



Where could Engineering take you?

Wondering what to do after your Level 3 course?

Use this leaflet to get an idea of your possible next steps in engineering.

Included in this leaflet:

- Qualifications you could get after Level 3
- 'Accreditation' – what is it?
- 'Year in industry' 'sandwich year' 'placement year' – what is it?
- Example courses and entry requirements
- Engineering career profiles
- Example higher and degree apprenticeships
- Useful websites to help you research your options

Aspire Higher

This leaflet was produced by **Aspire Higher** with **Linking London**.

Both organisations are regional Uni Connect (formerly NCOP) Outreach Teams. This leaflet was produced in Spring 2021 and information was correct at that time. The aim of the programme is to provide students with impartial advice about their future options with an emphasis on encouraging progression to higher level study. This leaflet has been produced to help schools and colleges provide information with clear links between their curriculum and future career options.

If you have any comments, questions or feedback, please contact us via our dedicated email address (aspirehigher@northampton.ac.uk) or via the Chat box on our website, www.aspire-higher.co.uk.

Acknowledgement

Thank you to **Linking London** for their help producing this guide.

What next?

So, you're on track to complete your Level 3 qualification(s) and thinking about continuing your studies in engineering. The next section lays out a few things you should consider.

What kind of qualification can you get after Level 3?

There are a range of Engineering qualifications you can study upon completion of your Level 3 course, depending on the grades you achieve and the kind of higher education provider you want to attend.

HNC Level 4 One year - Lower entry requirements

HND Level 5 One or two years - Lower entry requirements

BSc Level 6 Three years - Medium entry requirements

BEng Level 6 Three years – High entry requirements

MEng Level 7 Four years - Very high entry requirements

If you want to become a Chartered Engineer one day, you will need a Masters degree.

Many universities will offer two kinds of engineering course: a BEng (Bachelors degree) and a MEng (Masters degree – sometimes called an 'integrated masters degree').

A BEng will have slightly lower entry requirements than a MEng, however many universities will give you the option of switching to the MEng course if your grades are strong. You apply for a MEng course just like any other undergraduate course via UCAS.

Opting for a lower level engineering course, such as an HND or BSc, does not necessarily mean you can't eventually obtain a Masters degree, it will just take more time.

UCAS has a really helpful 'undergraduate: what to study' page which includes a helpful explanation of the different kinds of higher education qualifications that exist. You can find this by searching 'UCAS types of qualification' or by clicking: www.ucas.com/undergraduate/what-and-where-study/ucas-undergraduate-what-study

Accreditation

Engineering is a profession, so many engineering degrees will have some form of professional accreditation. This is a sign that the content of the degree aligns with the knowledge and skills professional bodies believe a future engineer should have.

Which professional bodies are involved in accrediting Engineering degrees?



Institution of Mechanical Engineers (IMechE) www.imeche.org/



The Engineering Council (EngC) www.engc.org.uk/



Institution of Civil Engineers

Institution of Civil Engineers (ICE) www.ice.org.uk/



Institution of Structural Engineers (IStructE) www.istructe.org/



Joint Board of Moderators (JBM) jbm.org.uk/

Do I get anything extra from an accredited degree?

An accredited degree is the first step towards achieving professional registration as an IEng (Incorporated Engineer), an EngTech (Engineering Technician), or CEng (Chartered Engineer).



‘Year in Industry’

While researching possible degree options, you may notice lots of very similar course titles but with things like ‘and a Year in Industry’ or ‘with Study in Industry’ or ‘with placement year’ tacked on at the end. You might have heard of something called a ‘sandwich degree’ or ‘sandwich year’. All of these mean the same thing.

What is it?

Like the name suggests, a course with a Year in Industry means exactly that – you spend a year working in industry, usually in between your second last and last year of study. This means your course will take an extra year to complete – for example, if you are doing a MEng with a Year in Industry, it would take five years to complete rather than the usual four years.

You are usually paid a reasonable salary for the work you do during your placement, so don’t be put off the idea of a sandwich degree simply because you will finish your degree a year later. You gain invaluable work experience during a placement year that will be very helpful when you do finish your course and are looking for graduate employment; more and more universities offer the placement year as a part of their courses because they know graduate employers value graduates with that additional work experience. Really do your research to properly consider whether a Year in Industry option is right for you, as they work differently at different universities.

