Revision in Engineering

There are two external exams in the BTEC National Diploma in Engineering, namely Unit 1 Engineering Principles (2 hours) and Unit 3 Engineering Product Design and Manufacture (8 hours). Both exams are written form and the results are worth double the credits of internal assignments. Therefore, it is vital learners perform well in both of these exams.

Preparing for Unit 1 Engineering Principles Exam

To prepare for Unit 1, learners should familiarise themselves with the style and formats of the exam questions. These can be achieved by simply practising past papers. In addition, our department has prepared a special past paper worth 380 marks containing over 40 questions that are commonly asked questions. This paper is available on Teams’ Unit 1 channel and is called “Exam Practice Medley”.

Furthermore, learners should then visit our dedicated [Dukies Engineering](https://www.youtube.com/watch?v=CMeXWPrrwkk&list=PLxhSb4id6CKrmoV45p0PTSCWh5ry4mSqx) YouTube channel to watch the worked solutions. It is not recommended at this early stage to give out the mark schemes. This is to encourage learners to apply “deep thinking” approach to execute the “recall” process. Although, learners may find them available readily on various unofficial websites.

Formulae and Their Meaning

For more advance revision techniques, learners should familiarise the formulae in the formulae booklet which will be given during the exam. Although learners do not need to memorise the formulae, however they will benefit if they can rearrange the formulae to change the subject. Most importantly, they should know what the variable stands for. For example T is Torque, but also T can be the unit of a variable, for example 0.5T means Magnetic Flux Density of 0.5 Tesla.

This confusion or the lack of variable meaning is the common reason why learners miss out on the Distinction.

Further Revision Resources

The Engineering department paid for an online Engineering study platform containing over 9000 topics and some of these topics are directly aimed at BTEC Level 3 including the Unit 1 and Unit 3. This website is [www.ljcreatelms.com](http://www.ljcreatelms.com). Learners have been given own logins to access resources and to complete self-tests. Please do not underestimate the quality resources developed by Ljcreate.

Preparing for Unit 3 Engineering Product Design and Manufacture Exam

All candidates have completed the Unit 3 exam in January and all candidates have achieved a PASS. Therefore, some candidates choose to retake the exam to improve their grade.

To revise, students should first review the past exam scripts to identify their strengths and weakness. Read the examiner’s reports to identify specific areas of improvements.

Practise 2D and 3D drawings of real-life products and ensure the engineering design processes are vigorously applied. Familiarise with the physical properties of various materials, for example, possibility of hardening, conductivity, rusting, tensile strength etc…

Finally, learners should practise solving engineering design problems from past papers and check the marksheets to ensure the criteria is being met. Again, Ljcreate provides some guidance of Unit 3, but this should be used as a reference for various manufacturing processes.