-house production
- To understand the value of different scales of production to the manufacturer and the consumer

Skills/Assessment Objective Links

- To know how material cost, form and manufacturing processes relate to scales of production
- To understand how designs develop to make economic use of materials
- To know how manufacturing processes can increase accuracy and reduce waste
- To understand the savings to be made by bulk production
- To know the advantages of Just in Time manufacture
- To be able to explain how computers systems are used to plan and control manufacturing, reduce waste and respond to consumer demand
- To be able to explain specific industrial manufacturing systems and the use of computer controlled systems in production, distribution and storage
- To understand the use of standardised, bought in components
- To be able to explain how sub-assembly works
- To be able to describe the pros and cons of using CAD compared to manually generated alternatives
- To know how CAD is used to develop and present ideas for products
- To understand different industrial applications for CAD
- To be able to describe how CAM is used to manufacture products
- To be able to describe how virtual modelling and testing is used in industry prior to production
- To understand the use of rapid prototyping
- To explain how electronic points of sale are used for marketing and research
- To know how the role of production planning and control (PPC) networking in all aspects of manufacture

Spiritual, moral, social, and cultural development

SMSC: Reduction of waste materials and sustainability
PSHE/British Values: Links to British industries and products
Skills Builder: Linking product with the type of material and the reasons why the material is used.

Numeracy

Literacy

Vocabulary Tier 2: See highlighted above
Vocabulary Tier 3: See highlighted above
Reading: exam style question, text book terminology
Writing: use of technical tier 3 vocabulary within an exam question and annotation

	Oracy: when questioned pupils are able to use technical subject specific language
Becoming future ready	Careers/Employability: Knowledge of metals, metal industries and processes
Adaptation	Throughout this topic, quality first teaching will provide differentiation:
QFT/SEND Provision	<p>By product:</p> <p>By resource: A Level books, Online resources, Powerpoints</p> <p>By Intervention: by providing different levels of supervision and support</p> <p>By Progressive Questioning: exploring pupils' understanding through interactive dialogue.</p> <p>By Grouping: according to prior attainment, gender, social preference, preferred learning style.</p> <p>By Task: Pupils should be involved in the identification of targets which are meaningful to them and in the selection of an appropriate task from the given range.</p> <p>By Offering Optional Activities: In class or as homework, to extend learning.</p> <p>This QFT/SEND provision will be explicit within the lesson-by-lesson schemes of work.</p>
Implementation Curriculum Delivery	<ul style="list-style-type: none"> • • To know the advantages of Just in Time manufacture • • • To understand the use of standardised, bought in components • • • To be able to describe the pros and cons of using CAD compared to manually generated alternatives • To know how CAD is used to develop and present ideas for products • To understand different industrial applications for CAD • To be able to describe how CAM is used to manufacture products
Learning Outcomes (Knowledge)	<p>Red denotes interleaving; aspects of knowledge covered previously. Only a small amount of knowledge covered at GCSE</p>
Current learning to be developed in the future within:	
Assessment	End of Unit assessment – use of AQA Exampro questions
Impact	Students to have knowledge and understanding of industrial and commercial processes to be able to answer exam style questions and apply knowledge and understanding to NEA tasks.