This mapping was correct at the time of print in Spring 2021. While we have tried to ensure that this information is as up to date as possible we take no responsibility in terms of the accuracy. Please always check the relevant provider for the latest information. This is not an exhaustive list of all institutions offering courses in engineering as over 150 Universities and Colleges offer over 1800 Level 4+ courses related to engineering.

Examples of HE Engineering Courses and Entry Requirements in UK Universities

HEI	UCAS Tariff	A-Level	BTEC L3 Extended Diploma	Access	GCSE
University of East Anglia BEng (Hons) Energy Engineering with Environmental Management	128-153	ABB including Maths and one other Science subject Or BBB including Maths and one other Science subject with A in the Extended Project	DDM in an Engineering pathway	Distinction in 30 credits at Level 3 and Merit at 15 credits at Level 3 including 12 credits in Maths and 12 credits in one other Science	Maths at B / 5 or above and English language at C / 4 or above (or equivalent)
Lancaster University BEng (Hons) Engineering	128	ABB including Maths and a Physical Science, for example, Physics, Chemistry, Electronics, Computer Science, Design & Technology or Further Mathematics.	DDM in Engineering pathway including a substantial Maths content	30 Level 3 credits, including 3 credits at Distinction and 15 credits at Merit in a relevant subject, with a substantial Maths content	Minimum 4 GCSEs at Grade B / 5 including Maths at B / 6 and English language at C / 4 or above (or equivalent).
University of Bradford BEng (Hons) Mechanical Engineering with Placement Year	112	BBC including Maths at Grade C or above	DMM in Engineering subject including a substantial Maths component	Science or Engineering including 12 Level 3 credits in Maths at Merit GCSE English and Maths at Grade C / 4 (or equivalent)	GCSE English and Maths at Grade C / 4 (or equivalent) or above
Edinburgh Napier University BEng (Hons) Mechanical Engineering	96-102	CCC including Maths and a Science (not biology) or Technical subject	MMM in related subject. Must include Maths or be accompanied by Maths A level Grade C	Pass in related subject area with 45 credits at Level 3 overall. Must include: 39 credits at Merit and 6 credits at Distinction, including Maths, Science or Technical subject	GCSE English and Maths at Grade C / 4 (or equivalent) or above

HEI	UCAS Tariff	A-level	BTEC L3 Extended Diploma	Access	GCSE
University of Cambridge MEng (Hons) Engineering	160	A*A*A* including Maths and Physics (some colleges additionally require AS/A level in Further Maths or STEM subjects)	May be considered in conjunction with A levels	May be considered in conjunction with A level Maths	GCSE English and Maths at Grade C / 4 (or equivalent) or above
University of Gloucestershire BEng (Hons) Mechatronics Engineering	112	BBB-BBC	DMM (must include Maths and either Physics, Electronics Further Maths or Chemistry)	Check with the university	GCSE English and Maths at Grade C / 4 (or equivalent) or above
Sheffield Hallam University BEng (Hons) Electrical and Electronic Engineering	112	BBC in relevant subjects, including a Mathematics based subject AND at least one other relevant subject - Physics, Physical Science, Engineering Science, Computer Science, Chemistry, other Science/Technology subject.	DDM including a Mathematics based subject AND at least one other relevant subject - Physics, Physical Science, Engineering Science, Computer Science, Chemistry, other Science/Technology subject.	At least 45 credits at level 3 and 15 credits at level 2. At least 15 level 3 credits must be at merit grade or above	GCSE English and Maths at Grade C / 4 (or equivalent) or above
University of Salford BEng (Hons) Aeronautical Engineering	112-120	BBC – BBB including Minimum Grade C / 4 in Maths and Grade C / 4 in numerate science subject	DMM in Engineering pathway. Distinctions in Maths modules required.	Pass with 112-120 UCAS points with minimum 60 credits overall, 45 credits at Level 3 and Distinction in numerate modules	GCSE English and Maths at Grade C / 4 (or equivalent) or above

This mapping was correct at the time of print in Spring 2021. While we have tried to ensure that this information is as up to date as possible we take no responsibility in terms of the accuracy. Please always check the relevant provider for the latest information. This is not an exhaustive list of all institutions offering courses in engineering as over 150 Universities and Colleges offer over 1800 Level 4+ courses related to engineering.

