

Year 11, long term planning

Week	36	37	38	39
W/C Date	25-Jun	2-Jul	9-Jul	16-Jul
Topic	Component 3a. Understand how to respond to an engineering brief	Component 3a. Understand how to respond to an engineering brief	Component 3a. Understand how to respond to an engineering brief	Component 3a. Understand how to respond to an engineering brief
Key Objectives	Carry out a process <ul style="list-style-type: none"> Following planned procedures. Using and testing a prototype/model. Assembling, handling and using materials, equipment and machinery. 	Carry out a process <ul style="list-style-type: none"> Following planned procedures. Using and testing a prototype/model. Assembling, handling and using materials, equipment and machinery. 	Carry out a process <ul style="list-style-type: none"> Following planned procedures. Using and testing a prototype/model. Assembling, handling and using materials, equipment and machinery. 	Carry out a process <ul style="list-style-type: none"> Following planned procedures. Using and testing a prototype/model. Assembling, handling and using materials, equipment and machinery.
Assessment				Students should be able to: Follow planned procedures. • Use and testing a prototype/model. • Assemble, handling and using materials, equipment and machinery
Homework	Homework booklet	Homework booklet	Homework booklet	Homework booklet

Department Year 11 grades 3-8 long term plan

	Assessment weeks
	Moderation week
	Data Capture
	STAR marking
	Exit Poll

Key Skills to be Covered

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
W/C Date	03-Sep	10-Sep	17-Sep	24-Sep	01-Oct	08-Oct	15-Oct		29-Oct	05-Nov	12-Nov	19-Nov	26-Nov	03-Dec	10-Dec	17-Dec		
Topic	Component 3a. Understand how to respond to an engineering brief	Component 3a. Understand how to respond to an engineering brief	Component 3a. Understand how to respond to an engineering brief	Component 3a. Understand how to respond to an engineering brief	Component 3a. Understand how to respond to an engineering brief	Component 3a. Understand how to respond to an engineering brief			Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product		
Key Objectives	Recording the process <ul style="list-style-type: none"> Measuring and recording data with accuracy and precision, 	Recording the process <ul style="list-style-type: none"> Measuring and recording data with accuracy and 	Recording the process <ul style="list-style-type: none"> Measuring and recording data with accuracy 	Interpretation of data <ul style="list-style-type: none"> Identifying anomalous results or sources of error. Comparison of trends/patterns in 	Interpretation of data <ul style="list-style-type: none"> Identifying anomalous results or 	Interpretation of data <ul style="list-style-type: none"> Identifying anomalous results or 			Interpretation of a given brief for an engineered product <ul style="list-style-type: none"> Analysing the existing 	Interpretation of a given brief for an engineered product <ul style="list-style-type: none"> Analysing the existing 	Interpretation of a given brief for an engineered product <ul style="list-style-type: none"> Analysing the existing 	Redesign <ul style="list-style-type: none"> Identifying relevant issues with 	Redesign <ul style="list-style-type: none"> Identifying relevant issues with 	Redesign <ul style="list-style-type: none"> Identifying relevant issues with 	Redesign <ul style="list-style-type: none"> Identifying relevant issues with 	Evaluation <ul style="list-style-type: none"> Reviewing the credibility of the design 		



