University of Staffordshire

ENGINEERING

Your place
of possibility

We are delighted to announce that Staffordshire University has rebranded to become University of Staffordshire. It reinforces our commitment to Staffordshire and beyond. Our brand evolution also heralds an exciting new future, with lots of new opportunities for our students.

WELCOME TO ENGINEERING

We're your gateway to industry. Gain the real-world skills and experience for success on our exciting career-focused engineering courses.

Use our flight simulators to test aircraft control effects. Explore advanced manufacturing and other emerging technologies. Or join our ImechE Formula Student team and race your own vehicle at Silverstone.

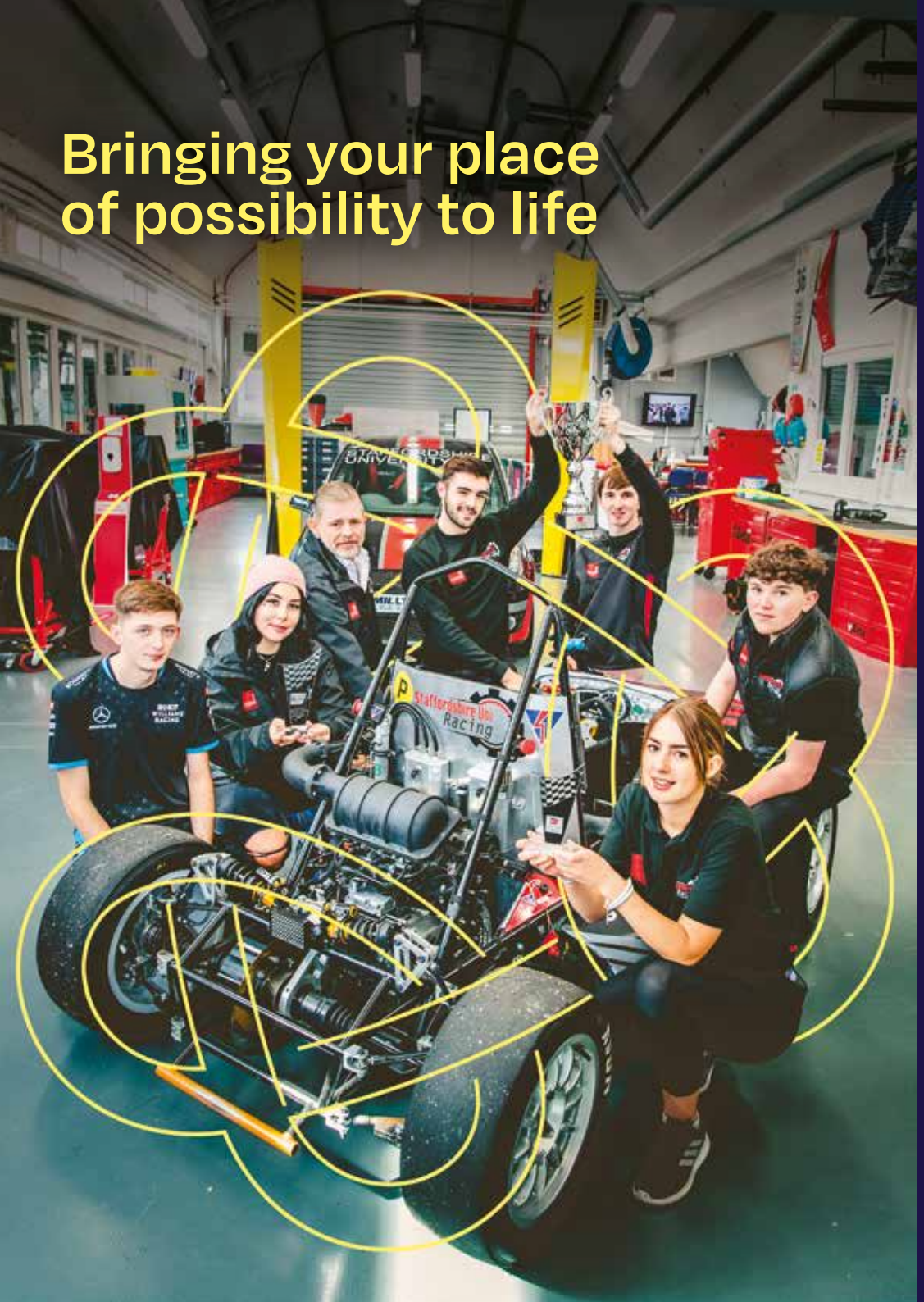
Whichever area interests you, we'll encourage you to become an innovator who solves problems and creates the products and services of tomorrow. We offer next-level teaching, hands-on and personalised learning, and all the support you need to succeed.

