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| **Y10 & Y11 Autumn Term: Level 2 Certificate in Engineering Studies Board: NCFE**  |
| **Key Topics** | **Exam Dates** | **Controlled Assessment** | **What the student needs to do:** |
| **[1]** **Introduction to engineering.** This unit aims to introduce the learner to engineering in the industry and wider community. It will introduce them to the knowledge and skills needed to become a competent engineer.**[2]** Measuring and Marking out Techniques - **Practical** Safety in the workshop. Names & uses of bench tools. Operation of a Pillar drill. | (Dates to be determined)This unit is internally assessed. | Unit 1 Task 1Unit 1 Task 2Unit 1 Task 3 | Mind Map.Engineering sectors.Skills and Qualities.H&S Risk assessment.H&S PPEAdvantages and disadvantages of various engineering organisations.Explain what STEM is. |
| **[3]** **Introduction to engineering drawing.**This unit aims to introduce learners to engineering drawing and how to use measurements, scale, and proportion. Learners will demonstrate their ability to apply this to 2D and 3D engineering drawings **[4]** Fitting and Assembly Techniques - **Practical** Methods of holding work Evaluating progress Tolerances & Quality Control | (Dates to be determined)This unit is externally assessed. | Unit 2 Task 1Unit 2 Task 2Unit 2 Task 3 | Measurement systems.Measuring devices.Scale and proportion.Layout drawings.Accurate use of equipment.Arrange views.Use traditional instruments to draw.Use CAD to draw.Produce full engineering drawings. |
| **[5]** **Tools & equipment for engineering.**This unit aims to introduce learners to the common tools and equipment used in an engineering environment. Learners will be able to handle tools in a correct and safe manner, and how to demonstrate sufficient maintenance techniques.**[6]** Fitting and Assembly Techniques - **Practical** Use of machinery – lathes Cutting internal & external threads | (Dates to be determined)This unit is internally assessed. | Unit 3 Task 1Unit 3 Task 2Unit 3 Task 3 | Complete Hand tools description sheets.Complete Power tools description sheets.Complete Machine tools description sheets. |
| **[7]** **Engineering materials and their properties.**This unit aims to introduce learners to engineering materials and their properties. They will learn about the suitability of the materials for a specific task and the processes of manufacturing.**[8]** Fitting and Assembly Techniques - **Practical** Hot metals joining. | (Dates to be determined)This unit is internally assessed. | Unit 4 Task 1 | Complete materials description sheets.Understand materials properties and selection. |