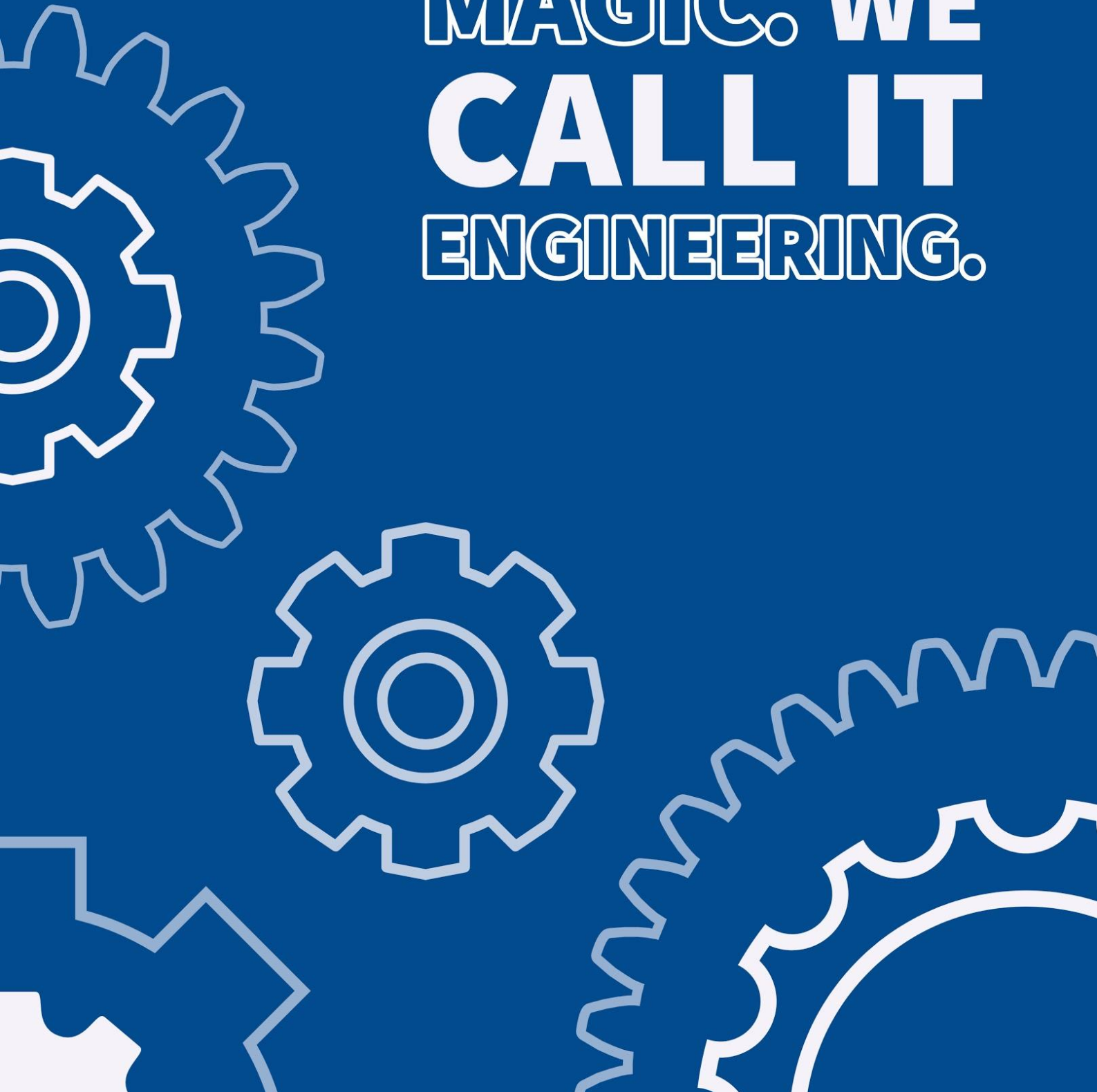


Burnley
College

**PEOPLE
THINK IT'S
MAGIC. WE
CALL IT
ENGINEERING.**



Welcome to Engineering at Burnley College

What is engineering?

Engineering is behind everything – from your smartphone and hair styling products to the lights you switch on and the shoes on your feet.



The Level 3 course involves lots of research and self study, why not join Lancashire library and have access to lots of resources, best of all it is completely **free**.

Link to join Lancashire Library - [Click here](#)

Once you are a member you have access to:

British Standards - [Click here](#)

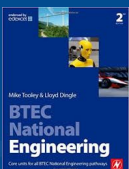
World Book Online - [Click here](#)

CREDO Reference - [Click here](#)

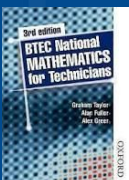
Publications you may find useful



Boyce A, Cooke E, Jones R and Weatherill B – Level 3 BTEC National Engineering Student Book (Pearson, 2010) ISBN 9781846907241



Tooley M and Dingle L – BTEC National Engineering (Routledge, 2010) ISBN 9780123822024



BTEC National Mathematics for Technicians by Alan Fuller, Alex Greer, G. W. Taylor

It is **not** a course requirement to purchase the above books, but you may find them useful.

To become an engineer you will require more than knowledge, you need to develop particular skills and behaviours that employers are looking for.

Below are a list of the top 10 employability skills.