Choose from specialisms in:
- Aeronautics
- Electrical and Electronic
- Automotive and Motorsport
- Mechanical

There are also flexible pathways, including part-time study, foundation and placement years. Students spending a year in industry have worked with big names like Boeing, Bentley and the National Grid. It's one of the reasons why our graduates are highly employable.

What's more, our engineering degrees are mapped to the standards set by the Engineering Council. They will put you on the right path towards chartered engineer status.

TAKE A TOUR OF OUR ELECTRICAL ENGINEERING AND TELECOMS LAB



Bringing your place of possibility to life

THIS IS YOUR PLACE

2ND IN THE UK FOR QUALITY EDUCATION
Sustainable Development Goal 4 THE Impact Rankings 2023

TOP 10 FOR CAREER PROSPECTS
Whatuni Student Choice Awards 2023

TAUGHT BY EXPERTS WITH INDUSTRY EXPERIENCE

GRADEX: SHOWCASE YOUR WORK TO INDUSTRY AND VIPS

STATE-OF-THE-ART, DEDICATED LABORATORIES AND WORKSHOPS

PLACEMENTS: SPEND A YEAR IN INDUSTRY TO BOOST EXPERIENCE

WHY CHOOSE UNIVERSITY OF STAFFORDSHIRE

Find your gateway to industry and a future full of possibilities. An amazing community, where amazing things happen. **All built around you.**

Leading modern courses

Right from the beginning, we've been at the cutting edge of industries and driving change. Building a bridge between the classroom and real-world practice. Learn the skills for the future on our career-focused courses.

Next-level teaching

We teach in the best way, not the old way. Pushing boundaries and using hands-on, personalised learning. Championing digital innovation, from CGI to games technologies. Immerse yourself in our simulation spaces, taking you from crime scene to courtroom or ambulance to operating theatre.

Personalised support

Get all the support you need to achieve real success. Whether you have a worry about money, your studies, your mental health or a personal issue, we're here for you every step of the way.

Gateway to careers

With our unique industry connections, you'll unlock your potential. Unleash your entrepreneurial skills as you take on projects, explore placements or exhibit your work at shows, and gain the skills for whatever comes next. You can even become a student consultant, marketing your expertise to employers.

Inclusive community

Become part of our open, inclusive and welcoming community. An environment that's big on personality and full of character. A place where you'll feel empowered and inspired. Where everyone is valued and you can be you.

FACILITIES

TAKE A TOUR OF OUR £1.3M SMART ZONE – THE GATEWAY TO THE NEXT GENERATION TECHNOLOGIES

Engineering labs

Work in our professional industry-standard labs, packed with state-of-the-art software and hardware resources that reflect current trends in the development of engineering and technology subjects.

Innovation Enterprise Zone

Our new £20m Innovation Enterprise Zone is a manufacturing and digital hub for the development of specialist advanced materials. Through this, students will be able to access strong industry links that will provide unique networking opportunities for the future. Our SAMPID / SAMIAC programmes aim to drive innovation, collaboration and growth across the region's advanced manufacturing sectors, with dedicated R&D facilities and specialist support. So, you'll never be far from the latest advancements in technology.

Thermofluids and Aeronautical Lab

Understanding the interaction between air and objects, particularly at their surfaces, is key to the design and operation of aircraft. Facilities in this laboratory allow practical measurement which is then augmented by computer-based flow simulation and modelling.

