

ENGINEERING AND DIGITAL

programmes



School of Computing, Engineering
& Digital Technologies

Engineering and digital programmes

Teesside University offers employers the opportunity to develop and update skills through a wide range of courses with flexible delivery options.

We are constantly developing our training programmes to suit the needs of the sector and ensure that you stay up to date with latest technology and research to enable you to stay innovative and competitive.

Our training programmes include short professional development courses, HNCs, HNDs, degrees, Masters and apprenticeships. We can also design bespoke training programmes to meet specific requirements.

Online Study Environment

Our programmes have been purposefully designed to cater for learners who are work-based.

Learners can access all the module materials through our online platform, Blackboard Ultra. Assignments are submitted electronically, so there is no need to be on campus on assessment deadline days.

Learners are supported in a variety of ways to ensure they get the best experience from their time with us. Support is available whether on campus or studying remotely.



COURSES AND ROUTES OF STUDY

DEGREE APPRENTICESHIPS

WHY CHOOSE A DEGREE APPRENTICESHIP?

Benefits for employers

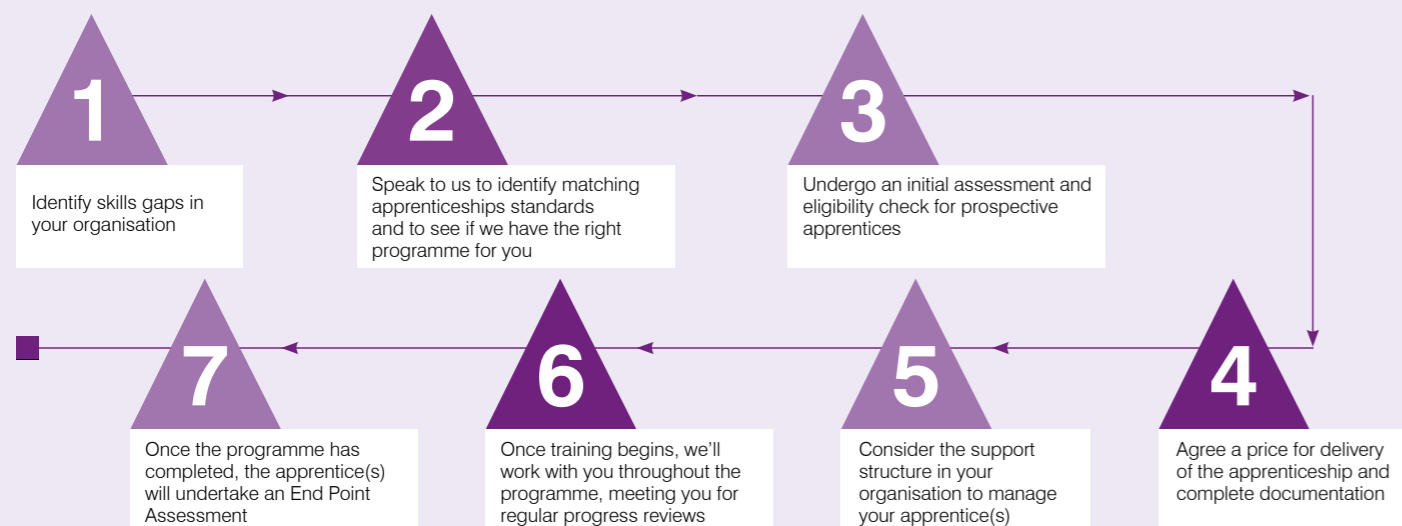
Develop your employees' specialist expertise and high-level skills while keeping your business up-to-date with industry knowledge.

As one of the UK's leading providers of degree apprenticeships, approved by the Education and Skills Funding Agency, we have a proven track record in working with organisations across all sectors, giving you real input into your sector's skills provision.

We also have a proven track record of delivering work-related education, industry and business partnerships and learn-while-you-earn programmes.

- > Develop the expertise you need with direct input into the skills provision for your sector
- > Upskill, motivate and retain your existing employees – with no age limit
- > Apprentices can fill higher-level skill gaps

EMPLOYERS THE KEY STEPS



Apprenticeship funding

Degree apprenticeships and master's level degree apprenticeships are the fastest-growing route to attracting top talent into industry.

These innovative programmes of study are also an ideal way to develop your existing workforce and can be an integral part of any organisation's talent management and staff development activity. They are co-designed by employers and bring together the best of higher education and vocational on-the-job training. They deliver high level, sought-after skills while offering employees an alternative to a traditional degree course.