Top 10 employability skills

KEY

- HOW YOU WORK
- HOW YOU WORK WITH OTHERS
- HOW YOU THINK
- SHOW ALL

- ### 1 USING INITIATIVE AND BEING SELF-MOTIVATED

 - Follow instructions, making sure you do not always have to be told what to do and when
 - put forward your own ideas
 - see something through to the end, and not be put off by setbacks

HOW I CAN DEVELOP THESE SKILLS:

 - finish work without being asked
 - work without help – but know when to ask for it
 - suggest new ideas
- ### 2 ORGANISATIONAL SKILLS

 - plan your work to meet deadlines and targets
 - organise your own time and coordinate with others
 - monitor and adjust the progress of your work to stay on track

HOW I CAN DEVELOP THESE SKILLS:

 - help organise an event or project
 - plan your revision timetable
 - calmly change plans if you run out of time, or something unexpected happens
- ### 3 WORKING UNDER PRESSURE AND TO DEADLINES

 - meet deadlines and targets
 - handle the pressure that comes with meeting deadlines and targets
 - ensure that you are seen as a reliable person

HOW I CAN DEVELOP THESE SKILLS:

 - finish work before the deadline, using that time to check and improve it
 - plan and make the most of available time
 - prioritise your commitments inside and outside school or college
- ### 4 ABILITY TO LEARN AND ADAPT

 - learn new things
 - learn from successes and failures
 - adapt and do things better

HOW I CAN DEVELOP THESE SKILLS:

 - think how to make your work even better
 - put yourself forward when there are chances to learn new skills
 - share your ideas and use feedback to improve your work
- ### 5 COMMUNICATION AND INTERPERSONAL SKILLS

 - explain and present what you mean clearly, whether written or verbal
 - do your best to understand others

HOW I CAN DEVELOP THESE SKILLS:

 - do a presentation or speak with an audience
 - take part in debates
 - give instructions to others
- ### 6 TEAMWORK

 - understand how you and others work best together
 - get things done when working with people with different skills, backgrounds and personalities

HOW I CAN DEVELOP THESE SKILLS:

 - plan ahead when working with others
 - take account of how your team are feeling when you work together
- ### 7 NEGOTIATION SKILLS

 - think about what you and others want and need
 - 'give and take' fairly when working with others

HOW I CAN DEVELOP THESE SKILLS:

 - look for ideas that benefit others as well as yourself
 - carry out a school/college enterprise or STEM project that involves agreeing prices
 - ask a favour of someone, supported by offering something in return
- ### 8 VALUING DIVERSITY AND DIFFERENCE

 - respect others
 - value the skills and experience that different people have
 - show consideration for the needs of different people

HOW I CAN DEVELOP THESE SKILLS:

 - work with people who have different skills
 - make sure everyone is involved in conversations and activities
- ### 9 PROBLEM SOLVING SKILLS

 - identify key issues in a problem
 - use your knowledge and experience when tackling problems
 - develop and test possible solutions

HOW I CAN DEVELOP THESE SKILLS:

 - design objects and materials in design and technology
 - plan a STEM Club project
 - analyse results in maths or science
 - evaluate evidence in science or humanities
- ### 10 NUMERACY AND IT SKILLS

 - use numbers and data to support your work and obtain meaningful information
 - apply your valuable IT skills

HOW I CAN DEVELOP THESE SKILLS:

 - use numerical evidence in a science practical, STEM project or business idea
 - help your family with budgeting or other money decisions
 - learn new IT skills such as coding

STEM LEARNING

Here at Burnley College we will provide you with the knowledge and help you develop your skills and behaviours ready for employment.

But there is no time like the present to get started.

Use the Barclays LifeSkills website to develop your skills

[Click Here](#)

See how your skills and passions could lead to an exciting job in the future. Click [here](#) to take a quiz

Tasks you can complete to prepare yourself for the course and a future in engineering:

01

To be successful on the BTEC Level 3 course you will need to produce assignments as a form of assessment. These assignments must be free from plagiarism and include references.

Complete the online test to check your knowledge of paraphrasing and referencing.

<http://en.writecheck.com/plagiarism-quiz>

Links to further reading:

[Paraphrasing](#)

[Citing and quoting](#)

02

Many students are unaware of the different engineering sectors and potential jobs. The more information you gather now will help you focus on your path to success.

Research the different engineering sectors:

Aerospace

Biomedical

Civil

Environmental

Chemical and Biological

Mechanical

Agricultural

Electrical

Software

03

You are considering engineering as an option after school, so you must be prepared to deal with maths and science. Maths is embedded into a number of the units so now would be a good time to brush up on your maths prior to starting in September.

Follow the links to test your knowledge on the following:

[Transposition of formulae](#)

[Algebra](#)

Course information

First year units you will study

- Health and Safety in the Engineering Workplace
- Communications for Engineering Technicians
- Mathematics for Engineering Technicians
- Mechanical Principles of Engineering Systems
- Computer-aided Drafting in Engineering
- Fabrication Processes and Technology
- Electrical and Electronic Principles in Engineering

Plus two additional units

Free study offer lots of resources you can access. To have a look at some of the content you will be covering - [Click here](#)

Burnley College is 1 of 2 AutoDesk lighthouse centres here in the UK.

AutoDesk offer a free 30 day subscriptions, why not take advantage of this offer and get hand on experience prior to starting your engineering course.

Fusion 360 helps students and educators prepare for the future of design. It's the first 3D CAD, CAM, and CAE tool of its kind, connecting your entire product development process into one cloud-based platform. Download the software today, then turn your ideas into reality.



AutoDesk free trial - [click here](#)

Fusion for beginners - [click here](#)

As a young budding engineer here are some fun challenges to have a go at during lockdown:



Make the Golden Gate Bridge out of spaghetti



Keep a marble rolling for a minute

Contact information

If you have an question with regards to the full time BTEC L3 Engineering course at Burnley College, please contact engineering@burnley.ac.uk or call 01282 733373

We look forward to seeing you in September