

Engineering Coursework 13 Week Countdown Unit Design Evaluation and Modelling R040

Dear parents /carers,

Please find on the back of this letter the outline for the 13-week countdown for the Design & Evaluation unit (R040) of the Engineering Design coursework. All students have made fantastic progress so far and need to have all of the work listed completed by the **8th of May**. This goes towards their final GCSE grade and will be sent off for moderation on the 15th May!

R040 – Design and Evaluation

The unit is split into 6 tasks. They are described below as the following:

Task 1:

Students will be required to complete primary and secondary research looking at existing travel alarm clocks, describing the strengths and weaknesses of a range of clocks. Students then have to compare the clocks stating which is the best and why. Students will also consider the manufacturing methods used to make the clock which is then disassembled during the lesson.

Task 2:

This task consists mainly of the disassembly and analysis of a travel alarm clock given to students in lesson. Students then describe the different components of the clock and produce a record of how they disassembled the clock using a photographic diary.

Task 3:

Students are given a working drawing of a travel alarm clock and are required to draw a CAD drawing (3D Computer Aided Design) of the clock. This will be recorded in powerpoint with a description of how they drew the clock whilst describing the features of the software. Students will use AUTOCAD's FUSION 360 software. Students have a free copy of this and can access this on line from home.

Task 4:

Students will plan to manufacture the clock that they have drawn for task 3 and create a risk assessment ready to make the clock in lessons.

Task 5:

Students will follow their manufacturing plan from task 4 and make the clock in lessons in a 'medium controlled' assessment environment. Students will record a photographic workshop diary of their progress describing tools, materials and health and safety measures to complete the manufacture of the clock.

Task 6:

This task will see students review the specification of the clock using ACCESSFM. They will then be required to evaluate the clock and then suggest improvements of how it could be improved further in terms of its design.

How will the work be set?

The work will be set on TEAMS each week with the deadlines below stated clearly. Students will complete their work in powerpoint and will be issued with examples of good work (WAGOLLS- **What A Good One Looks Like**) for reference. The table below also shows the break down of the lessons. The Wednesday lesson will be an IT based lesson where students will type up their coursework and the Monday lesson will predominantly be used to carry out the practical assessment and CAD drawing activities.

What is the percentage weighting of unit R040?

This unit is worth 33% of their final grade.

Parental support

As always, I am incredibly grateful of your support up to this point. Reflecting back on the last unit of work some students struggled to meet the deadline dates. It is imperative that moving forwards students meet these deadlines to help manage their workload and receive feedback in good to time.

Easter half term intervention

As can be seen from the plan, you will see that there will be a coursework support session during the first week of the Easter half term. It is strongly recommended that students attend this if able to ensure they achieve the best grade possible. Details and confirmation of the day to follow.

Thank you for your support and please don't hesitate to call or email me if you have any further questions.

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Mr Smith

Head of Design Technology

Year 10 Engineering Coursework 13 Week Countdown

Unit: Design Evaluation and Modelling R040

Task 1- This task should now be complete and uploaded on to TEAMS

- Product Analysis of travel alarm clocks- ACCESSFM
- Strength & Weakness of existing clocks
- Comparison- Engineering Matrix
- Primary/ Secondary research

Week	W/C date	Lesson content	Coursework focus	Deadline date	Completed?
Half term- 13 th Feb – 1 week					
1	20 th Feb	Task 2- Disassembly	Product Disassembly photographic diary	24 th Feb	
2	27 th Feb	Task 2- Disassembly	Tools Identification & Planning including risk assessment	3 rd March	
3	6 th March	Task 3- CAD	Component Analysis table of alarm clock	10 th March	
4	13 th March	Task 3- CAD		17 th March	
5	20 th March	Task 3- CAD	Completed CAD drawing of travel clock using Fusion 360	24 th March	
6	27 th March	Task 4- Planning for manufacture	CAD drawing presentation with commentary	31 st March	
7	HALF TERM- 3 rd -14 th April- Coursework intervention session. Date TBC -first week.				
8					
9	17 th April	Task 5- Physical modelling	Manufacture plan including risk assessment	21 st April	
10	24 th April	Task 5- Physical modelling	Clock completed and photographed	28 th April	
11	1 st May	Task 5- Physical modelling Task 6- Specification comparison	Work shop diary (ICT produced) Specification comparison		
12	8 th May	Task 6- Improvement to the product with justifications FINAL DEADLINE! - uploaded onto TEAMS	- Star evaluation of the clock and 4 improvement stating how the design or function could be improved	8 th May	
13	15 th May	Submission date			
14	22 nd May	Theory lessons for exam preparations and introduction to the next unit R039.			