Reverse Engineering Lab

Our Reverse Engineering Laboratory contains 3D scanning capability, additive manufacturing machines featuring PolyJet, FDM, 3DP processes, as well as laser engraving ability.

Automotive Workshop

Our fully equipped Automotive Workshop is where you'll be able to get hands on experience using our industry-standard rolling road and Ricardo WAVE engine simulation, as well as our road, track and race vehicles.

Renewable Energy Lab

Use the latest equipment in our range of renewable energy focused laboratories, including a state-of-the-art Power Systems Lab, that provides real-time testing and development facilities for use in electrical engineering, and other areas such as the Thin Film Lab (work for plastic electronics), our wind tunnel, and our high voltage cage.

Flight simulator

Our flight simulator runs XPlane software and has a professional PFC flight console and radio stack system. It can be used for flying training and practicing advanced procedures, as well as learning aircraft systems and their operations.

OUR STUDENTS

“I’m super excited to see what next chapter brings and I’m grateful that Staffs has given me all these opportunities and has helped me in my path towards this career. I’m just so thankful for the opportunity and I honestly don’t think I could have done it without Staffs.”

Kaid Miller

Beng (Hons) Electrical And Electronic Engineering

“It’s a good time to be an engineer. There’s tons of stuff out there at the moment popping off. I think engineering is a great thing to get into. It allows you to go into hundreds of different types of sectors.”

Vinesh Chauhan

Final year Aeronautical Engineering Student

MEET THE EXPERTS

Our academics are not only active researchers within their specialist Engineering fields, but they are also experienced industry professionals who bring relevant and live real-world expertise to your learning to back your theoretical knowledge.

ANDY CASH

Course Leader (Automotive and Motorsport Engineering)

Andy has years of experience training automotive professionals. His interests include emerging automotive technologies, including Hybrid, BEV's and FCEV's, and the future of the motorsport industry. The changing landscape of the automotive industry means he's widened his interests to cover autonomous transport and personal mobility.

DR ANAS AMJAD

Course Director (Electrical and Electronic Engineering)

Anas has taught a wide range of modules in electronics, signal processing and telecommunications since joining us in 2012, and has integrated digital tools in his teaching to enhance the student learning experience. His expertise lies in the use of smart systems for a diverse range of applications, such as smart healthcare, smart cities and more.

DEBI ROBERTS

Course Director (Transport Engineering)

Debi has a keen interest in transport aerodynamics, engine design and transport engineering history, especially that of Boulton Paul Aircraft Ltd. The changing landscape of transport engineering means she's branched out to investigate areas of autonomous, connected and future automotive engineering.

TAMOOR SHAFIQUE

Course Leader (Electrical and Electronic Engineering)

Tamoor is an Electrical Engineer with over 12 years of experience in both engineering industry and academia. His field of teaching includes Robotics, Automation, PLCs, Mechatronics and more. Tamoor also brings a wealth of research knowledge with interests including Smart Cities, Internet of Things and Wireless Sensor Networks.

DR SIVA MARIMUTHU

Senior Lecturer (Aeronautical Engineering)

Siva obtained his aeronautical engineering related academic & research experiences from India, Malaysia & UAE. His main area of interest is the implementation of biomimetic surface patterns to solve problems in the fluid regime.

MARTIN FIDDLER

Course Leader (Aeronautical Engineering)

Martin's specialism is simulated flight and pilot studies. He has worked within the aeronautical industry as an aircraft designer and has taken an advanced type rating on the Boeing 737. He's also a qualified 737 simulator instructor.

CHRIS WAYMAN

Senior Lecturer (Engineering Design)

Chris has worked as an Automotive Design Engineer in the UK and abroad. He's been involved in a range of education roles, delivering innovative and challenging projects. His priority is to encourage creative engagement in the learning process and his specialism lies in Applied Design within engineering, utilising creativity to develop effective solutions.