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	<p>using appropriate units.</p> <ul style="list-style-type: none"> • Tabulating appropriate data in the correct format accurately and to a suitable degree of precision. • Displaying appropriate data graphically with accuracy: <ul style="list-style-type: none"> o chart/graph o line/curve of best fit o axis o scaling o labelling. • Observation skills, e.g. noting problems with practical activities. 	<p>precision, using appropriate units.</p> <ul style="list-style-type: none"> • Tabulating appropriate data in the correct format accurately and to a suitable degree of precision. • Displaying appropriate data 	<p>and precision, using appropriate units.</p> <ul style="list-style-type: none"> • Tabulating appropriate data in the correct format accurately and to a suitable degree of precision. • Displaying appropriate data 	<p>data, to include tables, charts and graphs.</p> <ul style="list-style-type: none"> • Evaluating the process, to include testing process used, recording/processing results. • Drawing valid conclusions. • Making recommendations related to engineering briefs. 	<p>sources of error.</p> <ul style="list-style-type: none"> • Comparison of trends/patterns in data, to include tables, charts and graphs. • Evaluating the process, to include testing process used, recording/processing results. • Drawing valid conclusions. • Making recommendations related to engineering briefs. 	<p>sources of error.</p> <ul style="list-style-type: none"> • Comparison of trends/patterns in data, to include tables, charts and graphs. • Evaluating the process, to include testing process used, recording/processing results. • Drawing valid conclusions. • Making recommendations related to engineering briefs. 			<p>product with reference to the brief.</p> <ul style="list-style-type: none"> • Dimensions and tolerances, to include linear, radial, surface finish. • Physical form, to include 2D, 3D, flat, curved. • Attributes, to include low resistance, sharp corners, moisture traps. • Materials, e.g. aluminium, steels, polymers. • Processes, e.g. fabrication, drilling. 	<p>product with reference to the brief.</p> <ul style="list-style-type: none"> • Dimensions and tolerances, to include linear, radial, surface finish. • Physical form, to include 2D, 3D, flat, curved. • Attributes, to include low resistance, sharp corners, moisture traps. • Materials, e.g. aluminium, steels, polymers. • Processes, e.g. fabrication, drilling. 	<p>product with reference to the brief.</p> <ul style="list-style-type: none"> • Dimensions and tolerances, to include linear, radial, surface finish. • Physical form, to include 2D, 3D, flat, curved. • Attributes, to include low resistance, sharp corners, moisture traps. • Materials, e.g. aluminium, steels, polymers. • Processes, e.g. fabrication, drilling. 	<p>existing design.</p> <ul style="list-style-type: none"> • Design sketching, to include 2D, 3D, exploded diagrams, annotation, circuit diagrams. • Design for manufacture, e.g. fabricate, forge, cast, machined. • Design ideas, e.g. variation in form, variation in approach, use of different methods, use of different components 	<p>existing design.</p> <ul style="list-style-type: none"> • Design sketching, to include 2D, 3D, exploded diagrams, annotation, circuit diagrams. • Design for manufacture, e.g. fabricate, forge, cast, machined. • Design ideas, e.g. variation in form, variation in approach, use of different methods, use of different components 	<p>existing design.</p> <ul style="list-style-type: none"> • Design sketching, to include 2D, 3D, exploded diagrams, annotation, circuit diagrams. • Design for manufacture, e.g. fabricate, forge, cast, machined. • Design ideas, e.g. variation in form, variation in approach, use of different methods, use of different components 	<p>existing design.</p> <ul style="list-style-type: none"> • Design sketching, to include 2D, 3D, exploded diagrams, annotation, circuit diagrams. • Design for manufacture, e.g. fabricate, forge, cast, machined. • Design ideas, e.g. variation in form, variation in approach, use of different methods, use of different components 	<p>ideas given the needs of the brief.</p> <ul style="list-style-type: none"> • Selecting the most appropriate design solution. • Justification of the design solution. • Justification of the processes to be used.
Assessment			<p>Students should be able to: Follow planned procedures.</p> <ul style="list-style-type: none"> • Use and testing a prototype/model. • Assemble, handling and using materials, equipment and machinery. 			<p>Students should be able to: Measure and recording data with accuracy and precision, using appropriate units.</p> <ul style="list-style-type: none"> • Tabulate appropriate data in the correct format accurately and to a suitable degree 			<p>Students should be able to: Analysing the existing product with reference to the brief.</p>					<p>Students should be able to: Identify relevant issues with existing design.</p> <ul style="list-style-type: none"> • Design sketching, to include 2D, 3D, exploded diagrams, annotation, circuit diagrams. 		