Apprenticeship levy-paying employers (those with pay bills over £3m) pay for apprenticeship training from their online levy accounts through the government's apprenticeship service. They also receive a 10% government top-up to their online accounts. Non-levy payers pay only 5% of the cost of apprenticeship training, with the remaining 95% being paid by the government.

COURSE FEE INCLUDES:

- > dedicated support of the programme leaders and team
- > invitations to a range of University events hosted on and off campus as an apprentice and as a graduate
- > support for the in-company mentors
- > all University tuition fees
- > End Point Assessment fee.

IS YOUR ORGANISATION'S PAYROLL IN EXCESS OF £3M?

YES

Levy payer

100% from employer levy funds, or 5% from employer and 95% from government if insufficient levy funds available

NO

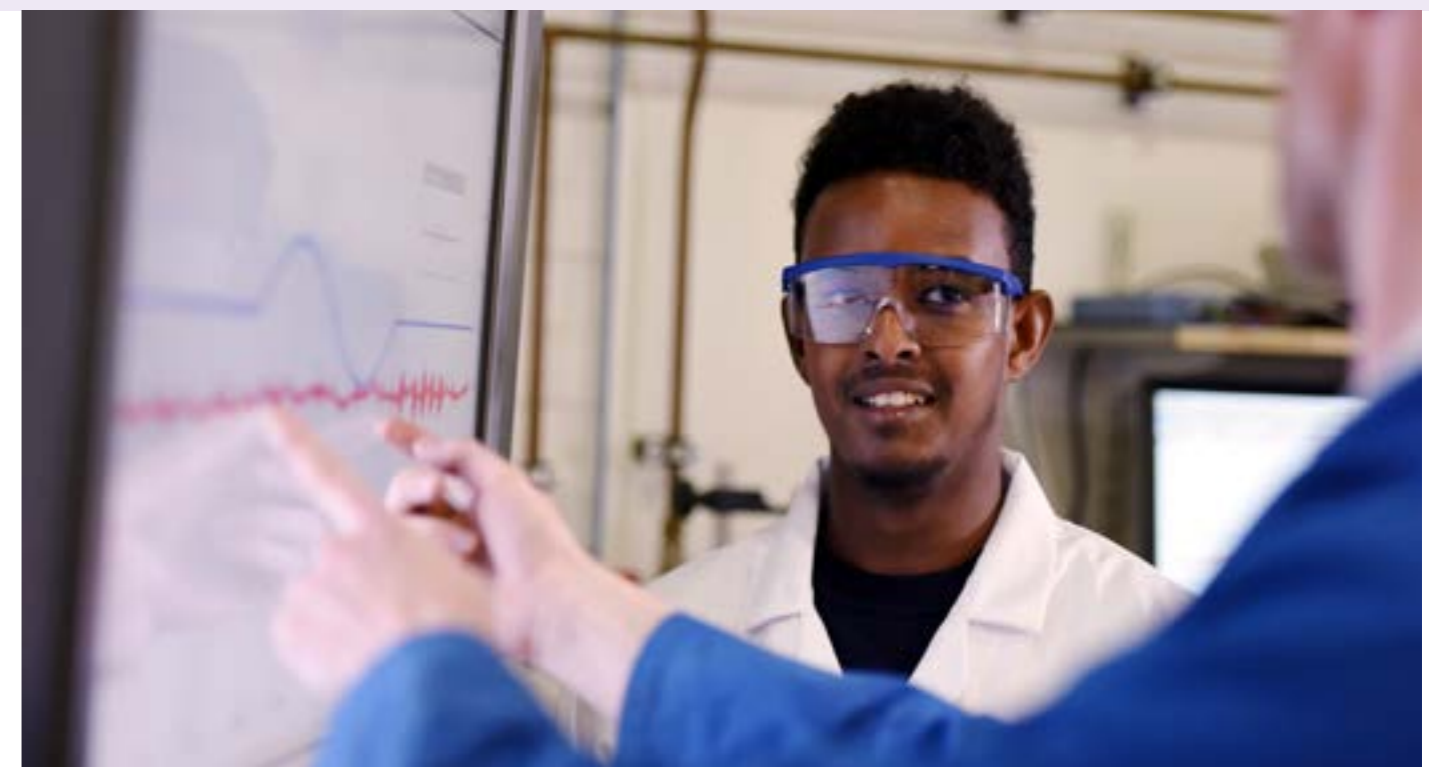
Non-levy payer

5% from employer and 95% from government

Benefits for employees

Combine work with study for a higher education qualification, developing the apprentice's career and earning potential, with no loans, no debts and no age limit.