OUR COURSES

Course title	Award	UCAS Code	UCAS Offer	Duration in years
Aeronautical Engineering	BEng (Hons)	H410	112–120	3
Aeronautical Engineering (with placement year)	BEng (Hons)	H411	112–120	4
Aeronautical Engineering (with a foundation year)	BEng (Hons)	H414	48	4
Automotive and Motorsport Engineering	BEng (Hons)	H110	112–120	3
Automotive and Motorsport Engineering (with placement year)	BEng (Hons)	H111	112–120	4
Automotive and Motorsport Engineering (with a foundation year)	BEng (Hons)	H114	48	4
Electrical and Electronic Engineering	BEng (Hons)	H629	112–120	3
Electrical and Electronic Engineering (with placement year)	BEng (Hons)	H630	112–120	4
Electrical and Electronic Engineering (with foundation year)	BEng (Hons)	H624	48	4
Mechanical Engineering	BEng (Hons)	H300	112–120	3
Mechanical Engineering (with placement year)	BEng (Hons)	H301	112–120	4
Mechanical Engineering (with foundation year)	BEng (Hons)	H304	48	4

You bring the creativity, we'll bring the industry

APPRENTICESHIPS
WITH UNIVERSITY OF STAFFORDSHIRE

If you're looking to study alongside work, the University of Staffordshire can support you in achieving a higher-level qualification by combining practical on and off-the-job training with studying for a university qualification through a higher or degree apprenticeship.

University of Staffordshire is a leading provider of apprenticeships, working with over 200 employers across various sectors. Apprenticeships provide many benefits such as earning while you learn and enhancing career prospects. They are suitable for anyone looking to start or progress within their chosen career.

The apprenticeship level will depend on the needs of your employer and the apprenticeship you are interested in, with entry requirements of Level 2 maths and English (GCSE, functional skills or equivalent) and for some programmes a level 3 or above qualification in a subject. You will also require a contract of employment for a minimum of 30 hours per week.

CURRENT ENGINEERING DEGREE APPRENTICESHIP OPPORTUNITIES

Embedded Electronic Systems Design Development Engineer
This is typically a three-year programme designed to provide the skills, knowledge, and behaviours needed to operate effectively in the Electronic Systems Engineering sector. The apprenticeship includes a BEng (Hons) Electrical and Electronic Engineering degree and is aligned with the Engineering Council's UK Standard for Professional Engineering Competence (UKSPEC), allowing apprentices to register as an Incorporated Engineer (IEng) upon graduation.

Manufacturing Engineer
This is an apprenticeship that enables learners to pursue professional careers in mechanical engineering. Apprentices will be prepared for careers in technical roles with an emphasis on developing, maintaining and managing current and developing technology. The apprenticeship includes a BEng (Hons) in Mechanical Engineering and with the industry experience gained during and after the apprenticeship, learners will be able to apply for registration as an Incorporated Engineer (IEng).

FIND OUT MORE

AERONAUTICAL ENGINEERING

Whether you aspire to a career as an airline pilot or as an aeronautical engineer working in the aeronautical industry, our course will give you the skills and techniques used by professional practitioners in the aviation sector. We place an emphasis on understanding flight deck design and the relationship between pilot and modern fly-by-wire interfaces as well as the aeronautical engineering fundamentals that aspiring engineers need.

ACCREDITED BY

IET Accredited Programme

Institution of MECHANICAL ENGINEERS

FIND OUT MORE ABOUT THE COURSE HERE

Why choose us…

- Gain hands-on experience in our state-of-the-art labs, which include a computerised wind tunnel and two advanced flight simulators that can simulate Boeing and Airbus systems.
- Learn from a hands-on, practical approach to aviation, applying your skills and knowledge to a real aircraft engineering design brief.
- Choose to apply for a paid placement in industry. Recent placements have been at Airbus, Boeing, Marshall Aerospace, Airbus and Swift Aviation.
- Take part in our annual GradEX graduate exhibition in your final year, showcasing your work to leading industry experts, VIPs and members of the public.
- Visit our local gliding club, access a commercial 737 simulator, and consider applying for the regional RAF University Air Squadron.

