

#TRANSFORMINGLIVES



SCHOOL OF ENGINEERING
LEVEL 3 ENGINEERING

TRANSITION PACKAGE

WELCOME & COURSE INFORMATION

Hartlepool College of Further Education has a proud history of training new generations of engineers and technicians; we continue that tradition with our Level 3 programme, consisting of a brand-new curriculum for September 2020 starts. The Level 3 course is one of the most popular programmes within the School of Engineering.

The BTEC Level 3 Extended Certificate in Engineering is designed for school leavers with a good grasp of scientific and technological subjects who wish to take their first steps towards a career in the fascinating world of engineering. This programme has been designed to give learners a good grounding in fundamental topics across engineering science and design, whilst at the same time developing abilities in a range of practical skills.

Learners should have, at minimum, five GCSEs at grade 4 or above, including Maths and English. Higher grades in science, maths and technology subjects are desirable.

Learners who successfully complete this programme of study may have the option to complete a further year to acquire more specialist knowledge and gain a Level 3 Extended Diploma in Engineering, or progress to employment and apprenticeships.

WHAT WILL I STUDY?

Learners will attend four different classroom-based sessions:

- Engineering Principles, covering mechanical and electrical science, and the application of mathematics;
- Engineering Design Practices, covering common engineering processes, health and safety and the stages of design and manufacture;
- Engineering Communication, covering technical drawing, computer-aided design and effective teamwork;
- Material Science, covering material types, properties, testing, failure and prevention.

Learners will also complete four extended workshop sessions across the year:

- Mechanical Fitting
- Machining
- Electrical Installation
- Electrical Maintenance or Mechanical Maintenance

Personal protective equipment (PPE) will be provided to all new engineering students for use in the workshops.

Prospective learners need to be hard-working, motivated and have an enquiring mind. Organisation is a key skill; learners will be expected to maintain a file of the work they complete in class and meet deadlines for assessed tasks. Learners will require a CASIO FX series scientific calculator.

Prospective learners should complete the key tasks below before September and bring them to their induction period when they start the course.

HOW CAN I PREPARE FOR THIS COURSE?

Engineering Information

Engineering can be a dangerous world if technical information is not communicated correctly. Pieces of information in engineering, whether facts, properties, instructions or warnings, are often conveyed by symbols.

Use internet resources to produce a guide sheet for common engineering symbols. You should include at least 10 symbols relating to health and safety, 10 symbols related to electrical circuits and 10 symbols related to hydraulic/pneumatic circuits.

Write a short paragraph, explaining why you think symbols are used instead of written instructions.

TASK 1: ENGINEERING INFORMATION

Engineering Measurement

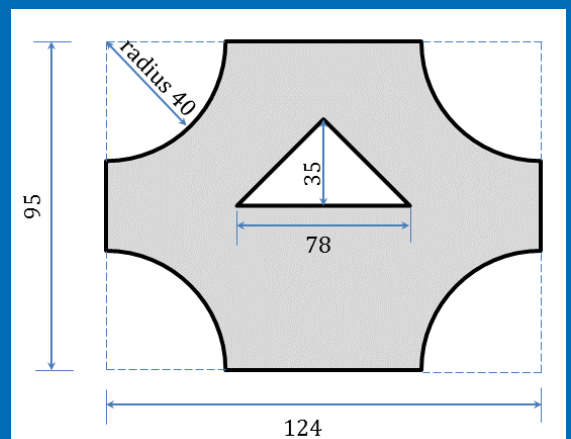
Correct use of numbers is vital to success in engineering.

If something is measured incorrectly, it can lead to failure of the engineered product in question and this may have more serious consequences.

Using area formulae you will have used at school, calculate the area of this grey shape.

All lengths are quoted in millimetres.

TASK 2: ENGINEERING MEASUREMENT



TASK 3: AWARENESS OF THE ENGINEERING WORLD

Awareness of the Engineering World

The north-east of England has a strong tradition in engineering.

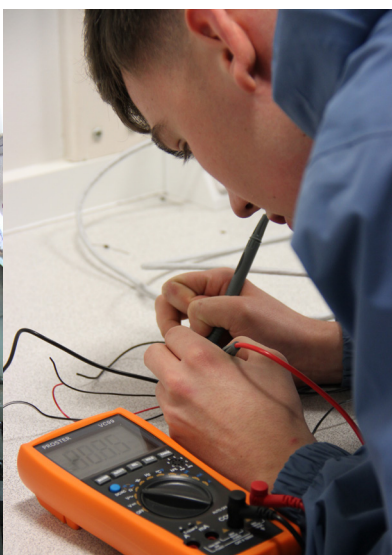
Amongst other things, major developments in railways, electricity and chemicals have been created in the local area. Many engineering companies, large and small, continue to base themselves in the Tees Valley area.

Research an engineering company of your choice that operates in the local area. This could be from any area of engineering in which you are interested.

Produce a fact sheet, no more than one side of A4 paper, detailing what the company does/manufactures, what sort of roles local people do for the company and include any other interesting information you may find.

ADDITIONAL INFORMATION

Learners will have the opportunity to take part in our work experience programme, completing placements with local engineering companies.



KEY CONTACTS:

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