- > The apprentice earns while they learn with no need for a student loan – the apprentice's fees are paid by the government and employer
- > They achieve a nationally recognised qualification and gain professional accreditation and membership
- > They develop their career and increase their earning potential
- > They make connections with people from a wide range of industries and backgrounds to help achieve their future career goals and grow their professional network



Connor Noble

Trainee Account Manager, Husqvarna

Husqvarna has treated me so well right from the moment I started as a multi-skilled maintenance technician. I made a request to switch to software and they put me on secondment, which worked out really well. In effect they have allowed me to pick my own career.

I just love turning up at work and love the education side, which is mainly directly relevant to the job I do. The dream is to continue to develop as an engineer at Husqvarna, a company that is always pushing the limits to remain at the forefront of technology.



How to apply

We work with employers and individual employees to check requirements and employee eligibility before the application stage.

Once individual apprentices are ready to formally apply, we work with the apprentice and employer to discuss how we can progress the application and support the organisation in drawing down the relevant funding.

Please note, a number of entry requirements are aligned to each programme.



How they learn

Depending on the programme, apprentices are exposed to a variety of learning methods to develop their knowledge and understanding. The learning takes place on and off campus.

A prerequisite of any degree apprenticeship is that apprentices are released from their usual work for an average of six hours per week, over the entire duration of the training period. This applies to all apprentices who work 30+ hours per week. In some instances, the apprentice may require more than the minimum off the job training calculation. This may include attending University, practical training at work, learning and support time to write assignments and any training delivered that is not part of the apprentice's normal role.

A range of assessment methods appropriate to professional and academic development are used, including coursework, assignments, project work and examinations to test subject knowledge. There is also an end point assessment (EPA) to evaluate the knowledge, skills and behaviours developed over the duration of the apprenticeship.



Will King

HR Business Partner, Arlington Automotive

The world of engineering moves so quickly and we are aware that if organisations become complacent then they can find themselves falling behind competitors. Our hope for our apprentices will be that they learn new tools and techniques that will help Arlington continue to progress and make us more efficient and competitive in the future.

Our apprentices are excited about learning and come in to work well motivated, confident and bring a lot of new ideas about how to get things done.



Apprentice selection and funding options

The following examples illustrate some of the options available to employers and the cost-benefits of each option.

For the purpose of this illustration we have used, as an example, a degree apprenticeship programme that leads to a single level 6 undergraduate university qualification of a BEng (Hons) or BSc (Hons) degree.

EXAMPLE

1

Recruiting an apprentice qualified to level 3, you fund the full degree apprenticeship programme

1. You recruit a school or college leaver as a new apprentice, or support an existing employee on the degree apprenticeship. The apprentice should have the appropriate academic profile that meets the entry requirements for the BSc (Hons) or BEng (Hons) degree programme.
2. The full cost of the degree apprenticeship applies. This is funded by levy fund or through the 95% government contribution and 5% employer funded scheme. Payment is spread over the duration of the degree apprenticeship.

EXAMPLE

2

Recruiting an apprentice who has completed the first year of a degree, you fund part of the degree apprenticeship

This scheme reduces the overall degree apprenticeship cost to you and provides you with an apprentice who has already demonstrated their capabilities by completing the first year of a university degree.

1. We advertise your apprenticeship position to our full and part-time students who are completing Year 1 of their BSc (Hons) or BEng (Hons) degree, and you select an appropriate candidate.
2. The first year degree fees of the apprentice's studies have been funded by alternative means (Student Loans Company or student self-finance).
3. From the second year of their studies, the apprentice converts from full-time to part-time study, and is funded through the funding schemes for degree apprenticeships.
4. In this example, the full degree apprenticeship cost is reduced by almost a third* and is funded in full by the levy fund or through the 95% government contribution and 5% employer funded scheme. The apprentice requires less time to complete the degree apprenticeship.

EXAMPLE

3

Recruiting an apprentice who has completed a HNC or HND, you fund part of the degree apprenticeship

It is not uncommon for an apprentice to be qualified to at least HNC level before commencing on a degree apprenticeship.