What you'll learn…

Understand the fundamentals of mechanical, thermodynamics, fluids, electronic as well as propulsion systems in gas turbine, rocket and internal combustion engines. Learn computer-aided design (CAD) techniques used by professionals, including finite element analysis and computational fluid dynamics, and understand aeronautical engineering principles such as aerodynamics and aircraft design.

Module examples:

- Mechanical Structures
- Aeronautical Principles
- Aircraft Propulsion
- Aerodynamics
- Flight Dynamics
- Aircraft Design Project
- Pilot Studies

What you could do next…

Many of our graduates have gone on to secure pilot roles. We have had graduates gain jobs with the RAF, and airlines such as Virgin, Jet2 and British Airways. Others have secured engineering roles with companies such as Rolls Royce, Leonardo Helicopters, Airbus, Boeing, QinetiQ, and British Aerospace.

AUTOMOTIVE AND MOTORSPORT ENGINEERING

Our popular Automotive and Motorsport Engineering degree offers you the chance to work with suppliers, manufacturers and sector specialists to put yourself in pole position for successful career as a successful Engineer at the forefront of this exciting industry.

ACCREDITED BY

IET Accredited Programme

Institution of MECHANICAL ENGINEERS

FIND OUT MORE ABOUT THE COURSE HERE

Why choose us…

- Learn in state-of-the-art workshops and engineering labs, featuring industry standard equipment, such as rolling road, computational fluid dynamics (CFD), finite element analysis (FEA), Ricardo WAVE engine simulation and analysis software, and race vehicles.
- Put your practical skills to the test by getting involved in our IMechE Formula Student team, and take our track day car to Silverstone.
- Access our strong industry links and work placement opportunities with automotive and motorsport suppliers and manufacturers, such as Slidesports Race Engineering and Ginetta.
- Choose to apply for a paid placement year in industry to enhance your employability.
- Take part in our annual GradEX graduate exhibition in your final year, showcasing your work to leading industry experts, VIPs and members of the public.

