

# Engineering



## Engineering Overview

**Engineering** is the application of scientific, social, and practical knowledge in order to invent, design, build, maintain, research, and improve structures, machines, devices, systems, materials, and processes.

The discipline of engineering is extremely broad, and encompasses a range of more specialised fields of engineering, each with a more specific emphasis on particular areas of applied science, technology and types of application.

## 2% of employment in the Humber is in Engineering

### Examples of Key Employers in the Humber

**BAE SYSTEMS**

**POINT**



*GWF Engineering*

**BRITCON**



**alliedprotek**  
EXCELLENCE IN ENGINEERING

### Useful subjects

- Maths
- Design & Technology
- Science
- Engineering
- IT

### Did you know?

- The Engineering Sector accounts for 2% of the region's workforce, employing over 7,000 people
- The average graduate starting salary for engineering is £27,079 – over a fifth more than for all graduates
- Nationally only 3.4% engineering and manufacturing apprentices are female
- Nationally only 7% of the Engineering workforce is female
- Engineering is not just about getting dirty it is very creative work and involves problem solving
- Engineers can work in many different industries including chemicals, food manufacturing, the motor and aerospace industries
- Engineers use computers and new technologies to design new products
- The Engineering industry requires more qualified people
- Every time a job is created in engineering 2 new jobs are created elsewhere

### Will there be opportunities available?

- Britain will need more than a million new engineers and technicians by 2020, which will require doubling the number of annual engineering graduates and apprentices
- Engineering companies are projected to need 186,000 people nationally with engineering skills each year to 2024

### For further information visit:

- National Careers Service
- [www.lmihumber.co.uk](http://www.lmihumber.co.uk)
- [www.careersyandh.co.uk](http://www.careersyandh.co.uk)
- [www.bridgingthegaphumber.co.uk](http://www.bridgingthegaphumber.co.uk)
- [www.gov.uk/apply-apprenticeship](http://www.gov.uk/apply-apprenticeship)
- [www.allaboutcareers.com](http://www.allaboutcareers.com)
- [www.semta.org.uk](http://www.semta.org.uk)
- [www.deliveringyourfuture.co.uk](http://www.deliveringyourfuture.co.uk)
- Look in your local newspapers
- Pop in to you local Job Centre
- Check out Social Media
- And talk to family and friends



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# Planning ahead...

## Entry Level

Involves building basic knowledge and skills and is not geared towards specific occupations

Traineeship  
Study Programme  
Entry level certificate  
Entry level Skills for Life  
Entry level Award, Certificate and Diploma  
Entry level Functional Skills  
Entry level Foundation Learning  
English for speakers of other languages (ESOL)

## Level 1

Involves activities which mostly relate to everyday situations and may be linked to job competence

GCSE (grades D-G or 1-3)  
Traineeship  
Study Programme  
Key Skills  
NVQ  
Skills for Life  
Foundation Diploma  
BTEC Award, Certificate and Diploma  
Foundation Learning  
Functional Skills  
OCR National

## Level 2

Involves building knowledge and or skills in relation to an area of work or subject area appropriate for many job roles

GCSE (grades A\*-C or 4-9)  
Intermediate Apprenticeship  
Key Skills  
NVQ  
Skills for Life  
Higher Diploma  
BTEC award, Certificate and Diploma  
Functional Skills

## Level 3

Involves obtaining detailed knowledge and skills. It is appropriate for people wishing to go to university, working on their own or in some areas, supervising others in their field of work

AS and A level  
Advanced Apprenticeship  
Advanced Extension Award  
Cambridge International Award  
International Baccalaureate  
Key Skills  
NVQ  
Advanced Diploma  
Progression Diploma  
BTEC award, Certificate and Diploma  
BTEC National  
OCR National  
Cambridge National

## Level 4

Appropriate for people working in technical and professional jobs, and/or managing and developing others

HNC  
Higher Level Apprenticeship  
Key Skills  
NVQ  
BTEC Professional Award, Certificate and Diploma  
Certificate of higher Education

## Level 5

Appropriate for people working as higher grade technicians, professionals or managers

HND  
NVQ  
Higher Level Apprenticeship  
Higher Diploma  
BTEC Professional Award, Certificate and Diploma  
HNC  
Diploma of Higher Education (DipHE)  
Diploma of Further Education  
Foundation Degree

## Level 6

Involves the achievement of high level professional knowledge and is appropriate for people working as knowledge based professionals or in professional management positions

NVQ  
Higher Level Apprenticeship  
BTEC Advanced Professional Award, Certificate and Diploma  
Degree with Honours (BA Hons, BSc Hons)  
Graduate Certificate  
Graduate Diploma

## Level 7

Involves the achievement of high level of professional knowledge and is appropriate for people working as knowledge based professionals or in professional management positions

BTEC Advanced Professional Award, Certificate and Diploma  
Fellowship and Fellowship Diploma  
Postgraduate Certificate  
Postgraduate Diploma  
NVQ  
Degree Level Apprenticeship  
BTEC Advanced Professional Award, Certificate and Diploma  
Master's degree

## Level 8

Involves the achievement of high level professional knowledge and is appropriate for people working as knowledge based professional management positions

NVQs  
Vocational qualifications  
Doctorate  
Degree Level Apprenticeship  
Postgraduate Certificate

CAD Technician

Auto Electrician

Electrician

Engineering  
Operative

Gas Service  
Technician

Vehicle  
Breakdown  
Engineer

Windscreen  
Technician

Civil Engineering  
Technician

Chemical  
Engineering  
Technician

Engineering  
Maintenance  
Technician

Welder

Electrical  
Engineer

Quality Control  
Technician

Engineering  
Operative

Engineer

Aerospace  
Engineer

Design Engineer

Civil Project  
Engineer

Energy Engineer

Marine Engineer

Civil Engineer

Project Engineer

### Good to know:

A lot of newer and really exciting engineering jobs that offer a good salary package need a science, technology, engineering and maths base.

Salaries starting from

£14,000+

£17,000+

£19,000+

£25,000+

£30,000+