1. We advertise your apprenticeship position to our full and part-time students nearing completion of their HNC (or HND) and you select an appropriate candidate.
2. The apprentice is admitted with advanced standing to Year 2 of a degree apprenticeship and funded through the funding schemes for degree apprenticeships.
3. In this example, the full degree apprenticeship cost is reduced by almost a third* and is funded in full by the levy fund or through the 95% government contribution and 5% employer funded scheme. The apprentice requires less time to complete the degree apprenticeship.

*the exact amount depends on fixed costs such as the cost of the end point assessment.

ADVANCED ENTRY

Our Advanced Entry Degree Apprenticeship (AdEDA) scheme can help you recruit qualified new degree apprentices with proven university-level academic ability.

Many employers are finding it increasingly difficult to find and recruit capable and committed apprentices to fill a new job role. Our AdEDA scheme can help you.

Benefits include support in advertising your degree apprenticeship vacancies to current students with eligible qualifications and who are already studying on a relevant degree, Higher National Certificate (HNC) or Higher National Diploma (HND) programme. We also reach out to recent graduates qualified to HNC or HND level, and students at schools and colleges to help you find the right candidate.

Advanced Entry Degree Apprenticeship (AdEDA) scheme members' benefits

- > Your organisation's logo is featured on the University web pages related to degree apprenticeships, and included in relevant marketing materials providing wide exposure to your company.
- > We can assist you with advertising your Higher and Degree Apprenticeship vacancies on the government's 'Recruit an apprentice' site, www.gov.uk/recruit-apprentice
- > We actively promote your apprenticeship vacancies to University students, to students at our partner sixth-form schools and colleges, and colleges of further education.
- > We can support with advertising your apprenticeship vacancies to prospective UCAS applicants, potentially reaching thousands of prospective applicants.
- > We can support you with shortlisting and selection of new apprentices.
- > We invite you to events organised by the University designed to help employers keep abreast of developments impacting on degree apprenticeships and new funding opportunities.
- > We help you identify high-calibre students for short or long work placements.
- > We help you promote your graduate job opportunities.



To join our no obligation and free Advanced Entry Degree Apprenticeship (AdEDA) scheme, scan the QR code:



Degree apprenticeships

Undergraduate programmes credit transfers

Fees are lower if previously awarded credits are transferred into the degree apprenticeship.

Study modes

Typically, apprentices study part-time on a day release basis. Some programmes may include elements delivered using distance learning, blended learning and block-mode teaching methodologies. All programmes include work-based elements.

| Degree Apprenticeship | Level | Associated Teesside University qualification(s) | Duration (Years) | Start Date | Full Programme Fee |
|--|-------|---|------------------|------------------------|--------------------|
| Civil Engineer (Degree Apprenticeship) ST0417 | 6 | HNC Civil Engineering Studies + BEng (Hons) Civil Engineering | 1* or 2 + 4** | September September | £27,000 |
| Control/Technical Support Engineer (Degree Apprenticeship) ST0023 | 6 | BEng (Hons) Instrumentation and Control Engineering | 4-6** | September | £27,000 |
| Electrical/Electronic Support Engineer (Degree Apprenticeship) ST0024 | 6 | BEng (Hons) Electrical and Electronic Engineering | 4-6** | September | £27,000 |
| Embedded Electronic Systems Design and Development Engineer (Degree Apprenticeship) ST0151 | 6 | BEng (Hons) Electrical and Electronic Engineering | 4-6** | September | £27,000 |
| Manufacturing Engineer (Degree Apprenticeship) ST0025 | 6 | BEng (Hons) Mechanical Engineering | 4-6** | September | £27,000 |
| Product Design and Development Engineer (Degree Apprenticeship) ST0027 | 6 | BEng (Hons) Mechanical Engineering | 4-6** | September | £27,000 |
| Digital and Technology Solutions Professional (Integrated Degree Apprenticeship) ST0119 | 6 | BSc (Hons) Digital and Technology Solutions (Cyber Security Analyst) Or BSc (Hons) Digital Technology Solutions (Software Engineer) | 2-3** | September | £25,000 |
| Digital and Technology Solutions Specialist (Integrated Degree Apprenticeship) ST0482 | 7 | MSc Digital and Technology Solutions Specialisms: IT Project Management or Data Analytics | 2-3** | September or January | £21,000 |

*The Level 4 HNC element can be completed in one year but would require a minimum of 40% off-the-job training allocation.

