CTEC Engineering

Part A - Bridging Work Task

This is a fantastic opportunity to expand your understanding of CTEC Engineering as you prepare for enrolment and start at Franklin in September.

Please complete the work and bring a copy to your enrolment, either printed or electronically.

The work will take around **2 hours,** so plan your time to best suit you.

How do I complete and submit my task?	Complete the tasks on paper/handwritten or digitally and bring a copy either paper or electronically to your enrolment appointment, also take this to your first lesson in September. If you did not attend the Taster Day don't worry – this isn't essential for completing this work but, please ensure that you have completed this bridging work.
Introduction to your Bridging Task	**Maths skills for Engineering** The task below will help us gauge your current understanding of the mathematical techniques from GCSE Maths that you'll use in Engineering, both in the examined units in January and for many assignments throughout the course. **Materials** In Unit 11 of the course, we look into material properties and how these properties relate to their uses in a variety of Engineering scenarios. In the taster day you used Computer Aided design to look at the shape of designs, in the task below you will look at some key material properties for use in these designs alongside definitions and examples of designs where these properties are important.
Task details	Please click on this link to get the instructions for the work. Bridging work If you were in the Taster session, you will have been given a paper copy. See resources section above for resources to help you with the task.
Resources to help you with the Bridging Task	These are the resources you will need for the bridging task in the section further down this document. **Maths for Engineering**: You will need a scientific calculator and possibly your notes from GCSE Maths.

	This video may also help: https://www.youtube.com/watch?v=ayjtBJ0UcqE Here are some useful website links: https://www.cyberphysics.co.uk/general_pages/si_prefixes.html https://www.bbc.co.uk/bitesize/guides/zgbggk7/revision/4 https://www.mathsisfun.com/algebra/trigonometry.html For the **Materials task** the following links may be helpful Video: https://www.youtube.com/watch?v=BHZALtqAjeM Weblink: Material Properties (the-warren.org)
Extension Tasks	
Extension Tasks to stretch and challenge you	See the MOOCs section below.
Massive Open Online Courses **(MOOCs)**	MOOCs are Massive Open On-line Courses You might enrol on this online course and complete the following to push you a little further (this is optional). This is a great course to help you get ready for learning at level 3! https://www.coursera.org/learn/learning-how-to-learn-youth

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Part B – Preparing for Studying at Franklin

A fantastic opportunity to widen your understanding of the course.

Examining Board and Specification	Cambridge Technicals - Engineering - OCR You will be studying the following units: Unit 1 Mathematics for Engineering Unit 2 Science for Engineering Unit 3 Principles of Mechanical Engineering Unit 4 Principles of Electrical and Electronic Engineering Unit 5 Electronic and Electrical Design Unit 6 Circuit simulation and manufacture

	Unit 8 Electrical Operations Unit 10 Computer aided design (CAD) Unit 11 Material Science Unit 12 Mechanical Simulation and Modelling Unit 16 Systems and Programming Unit 22 Engineering and the Environment
Preparing for the course	Watch some of the video on the Engineering Mindset Youtube channel to get an idea of the some the content we cover on the course..... https://www.youtube.com/@EngineeringMindset/videos