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						of precision. • Display appropriate data graphically with accuracy:										
Homework	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet	Homework booklet

Week	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
W/C Date	07-Jan	14-Jan	21-Jan	28-Jan	04-Feb	11-Feb		25-Feb	04-Mar	11-Mar	18-Mar	25-Mar	01-Apr	08-Apr		
Topic	Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product	Component 3b. Interpretation of a given brief for an engineered product	Component 3c. Provide solutions to meet the needs of an engineering brief	Component 3c. Provide solutions to meet the needs of an engineering brief	Component 3c. Provide solutions to meet the needs of an engineering brief		Component 3c. Provide solutions to meet the needs of an engineering brief	Component 3c. Provide solutions to meet the needs of an engineering brief	Component 3c. Provide solutions to meet the needs of an engineering brief	Component 3c. Provide solutions to meet the needs of an engineering brief	Component 3c. Provide solutions to meet the needs of an engineering brief	Component 3c. Provide solutions to meet the needs of an engineering brief	Component 3c. Provide solutions to meet the needs of an engineering brief		
Key Objectives	Evaluation <ul style="list-style-type: none"> Reviewing the credibility of the design ideas given the needs of the brief. Selecting the most appropriate design solution. Justification of the design solution. Justification of the processes to be used. 	Evaluation <ul style="list-style-type: none"> Reviewing the credibility of the design ideas given the needs of the brief. Selecting the most appropriate design solution. Justification of the design solution. Justification of the processes to be used. 	Evaluation <ul style="list-style-type: none"> Reviewing the credibility of the design ideas given the needs of the brief. Selecting the most appropriate design solution. Justification of the design solution. Justification of the processes to be used. 	Analysing engineering information associated with the problem <ul style="list-style-type: none"> Types of engineering information, to include production data, engineering drawings, job cards. Interpreting patterns and trends related to the engineering information. Identifying issues and causes associated 	Analysing engineering information associated with the problem <ul style="list-style-type: none"> Types of engineering information, to include production data, engineering drawings, job cards. Interpreting patterns and trends related to the engineering information. Identifying issues and causes associated 	Analysing engineering information associated with the problem <ul style="list-style-type: none"> Types of engineering information, to include production data, engineering drawings, job cards. Interpreting patterns and trends related to the engineering information. Identifying issues and causes associated 		Selecting a solution <ul style="list-style-type: none"> Possible solutions for current and/or potential issues, e.g. design, tooling, process. Extent to which these solutions have fulfilled their primary purpose. Any wider factors that need to be considered in order to meet the brief, e.g. resources, need for batch production, safety restrictions, environmental impact. Ways in which the solution might be improved on against its primary purpose and/or other factors. Using the best-fit approach to select the best solution. 	Selecting a solution <ul style="list-style-type: none"> Possible solutions for current and/or potential issues, e.g. design, tooling, process. Extent to which these solutions have fulfilled their primary purpose. Any wider factors that need to be considered in order to meet the brief, e.g. resources, need for batch production, safety restrictions, environmental impact. Ways in which the solution might be improved on against its primary purpose and/or other factors. Using the best-fit approach to select the best solution. 	Selecting a solution <ul style="list-style-type: none"> Possible solutions for current and/or potential issues, e.g. design, tooling, process. Extent to which these solutions have fulfilled their primary purpose. Any wider factors that need to be considered in order to meet the brief, e.g. resources, need for batch production, safety restrictions, environmental impact. Ways in which the solution might be improved on against its primary purpose and/or other factors. Using the best-fit approach to select the best solution. 	Problem solution <ul style="list-style-type: none"> Resources required and their use, to include materials, tools, components, equipment, apparatus, e.g. instruments, sensors. Designs of solution, to include diagrams, sketches, including measurements, labels/annotation. Make processes, to include following the steps needed to create a prototype solution, e.g. rapid prototyping. Processes to follow, e.g. in relation to using 	Problem solution <ul style="list-style-type: none"> Resources required and their use, to include materials, tools, components, equipment, apparatus, e.g. instruments, sensors. Designs of solution, to include diagrams, sketches, including measurements 	Problem solution <ul style="list-style-type: none"> Resources required and their use, to include materials, tools, components, equipment, apparatus, e.g. instruments, sensors. Designs of solution, to include diagrams, sketches, including measurements 			