**Duration may be reduced if an apprentice has existing relevant qualifications.

Engineering degree apprenticeships

Civil Engineer

| | | |
|---------------|---|---|
| Length | 4-6 years (4 years by direct entry for candidates qualified to HNC level) | For apprentices studying the full programme, successful completion of this degree apprenticeship programme leads to a Higher National Certificate (HNC) in Civil Engineering and BEng (Hons) Civil Engineering in addition to professional accreditation as an Incorporated Engineer (IEng). The BEng (Hons) degree is professionally accredited by the Joint Board of Moderators which includes the Institution of Civil Engineers (ICE), the Institution of Structural Engineers (IStructE), the Institute of Highway Engineers (IHE), and the Chartered Institution of Highways & Transportation (CIHT). |
| Cost | £27,000 (see funding information page 8) | |
| Start | September | |

Control/Technical Support Engineer

| | | |
|---------------|---|---|
| Length | 4-6 years (4 years by direct entry for candidates qualified to HNC level) | Successful completion of this programme includes the award of BEng (Hons) Instrumentation and Control Engineering which is professionally accredited by the IET. Further personal development can lead to professional registration by an appropriate professional body. |
| Cost | £27,000 (see funding information page 8) | |
| Start | September | |

Electrical/Electronic Technical Support Engineer

| | | |
|---------------|---|---|
| Length | 4-6 years (4 years by direct entry for candidates qualified to HNC level) | Successful completion of this programme includes the award of BEng (Hons) Electrical and Electronic Engineering which is professionally accredited by the IET. Further personal development can lead to professional registration by an appropriate professional body. |
| Cost | £27,000 (see funding information page 8) | |
| Start | September | |

Embedded Electronic Systems Design and Development Engineer

| | | |
|---------------|---|---|
| Length | 4-6 years (4 years by direct entry for candidates qualified to HNC level) | Successful completion of this programme includes the award of BEng (Hons) Embedded Electronic Systems Design and Development Engineer which is professionally accredited by the IET. Further personal development can lead to professional registration by an appropriate professional body. |
| Cost | £27,000 (see funding information page 8) | |
| Start | September | |

Manufacturing Engineer

| | | |
|---------------|---|--|
| Length | 4-6 years (4 years by direct entry for candidates qualified to HNC level) | Successful completion of this programme includes the award BEng (Hons) Mechanical Engineering and professional accreditation by the Institution of Mechanical Engineers (IMechE). Further professional development and registration with the relevant professional body is subject to apprentices successfully completing the appropriate learning, developing the appropriate competence and undergoing professional review. |
| Cost | £27,000 (see funding information page 8) | |
| Start | September | |

Product Design and Development Engineer

| | | |
|---------------|---|--|
| Length | 4-6 years (4 years by direct entry for candidates qualified to HNC level) | Successful completion of this programme includes the award BEng (Hons) Mechanical Engineering and professional accreditation by the Institution of Mechanical Engineers (IMechE). Further professional development and registration with the relevant professional body is subject to apprentices successfully completing the appropriate learning, developing the appropriate competence and undergoing professional review. |
| Cost | £27,000 (see funding information page 8) | |
| Start | September | |

Rufus Ayre

UK Learning & Development Officer, Husqvarna

In the current climate many businesses are struggling to recruit technical positions which is why our relationship with Teesside University works so well. We take people from apprentice to technician to competent engineer offering the chance for them to study a degree.

We realise that the way we work is changing and that we will need more engineers in the future. Offering staff a self-empowered learning journey gives employees the means to continue their learning. It makes them feel valued and creates a positive culture across the whole organisation.

Teesside University is fantastic to work with because they are flexible and understand us as a business and our needs which they build into the course making their studies relevant to when they are on site.

It is so great having the University on our doorstep, a truly local partnership, the support they offer to us as a business



through the entire process is second to none. It's not just us sending people to the University but also students seeing us as somewhere to have a great career once they have graduated. Attracting talent into our business and nurturing that talent is an integral element of our growth plans and apprentices are so important to our long-term success – we're investing in them.