Examples of HE Engineering Courses and Entry Requirements in UK Universities

HEI	UCAS Tariff	A-Level	BTEC L3 Extended Diploma	Access	GCSE
University of Sunderland BEng (Hons) Automotive Engineering	112	A* A* - BBC including Maths or Physics	DMM and must include Maths or Physics	Check with the University	Minimum 3 GCSE passes at Grade C / 4 (or equivalent) including Maths and English language
Liverpool John Moores University BEng (Hons) Marine and Mechanical Engineering	112	BBC including Maths and one of Physics, Chemistry, Computing, Further Maths, Electronics or Engineering	DMM in engineering pathway with Distinctions in Further Engineering Unit	Equivalent to 112 UCAS points	GCSE English and Maths at Grade C / 4 (or equivalent) or above
Durham University BEng (Hons) General Engineering	152-168	A* AA including Maths and Physics	Extended diploma D*DD + A for A level Mathematics, or DDD and A*	60 credits with a minimum of 45 credits at level 3 (or equivalent). At least 30 level 3 credits at Distinction and in addition at least 15 level 3 credits at a minimum of merit	GCSE English and Maths at Grade C / 4 (or equivalent) or above
Cardiff Metropolitan University MEng (Hons) Robotics Engineering	112	At least 2 subjects At least B in Maths or Physics	DMM including 6 Distinctions in Maths and Physics modules	Equivalent to 122 points with: 15 credits at Distinction 30 credits at Merit	5 passes at C / 4 or above including Maths and English Language (or equivalent)

HEI	UCAS Tariff	A-Level	BTEC L3 Extended Diploma	Access	GCSE
University of Manchester BSc (Hons) Materials Science and Engineering	136	AAB - ABB including 2 of Maths, Chemistry, Physics	D*D - DD only in conjunction with A levels and sufficient coverage of Maths and Science	60 credits overall with 45 credits at Level 3 (min. 30 at Distinction and 15 at Merit in maths/science subjects)	GCSE English and Maths at Grade C / 4 (or equivalent) or above

If you want to study engineering but you don't think you will get the grades to go straight onto a degree or degree apprenticeship, check to see if a Foundation Year is available. This is an additional year of study at the start of your degree which prepares you for the main years of study. Entry requirements are generally lower than Year 1 entry.

If you want to get some practical experience working in the area you'll graduate in, check to see if the degree you're interested in offers a Placement or Year in Industry.

If you don't want you commit to a full degree, you may be able to study a HND, HNC or Foundation degree in an engineering subject.

There are a growing number of Degree Apprenticeships in different areas of Engineering – check employers' websites and apprenticeship gateways for details as you'll need to be employed to do one of these.



Engineering Career Options

Below we have included a few brief snapshots of careers and roles that you could pursue in the field of engineering. Much of this information was sourced from Prospects – we recommend looking online at their job profiles for engineering and manufacturing.

Civil Engineer

Salary

Starting: £23,500-£26,500. Average salary for members of the Institution of Civil Engineers (ICE): £50,000.

Brief Description

Civil engineers are involved with the design, development and construction of a huge range of projects in the built and natural environment. The role is central to ensuring the safe, timely and well-resourced completion of many project areas.

Qualifications required

Minimum requirement of a BEng (Hons) degree in a relevant engineering subject is usually required for entry into civil engineering.



Electronics Engineer

Salary

Starting: £21,000-£25,000. With experience: £28,000-£65,000.

Brief Description

An electronics engineer will design, develop and test components, devices, systems or equipment that use electricity as part of their source of power. Involved at any stage of a project including the initial brief for a concept, the design and development stage, testing of prototypes and the final manufacture and implementation of a new product or system. Usually working in project teams with colleagues in other branches of engineering.

Qualifications required

Most electronics engineers have a degree in electrical or electronic engineering. Other relevant subjects for entry into the profession include: aeronautical engineering, communications engineering, computer/software/computer science engineering, mathematics, mechanical engineering, physics and applied physics, production and manufacturing engineering. Those with an HND, relevant NVQ Level 3 qualification or an apprenticeship, may be considered for an engineering technician post.