What you'll learn…

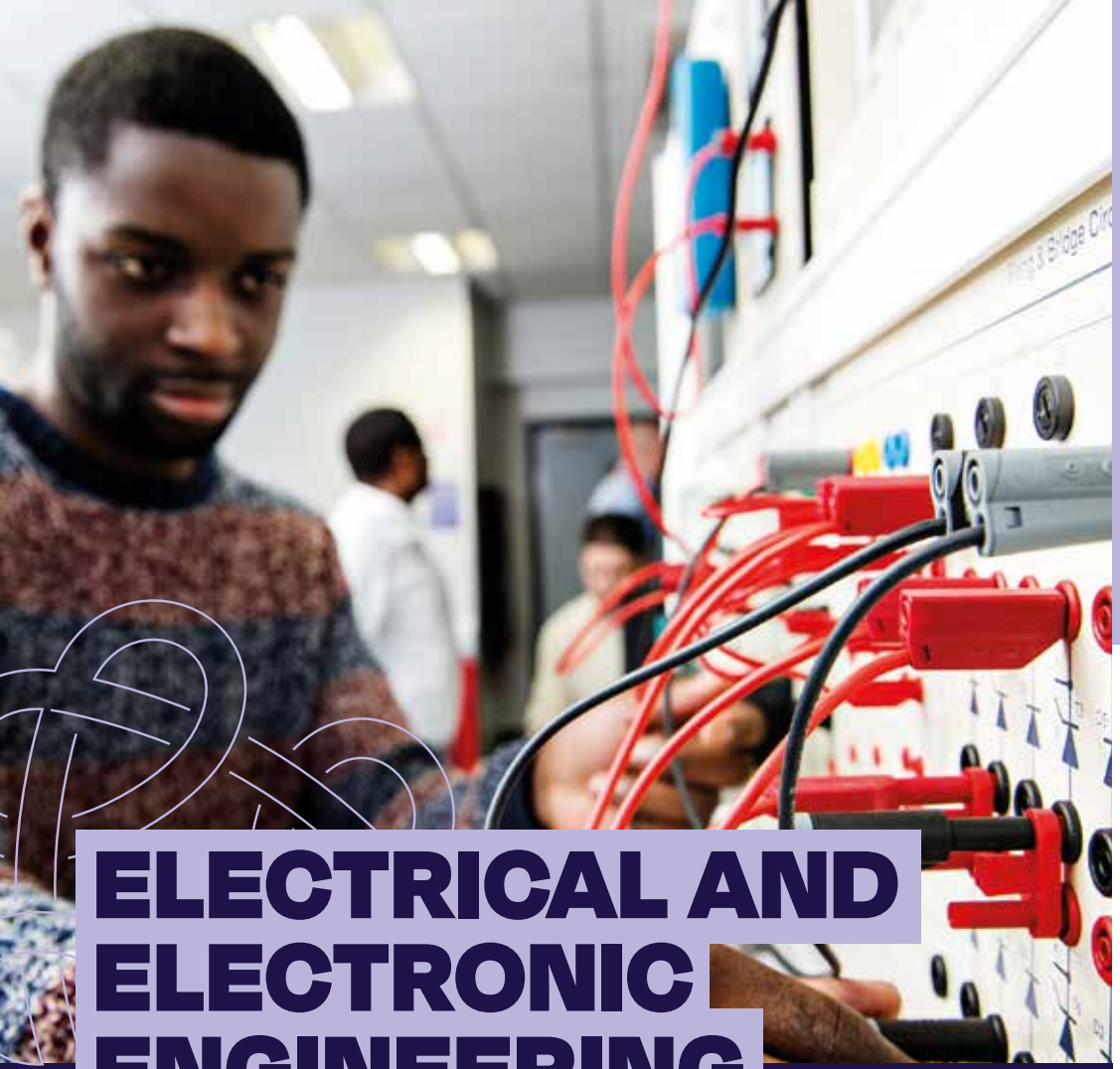
Apply mechanical engineering principles to automotive and motorsport applications, developing the skills needed to analyse complex automotive systems. Develop theoretical knowledge, using computer-based models to design, implement and test your work. Create virtual environments to run your designs and simulations. Take specialist modules in engine design, computational fluid dynamics (CFD) and finite element analysis (FEA).

Module examples:

- Aerodynamics
- Automation and Control Engineering
- Automotive and Motorsport Principles
- Design Engineering
- Fundamentals of Mechanics and Thermo- fluid

What you could do next…

Many of our graduates now work for companies such as Ford, Jaguar Land Rover, Bentley, Cummins and JCB.
Some graduates enter employment as technicians, race engineers and vehicle safety engineers in the motorsport industry, competing in BTCC, World Rally and F1.



ELECTRICAL AND ELECTRONIC ENGINEERING

Gain a career advantage by developing practical and transferrable engineering skills using cutting-edge technologies to solve real-world problems. Grasp the opportunity to join our accredited BEng (Hons) Electrical and Electronic Engineering course to prepare yourself for one of the world's most in-demand professions.

ACCREDITED BY

IET Accredited Programme

FIND OUT MORE ABOUT THE COURSE HERE

Why choose us…

- Study in state-of-the-art workshops and labs on an IET accredited course. Tailor your studies to specialise in a range of areas whilst gaining a solid grounding in engineering principles.
- Access our strong industry links and work placement opportunities.
- Take part in events arranged by the professional body, IET, and benefit from the expertise of guest industry speakers.
- Take part in our annual GradEx graduate exhibition in your final year, showcasing your work to leading industry experts, VIPs and members of the public.
- Access our £1.3m Smart Zone which provides state-of-the-art fabrication and collaboration spaces with augmented and blended reality facilities. Plus, benefit from the technologies of tomorrow in our new £20m Innovation Enterprise Zone - a manufacturing and digital hub for the development of specialist advanced materials.