Computing & Cyber Security degree apprenticeships

Digital and Technology Solutions Professional (Cyber Security Analyst)

| | | |
|--------|--|--|
| Length | 3 years | The apprentice learns how to use security technologies and practices in accordance with an organisation's standards to provide continued protection. They develop an understanding of network infrastructures, threat identification and how to perform vulnerability assessments. This apprenticeship is based on standards defined by employers including Accenture, BT, Ford, HMRC, Hewlett Packard and IBM. Successful completion of this programme includes the award BSc (Hons) Digital and Technology Solutions (Cyber Security Analyst). |
| Cost | £25,000 (see funding information page 8) | |
| Start | September | |

Digital and Technology Solutions Professional (Software Engineer)

| | | |
|--------|--|---|
| Length | 3 years | The apprentice learns how to utilise engineering principles in all stages of the software development process, from initial requirements, analysis and design and development and data requirements. The apprentice also studies requirement analysis, software development techniques, code testing, debugging and refactoring. This apprenticeship is based on standards defined by employers including Accenture, BT, Ford, HMRC, Hewlett Packard and IBM. Successful completion of this programme includes the award BSc (Hons) Digital and Technology Solutions (Software Engineer). |
| Cost | £25,000 (see funding information page 8) | |
| Start | September | |

MSc Digital and Technology Solutions (Degree Apprenticeship)

| | | |
|--------|--|---|
| Length | 2 – 3 years | This degree apprenticeship has two specialisms to choose from – IT project management and data analytics. With the IT project management route, the apprentice takes responsibility for the evolution and development of technology-based solutions and digital transformation projects. The data analytics route explores business data requirements, applied data selection, data curation, data quality assurance and data investigation and engineering techniques. On successful completion, the apprentice is awarded an MSc in Digital and Technology Solutions. |
| Cost | £21,000 (see funding information page 8) | |
| Start | September or January | |



COURSES AND ROUTES OF STUDY

FLEXIBLE OPEN LEARNING

Teesside University Open Learning in Engineering (TUOLE) is one of the leading providers of high-quality flexible education to the engineering industry.

For over 30 years we have been creating high-quality, stand-alone, open learning materials. It is a realistic way to deliver necessary training and education to staff who are unable to attend conventional classroom-based courses. So, if your employees work on an oil rig in the Caribbean or in pipeline construction in a desert, their professional development need not be interrupted. They can study at their own pace, effectively anywhere.

How they learn

All learning is online. Learners are given access to the learning and assessment material for that module through our e-learning site.

For a HNC or HND, learners can work at their own pace as long as they complete at least two 15-credit modules a year.

Each 15-credit module requires 150 hours of study, but this can vary from learner to learner depending on their abilities. A HNC typically takes 2-4 years to complete.

For a BEng Tech (Hons), learners complete all their modules within two years from the start date.

TUOLE entry requirements

The basic entry requirement for the HNC courses is a Level 3 qualification in maths. If the applicant doesn't hold a qualification at this level, we have a bridging module available – Foundation Mathematics for Engineers. If they wish to start with the Foundation Mathematics for Engineers module, this must be stated on the application form.

For entry onto HNC Chemical Engineering they may be required to complete a bridging module in Process Chemistry.

For entry to a BEng Tech (Hons) degree applicants require a HND in a related subject.

We make every effort to take relevant previous experience and appropriate alternative qualifications into account.

In addition to HNC courses, HND courses and BEng Tech (Hons) degrees, Teesside University also offers online postgraduate courses related to project management and cyber security. Find out more at tees.ac.uk

TUOLE Costs*

For a HNC eight modules are studied at £495 for each module. HND learners study a maximum of 16 modules, at £495 each.

If the learner hasn't completed any appropriate HNC modules previously, the total cost of an HNC is currently £3,960 for the eight modules required and an HND is an additional £3,960 for the additional eight modules.

For a BEng Tech (Hons) the total cost is £4,500 or £750 per 20 credit module.

TUOLE Courses

All our TUOLE programmes offer flexible start dates, running continuously throughout the year.

HNC Chemical Engineering by Flexible Open Learning

Length 2-4 years Learners develop key knowledge and competencies required in the chemical engineering sector to pursue new opportunities for career progression and personal development.

HNC Electrical and Electronic Engineering by Flexible Open Learning

Length 2-4 years Learners develop key knowledge and competencies required in the electrical and electronic engineering sector to pursue new opportunities for career progression and personal development.

HNC Instrumentation and Control Engineering by Flexible Open Learning

Length 2-4 years Learners develop key knowledge and competencies required in the instrumentation and control engineering sector to pursue new opportunities for career progression and personal development.

HNC Mechanical Engineering by Flexible Open Learning

Length 2-4 years Learners develop key knowledge and competencies required in the mechanical engineering sector to pursue new opportunities for career progression and personal development.

HNC Petroleum Engineering by Flexible Open Learning

Length 2-4 years Learners develop key knowledge and competencies required in the petroleum engineering sector to pursue new opportunities for career progression and personal development.

HNC Process Engineering by Flexible Open Learning

Length 2-4 years Learners develop key knowledge and competencies required in the process engineering sector to pursue new opportunities for career progression and personal development.