Aeronautical Engineer

Salary

Starting: £22,000-£28,000. With experience: £28,000-£60,000+.

Brief Description

Concerned with improving flight safety, fuel efficiency, speed and weight, as well as reducing system costs and using advancing technologies to meet customer needs. The role is increasingly addressing the environmental impact of air travel.

Qualifications required

Degrees are available in aeronautical or aerospace engineering but employers may accept other relevant degrees such as: computer science/software engineering, electrical and electronic engineering, mathematics, mechanical engineering, physics/applied physics, production/manufacturing engineering, space-related courses.

Land/Geomatics Surveyors

Salary

Starting: £20,000-£25,000. With experience: £25,000-£45,000.

Brief Description

Land/geomatics surveyors measure and collect data on specific areas of land, including information about boundaries, building and features, both natural and man-made for purposes such as property construction.

Qualifications required

Most employers would prefer a relevant honour's degree such as: civil or structural engineering, earth science, environmental science, geographical information science, geography or physical geography, geology, land or estate surveying, mathematics, physics, surveying and mapping science.

Production Manager/Operations Manager

Salary

Starting: £25,000. With experience: £30,000-£60,000.

Brief Description

Production managers are involved with the planning, coordination and control of manufacturing processes. Production managers will make sure goods and services are produced efficiently at the correct cost, quality and amount.

Qualifications required

Foundation degree, HND or degree in the following may help secure a job: business or management, chemistry, electrical and electronic engineering, food science and technology, materials science and technology, mechanical engineering, physics, process engineering transport, distribution or logistics.

Sound Engineer

Salary

Starting: £15,000. With experience: £20,000-£40,000.

Brief Description

Responsible for manipulating acoustics to achieve a desired sound. Contexts could include live events, commercial music, TV, radio or advertising.

Qualifications required

Most entrants have an honour's degree relevant to a music technology subject such as sound recording or audio engineering. A foundation degree or HND in the subject may also provide an entry route, however the field is extremely competitive.



Apprenticeships

What kind of apprenticeships are out there?

If you're thinking about doing an apprenticeship in the field of engineering after you complete your Level 3 course, there are a few options available. We've included some examples to give you an idea of the kinds of apprenticeships that may be available in this field. The salary ranges and entry requirements we have included are to give you a general idea, but are in no way absolute and you should always check individual apprenticeship vacancies for the specific details. You can use the government's **'find an apprenticeship'** service and **RateMyApprenticeship** to find vacancies and resources to help with the application process.

Higher Apprenticeship

Qualification obtained	Level 4 or 5 (Higher National Certificate or Diploma)
Length	2-4 years
Yearly salary	£8,000-£18,000
Role type	Technician, Project Manager

Example Higher Apprenticeship

Role	Construction Supervisor
Qualification obtained	Construction Site Engineering Technician – Level 4 (Higher National Certificate)
Yearly Salary	£16,000-£18,000
Length	2-3 years
Entry requirements	5 GCSEs (incl. Maths, English, and Science) - Grade B/6 64-112 UCAS Tariff points

Degree Apprenticeship

Qualification obtained	Level 6 or 7 (Bachelor's degree with honours or Master's degree)
Length	4-5 years
Yearly salary	£16,000-£21,000
Role type	Surveyor, Civil Engineer

Example degree apprenticeship

Role	Civil Engineering Degree Apprenticeship
Qualification obtained	Civil engineer – Level 6 (degree with honours)
Yearly Salary	£21,000
Length	5 years
Entry requirements	5 GCSEs (incl. Maths, English, and Science) - Grade B/6 BTEC: DDM with Further Maths A Level: BBC incl. Maths or Further Maths

Next Steps

1. Research your options

You need to be proactive and spend time finding out what options are available and most suitable for you. We have included a few helpful websites at the end of this booklet which can be a good place to start. Research what work experience options are out there.

2. Create a shortlist of courses, higher education providers, and apprenticeships that you are interested in.

You might want to make your own spreadsheet, word document, specific notebook, or notes document on your phone to help with this. You'll want to keep a note of any application deadlines, open days or talks, and other key information like accommodation and financial support available.