What you'll learn…

Learn about the design, fabrication and use of a wide range of electronics, circuits, devices and power systems. Our Electrical and Electronic Engineering degree offers flexible pathways to specialise your learning in Electrical Engineering, or Electronic and Telecommunication Engineering.

Module examples:

- Circuit Design and Manufacture
- Automation and Control Engineering
- Electrical Rotating Machines
- Electrical Power Systems Engineering
- Real-time Embedded Systems with DSP Applications
- Advanced Communication System Design

What you could do next…

Our graduates work in a variety of organisations in electrical power generation, transmission and distribution, renewable energy, rail and road transport networks, industrial manufacturing, and telecommunications. There is also scope to work in defence related industries, including the Ministry of Defence.

MECHANICAL ENGINEERING

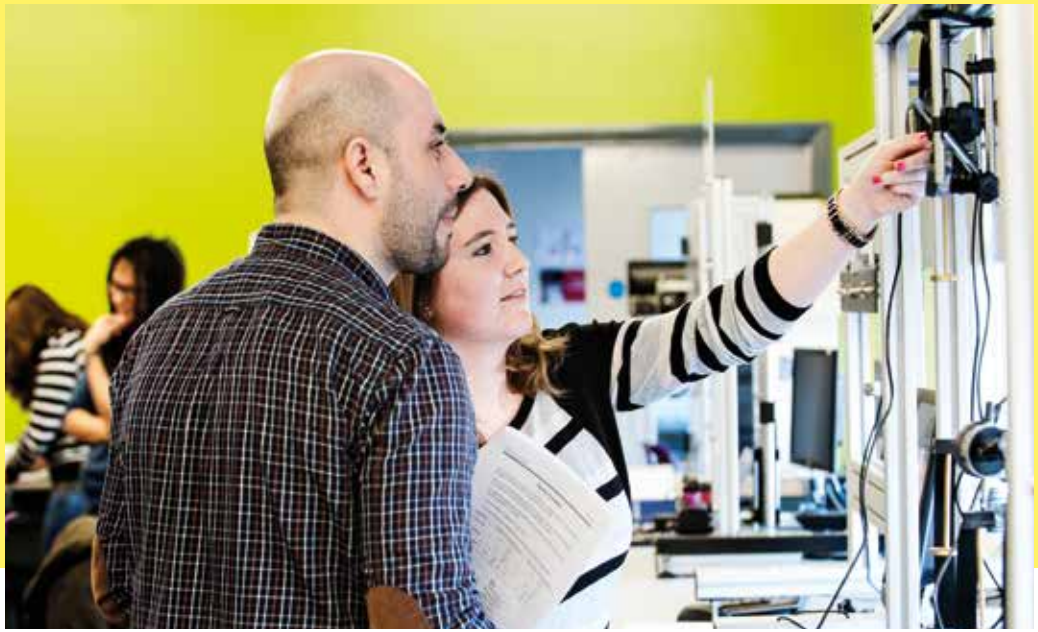
Experience different aspects of mechanical engineering and develop the knowledge and skills you need to plan, design, problem solve and analyse mechanical engineering systems. Model mechanical engineering systems, predict system behaviour and understand manufacturing processes, including how they influence design.

ACCREDITED BY

IET Accredited Programme

Institution of MECHANICAL ENGINEERS

FIND OUT MORE ABOUT THE COURSE HERE



Why choose us…

- Gain hands-on experience in our state-of-the-art engineering workshops and labs equipped with the latest technology including, 3D scanners and printers, rapid prototyping, laser cutters, and the latest CAD, CFD and FEA software.
- Access our strong industry links and work placement opportunities to expand your network connections and develop your employability skills.
- Choose to take a paid placement year to further enhance your employability prospects upon graduation.
- Showcase your work to leading industry experts, VIPs and members of the public at our annual GradEX graduate exhibition.
- Access our £1.3m Smart Zone which fuses state-of-the-art fabrication and collaboration spaces with augmented and blended reality facilities. Plus, benefit from the technologies of tomorrow in our new £20m Innovation Enterprise Zone - a manufacturing and digital hub for the development of specialist advanced materials.