HND Chemical Engineering by Flexible Open Learning

Length 2-5 years Learners develop key knowledge and competencies required in the chemical engineering sector to pursue new opportunities for career progression and personal development.

HND Electrical and Electronic Engineering by Flexible Open Learning

Length 2-5 years Learners develop key knowledge and competencies required in the electrical and electronic engineering sector to pursue new opportunities for career progression and personal development.

HND Instrumentation and Control Engineering by Flexible Open Learning

Length 2-5 years Learners develop key knowledge and competencies required in the instrumentation and control engineering sector to pursue new opportunities for career progression and personal development.

HND Mechanical Engineering by Flexible Open Learning

Length 2-5 years Learners develop key knowledge and competencies required in the mechanical engineering sector to pursue new opportunities for career progression and personal development.

HND Petroleum Engineering by Flexible Open Learning

Length 2-5 years Learners develop key knowledge and competencies required in the petroleum engineering sector to pursue new opportunities for career progression and personal development.

HND Process Engineering by Flexible Open Learning

Length 2-5 years Learners develop key knowledge and competencies required in the process engineering sector to pursue new opportunities for career progression and personal development.

BEng Tech (Hons) Mechanical Engineering (Online)

Length 2 years This is a natural progression route for holders of a QCF Level 5 HND or equivalent qualification in a related discipline. Learners study by distance learning, using the University's online learning platform so they can fit their studies around work and other personal commitments.

BEng Tech (Hons) Electrical and Electronic Engineering (Online)

Length 2 years This is a natural progression route for holders of a QCF Level 5 HND or equivalent qualification in a related discipline. Learners study by distance learning, using the University's online learning platform so they can fit their studies around work and other personal commitments.

*Fees are correct for the academic year 2022-2023.

TUOLE Foundation Courses

Foundation Process Chemistry by Flexible Open Learning

| | | |
|---------------|---|--|
| Length | 100 hours over six months | Learners develop chemistry skills and techniques that are necessary to embark on the first year of a chemical engineering programme in higher education. |
| Cost | £495 | Successful completion of this programme bridges to the first year of either an undergraduate degree or HNC/HND course in chemical engineering. Learners can study this if their background in chemistry does not extend beyond GCSE level. |
| Start | Flexible start dates – module must be completed within 6 months from start date | |

Foundation Mathematics for Engineering (by Flexible Open Learning)

| | | |
|---------------|---|---|
| Length | 100 hours over six months | The learner consolidates and reinforces their basic skills and gains a grounding in the core areas of maths needed to successfully study engineering to undergraduate or HNC/HND level. Topics include algebraic manipulation, functions, trigonometry, and elementary calculus. |
| Cost | £495 | |
| Start | Flexible start dates – module must be completed within 6 months from start date | They are provided with a learning pack where core subjects are presented in sequenced lessons that include self-assessment questions with solutions to aid developmental learning. Tutoring is provided by telephone, email, MS Teams, and where required, by campus visits for additional individual support. |



Short courses

Our 12-week short courses in computing and engineering, develop your employees' sector-specific skills ensuring their performance is enhanced by learning new knowledge and skills.

Delivery is through a blended approach of online and face-to-face tuition each week. Funding is available through a student loans scheme.

University Certificate in Professional Development AI and Machine Learning for Transforming Businesses

| | | |
|---------------|----------|--|
| Length | 12 weeks | Learners explore how artificial intelligence (AI) and machine learning can be utilised in business forecasting, understanding data and transforming decision-making. |
| Cost | £1,500 | |

University Certificate in Professional Development Databases and Business Intelligence Solutions

| | | |
|---------------|----------|---|
| Length | 12 weeks | Learners develop the ability to build and maintain server databases and Business Intelligence (BI) solutions to support the industry including server database design and the querying of data using Transactional Structured Query Language (TSQL). They also investigate data analytics and key performance indicators to develop a BI dashboard. |
| Cost | £1,500 | |

University Certificate in Professional Development Digital Engineering

| | | |
|---------------|----------|---|
| Length | 12 weeks | Learners gain hands-on experience of 3D computer modelling, and engineering product and process design as they explore static and dynamic hierarchical assemblies and their value to industry. |
| Cost | £1,500 | They discover how to animate dynamic assemblies, create joints and mechanisms, and determine kinematic motions, and explore industry-standard engineering design and simulation software to create digital models of products and processes in our IT Labs. |