3. Speak to your college careers team about your plans.

It's always good to discuss your plans with people who have lots of experience helping people like you make decisions. Chatting to people in your support network, like friends and family, is helpful but make sure to also use the careers professionals available to you through college. You can also speak to current engineering students using platforms like UniBuddy and The Student Room.



So, what is The Pay Index?



Aspire Higher have signed up with The Pay Index to offer two exciting tools: **'My Future University'** and **'My Future Apprenticeships'**

The tools enable students to:

- Compare courses of study and the locations they are available in;
- Explore their earning potential, 1, 3, 5 or 10 years after graduation based on location;
- Understand what student loan repayments would look like after completion of study;
- Question the gender pay gap and empower females entering the workplace;
- Explore the types of apprenticeships available locally and nationally;
- Open a wider dialogue with teachers, careers advisors and parents about university.

Within each tool, Aspire Higher have uploaded a range of videos, activities and quizzes to deepen your knowledge on both university and apprenticeships.

For more, watch this 2-minute video about the tool:

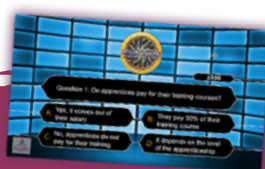
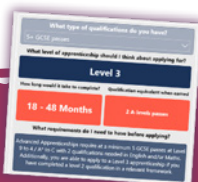
My Future University Introduction Video

(<https://www.youtube.com/watch?v=2TFG0k1dzaY>).

Sign up and give it a try:

Sign up once and you will be able to access both tools.

Use this link, **The Pay Index Sign-up Link** or scan the QR code (<https://www.thepayindex.com/aspire-higher/signup>).



Useful Websites

Aspire Higher

Our website has a wide range of resources to help support you on your higher education journey and make informed choices about what's right for you.

Search **Aspire Higher** or click www.aspire-higher.co.uk

Prospects

Prospects has lots of information and advice about graduate careers and opportunities. They have a range of job profiles related to the Engineering and Manufacturing sector on their website, as well as lots of other helpful resources.

Search '**Prospects engineering job profiles**' or click: www.prospects.ac.uk/job-profiles/browse-sector/engineering-and-manufacturing

UCAS

UCAS has tons of resources to help guide you in your next educational steps. Creating an account on the UCAS Hub should be one of the first things you do. UCAS has a variety of subject guides that provide more information on different subject areas, like aerospace engineering or civil engineering. The UCAS course search tool is also really helpful to see the range of courses out there at all the different higher education providers in the UK.

Search '**UCAS hub**' or click: www.ucas.com/dashboard

Search '**UCAS subject guides**' or click: www.ucas.com/explore/subjects

Search '**UCAS course search**' or click: digital.ucas.com/search

Find an apprenticeship

The government's apprenticeship search tool is one of the best ways to find higher and degree level apprenticeships.

Search '**find an apprenticeship**' or click: www.findapprenticeship.service.gov.uk/

RateMyApprenticeship

RateMyApprenticeship also advertises apprenticeship vacancies and has lots of resources available to help you through the apprenticeship application process, as well as reviews from current apprentices.

Search '**ratemyapprenticeship**' or click: **www.ratemyapprenticeship.co.uk/**

Unibuddy

A service which connects prospective students with university ambassadors (current students) and staff.

Search '**unibuddy**' or click: **unibuddy.com**

The Student Room

You can access advice from prospective, current, and former students on this platform.

Search '**the student room**' or click: **www.thestudentroom.co.uk**

Tomorrow's Engineers

An organisation which aims to inspire more young people into engineering careers. There are lots of resources available on their website which provide more information about different routes into engineering as well as in depth explanations of the different elements of the engineering sector – you can find these under 'careers resources'.

Search '**tomorrow's engineers**' or click: **www.tomorrowsengineers.org.uk**

National Careers Service

This is a government service which can be helpful in providing an overview of entry requirements and routes into certain careers, including engineering.

Search '**national careers service engineering**' or click: **nationalcareers.service.gov.uk/job-categories/engineering-and-maintenance**