What you'll learn…

Develop skills that underpin engineering and collaborate, communicate and be creative through examples and problem-based learning. Learn the key engineering skills used in mechanical design and manufacturing processes, mechanical structures, automation and control, FEA and CFD, and emerging technologies.

Module examples:

- Mechanical Structures
- Manufacturing Systems and Quality
- Automation and Control Engineering
- Vibration Analysis
- Computational Fluid Dynamics (CFD)

What you could do next…

Graduates have gone on to work in a variety of roles in companies including Alstom, E.ON, Network Rail, Bombardier, Rolls Royce, Bentley, AstraZeneca, Jaguar Land Rover and Siemens. Roles include designing reactor safety systems for nuclear powered submarines, project managing new production lines in the pharmaceutical industry, optimising engine ventilation and cooling systems, and conducting renewable fuel substitution tests.

IMPORTANT INFORMATION

Subject to approval/validation

We're always striving to deliver the most current and relevant degrees, both by creating new courses and regularly reviewing our current offering.

Each time we make changes, the course goes through a rigorous approval process to ensure that it's the perfect fit for our students, employers and other relevant stakeholders.

Some of the courses inside this guide may be marked as 'subject to approval' or 'subject to validation', but don't worry, this just means some of the details of the course won't have been finalised yet. As soon as new courses are approved and validated, up-to-date information will be provided on the online course pages at **www.staffs.ac.uk/courses**

If you have been offered a place and there is a significant change to the course, or for any reason, the course doesn't run – we will contact you immediately and fully support you in finding the best suitable alternative.

At the time of printing in September 2024, the courses listed in this guide represent those we intend to offer for the 2025/2026 academic years. Very occasionally, however, we need to make changes to our courses, including their content and the way in which they are delivered. In some instances, courses can be discontinued or combined with other courses.

Reasons for withdrawing courses can include insufficient student numbers and courses not receiving the necessary accreditation or approval. Changes to course information may include operational and academic reasons.

If circumstances beyond our control mean we cannot provide particular educational services, all reasonable steps will be taken to minimise any disruption to those services. However, the University will have no liability for any loss or damage suffered by any prospect or student as a result.

As a prospective student of University of Staffordshire, it's your responsibility to ensure you have fully reviewed up-to-date course information before you apply, and that your chosen course fully meets your requirements. You should also check the course still meets your requirements before accepting an offer to study with us.

Student satisfaction scores have been provided by Unistats and are correct at the time of going to print. For more information, visit: **discoveruni.gov.uk**

If we discontinue a course or programme and you're not happy with the alternative offered, or if a programme is changed and you're not happy with the changes, you'll be given the opportunity to withdraw from the programme. Up-to-date course information can be found on our website (**www.staffs.ac.uk**), or by calling us on **01782 294400**.

If you're offered a place at the University of Staffordshire, your offer will be subject to the University's Terms and Conditions of Offer. If you become a student of University of Staffordshire, you will enter a contract with us and be bound by our rules and regulations. These, too, may vary from time to time (**www.staffs.ac.uk/rulesandregs**).

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2ND IN THE UK FOR QUALITY EDUCATION

Sustainable Development Goal 4 THE Impact Rankings 2024

5TH FOR FIRST GEN STUDENTS

The Mail University guide 2025

TOP 10 FOR CAREER PROSPECTS

Whatuni Student Choice Awards 2023

TOP 20 FOR FACILITIES

Whatuni Student Choice Awards 2023

TOP 10 FOR SOCIAL INCLUSION

The Times and The Sunday Times Good University Guide 2023

87% OF RESEARCH IMPACT IS 'OUTSTANDING' OR 'VERY CONSIDERABLE'

Research Excellence Framework 2021

For more detailed information on courses or studying at University of Staffordshire visit:
www.staffs.ac.uk/undergraduate

Find us on:
www.staffs.ac.uk/socialmedia

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