University Certificate in Professional Development Engineering Mathematics Applications

| | | |
|---------------|----------|--|
| Length | 12 weeks | Learners explore the fundamental mathematics skills needed to solve engineering problems, including using different numerical methods and differential calculus. |
| Cost | £1,500 | |

University Certificate in Professional Development Ethical Hacking and Cyber Security

| | | |
|---------------|----------|---|
| Length | 12 weeks | Learners develop a detailed understanding of information and network security concepts and principles, as well as the tools and configurations used to defend network technologies. |
| Cost | £1,500 | |

University Certificate in Professional Development Immersive Technologies and AR

| | | |
|---------------|----------|--|
| Length | 12 weeks | Learners explore the fundamental concepts and approaches in developing immersive technology and augmented reality (AR) solutions, from exploring existing development tools and environments to designing considerations and deployment platforms. |
| Cost | £1,500 | |

University Certificate in Professional Development Industry 4.0 and Process Automation

| | | |
|---------------|----------|--|
| Length | 12 weeks | Learners explore Industry 4.0 together with advancing automation, decentralisation, system integration and cloud computing, which are revolutionising engineering and manufacturing sectors. |
| Cost | £1,500 | They study how machines can communicate, collect information and make informed decisions through artificial intelligence, big data and industrial internet of things. |

University Certificate in Professional Development IoT and Cloud Systems

| | | |
|---------------|----------|---|
| Length | 12 weeks | The Internet of Things (IoT) is a network of objects and people that connect and exchange data. Learners explore how IoT devices are growing at a rapid rate and almost everything is connected to a cloud. |
| Cost | £1,500 | |

Short courses continued

University Certificate in Professional Development Innovation to Net Zero

| | | |
|---------------|----------|--|
| Length | 12 weeks | Learners explore innovation in sustainability, the environmental impacts from industrial and human activities, and the need of a sustainable approach for environmental engineering solutions. |
| Cost | £1,500 | They focus on sustainable remediation strategies for air, water and land pollution in terms of environmental management and sustainable engineering. |

University Certificate in Professional Development Let's Get Coding with Python

| | | |
|---------------|----------|--|
| Length | 12 weeks | Learners explore the fundamental concepts of software development, from basic programming to object-oriented techniques. |
| Cost | £1,500 | |

University Certificate in Professional Development Sustainable Engineering Principles

| | | |
|---------------|----------|---|
| Length | 12 weeks | Learners explore the fundamentals and importance of sustainability and its engineering applications. They explore the properties of engineering materials, including the relationships between processing, structure, properties and performance, giving them an understanding of the factors, which influence the suitability of materials for various engineering applications. |
| Cost | £1,500 | |

University Certificate in Professional Development Sustainable Manufacturing

| | | |
|---------------|----------|--|
| Length | 12 weeks | Learners gain an insight into current manufacturing processes and develop an understanding of relevant technological factors as well as an awareness of working principles and capabilities. |
| Cost | £1,500 | Detailed study of selected manufacturing processes is combined with experience in lab-based practical sessions. Important aspects of engineering manufacture such as quality, reliability, sustainability, lean manufacturing and the extensive use of computers in many areas, is explored. The suitability of manufacturing processes for applications is studied using a framework which recognises the interrelationships of (manufacturing) process, (artefact) function, shape, and materials. |

Online courses

Energy Efficiency (Energy Efficiency and Sustainability for Energy Managers and Energy Professionals in SMEs)

| | | |
|---------------|---|---|
| Length | 8 weeks | Learners focus on increasing energy efficiency and reducing bills by developing the necessary skills to implement energy efficiency action plans. |
| Cost | Fully funded support (subject to University approval) | The course goes beyond energy consumption surveys and basic energy audits, and explores energy management techniques, instruments, and solutions, to achieve energy savings, emissions reduction and welfare within this large and varied sector. |
| Start | 24 March | The course is only open to current SME employees, students (advanced practice and postgraduate) and recent graduates in energy efficiency and related subjects. Get in touch for more information on eligibility criteria, before you apply. |





Contact us to find out more about a course, funding or the application process

Apprenticeships

E: apprenticeships@tees.ac.uk

T: 01642 738888

W: tees.ac.uk/apprenticeships

Short courses and Continuous Professional Development (CPD)

E: SCEDAdmissions@tees.ac.uk

W: tees.ac.uk/shortcourses

Online courses

E: onlinelearning@tees.ac.uk

W: tees.ac.uk/onlinelearning

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