Engineering Curriculum 2022/2023

STOKE HIGH SCHOOL - Ormiston Academy

OAT Ormiston Academies Trust An OAT Academy

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7	Puzzle CAD project H&S in the workshop Characteristics of natural wood Introduction to 2D Design and laser cutter Tools and machines in the workshop Logo and packaging designs	Novelty Hook Project Characteristics of metal Metal working tools and machines CAD laser cut designs CAD sticker machine designs	Rotation	Rotation	Rotation	Rotation
Assessment	Formal Assessment at the end of rotation	Formal Assessment at the end of rotation				
	Reading Presentations, Carryout worksheet activities, Use of Knowledge organisers, Use of written tutorials , News articles, Comprehension tasks, Word-searches, Homework Tasks, Use of word banks and find the missing word, Use of learning logs for recount and recall, DO NOW tasks					
8	Pewter Casting Project H&S metal casting process Pewter casting CAD mould designing Finger joint box in pine Quality of finish	Electronic lamp project Soldering skills Intro to electronic components Intro to plastic/Vacuum forming Logo's and packaging Wood working skills	Rotation	Rotation	Rotation	Rotation
Assessment	Formal Assessment at the end of rotation	Formal Assessment at the end of rotation				
	Reading Presentations, Carryout worksheet activities, Use of Knowledge organisers, Use of written tutorials , News articles, Comprehension tasks, Word-searches, Homework Tasks, Use of word banks and find the missing word, Use of learning logs for recount and recall, DO NOW tasks					
9	Intro to Engineering Engineering sectors and products Materials and their properties Scales of production Toffee hammer practical Intro to working with the lathe Internal and external threading Dipcoating in plastic H&S in the workshop and processes	Intro to Engineering Characteristics of metal Bottle opener project Creating templates Drilling techniques Cutting and filing aluminium Metal finishes Risk assessment Measuring accurately	I			
Assessment	Written test, overall practical grade	End of unit written test				
	Reading Presentations, Carryout worksheet activities, Use of Knowledge organisers, Use of written tutorials, News articles, Writing frames and scaffolding techniques, Use of word banks, DO NOW tasks, Revision guide comprehension tasks for theory element, exam question analysis and breakdown tasks					
10	Component 1 Practical skills Measuring accurately Cutting and filing engineering materials Drilling Lathe techniques Tap and Die for internal and external threading	Component 1 Practical skills Intro to Engineering drawings Completing 4 mini projects using drawings. Skills covered Drilling, lathe skills, heat processes, hand tools, cold bending, forging, milling.	Component 1 – PPE Practical (20 hours) Risk assessments Plan of production Reading engineering drawings Producing product set by exam board.		Component 2- Re-design a product PPE Engineering drawing techniques. Oblique and isometric drawing. Intro to 3D CAD Re-design set task.	Preparation for Practical exam in September. Practising practical skills with small component tasks
11	Component 1 -Actual Practical exam worth 50% of final grade	Component 1 -Actual Practical exam worth 50% of final grade Component 2- Re-design a product exam worth 20% of final grade	Component 3 – External set exam Preparation and delivery of external set exam in January	All Components- Completion for moderation.	Course complete	

Digital Literacy Student Leadership: Actively promote news related articles on: Being Safe, Use of Software, Cyber Security, Health and Well Being, New Technology

ICT Competition

Key: CEIAG SMSC ICT Enrichment

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			Complete any outstanding work in components 1&2			
	*Reading Presentations, Carryout worksheet activities, Use of Knowledge organisers, Use of written tutorials , News articles, Writing frames and scaffolding techniques, Use of word banks, DO NOW tasks, Revision guide comprehension tasks for theory element, exam question analysis and breakdown tasks*					

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ICT Competition

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