



**NEXT
GEN**
EDUCATION

COMPUTING

WELCOME TO COMPUTING

Computing underpins almost every industry in the world. It includes the critical networks and cloud technologies that businesses rely on, along with the software that supports the build of websites and home appliances.

At Staffordshire University, you can specialise in the rapidly growing artificial intelligence field, which is revolutionising everything from self-driving cars to customer service applications. Some of our computing courses are available at both our Stoke-on-Trent and London campuses.

We were among the first UK universities to teach computing and have remained ahead of the game with our teaching.

The breadth of relevant skills you'll learn will be in huge demand and our graduates are regularly snapped up by employers. Our courses are rooted in industry practice, use the latest technology, and include opportunities to gain certification from Cisco and Amazon Web Services.

We also have excellent links with employers and most of our students complete 12-month work placements, including some as far afield as the US and Singapore. Cyber security students also have access to forensic internships with Staffordshire Police's High Tech Crime Unit.

What's more, we're in the top 25 for Student Satisfaction for Computer Science in the Guardian University Guide 2023.



DISCOVER OUR
COMPUTING
COURSES





Students working in our dedicated specialist spaces.

WHY CHOOSE STAFFORDSHIRE UNIVERSITY?

PAID INDUSTRY PLACEMENTS

WORK ON LIVE INDUSTRY BRIEFS

TOP 25
FOR STUDENT SATISFACTION

The Guardian University Guide 2023

INDUSTRY-STANDARD FACILITIES

PARTNERSHIPS WITH STAFFORDSHIRE **POLICE**

TOP 15
FOR TEACHING QUALITY

The Guardian University Guide 2023

GAIN CISCO AND MICROSOFT **CERTIFICATIONS**

AMAZON WEB SERVICES (AWS) ACADEMY MEMBERSHIP



WHY CHOOSE STAFFORDSHIRE UNIVERSITY?

Our students have won multiple awards for their projects exploring creative, technological and digital innovation.

Now we've set our ambitions even higher as we aim to be globally recognised for our interdisciplinary work within the School of Digital, Technologies and Arts - home to Computing at Staffordshire University.

As a student here, you'll get plenty of practical experience to develop your skills,

subject knowledge and confidence. We'll encourage you to find novel solutions to real-world problems.

You will also benefit from our superb industry links. Most of our computer science students complete year-long work placements, including some as far afield as the US and Singapore. Cyber security students also have access to forensic internships with Staffordshire Police's High Tech Crime Unit.

We are at the forefront of rapidly growing industries too. Take our artificial intelligence degree and your skills will be in high demand. AI is applied everywhere – from customer service chatbots and mobile phone apps through to fraud detection and the treatment of illnesses.

You'll be able to put your skills into action using our facilities. These include a Cyber Lab with its own private, isolated network so you can test out ethical hacking and complete other challenges.

Our School also covers a range of other academic disciplines, including art and design, engineering, games and film production.

No matter what course you study, our career-focused approach means you'll graduate with transferable skills and the ability to think creatively. You'll be ready to shape the future of the world around us.

FACILITIES

NETWORKING LABS

Dedicated specialist spaces where students have access to commercial grade networking hardware and software, virtual computing environments, forensic tools and more. Our network labs contain 400+ industry-standard network devices – including Cisco, Cisco Meraki, Brocade and Juniper – switches, routers, firewalls, wireless LAN controllers and network traffic generators.

CYBER LAB

Our Cyber Lab contains PCs bound within a dedicated and isolated network. Students can access powerful forensic tools used in the recovery of data and in criminal investigations and discover the software which enables data recovery from a wide range of devices such as PCs, phones, mobile devices, watches and Sat Nav units.

REAL TIME ROBOTICS LAB

A specialist space with 20, 6 axis programmable robotic arms, autonomous vehicles, micro-controllers, motors, sensors and state-of-the-art design suites for embedded software programming and electronic design.

SOFTWARE DEVELOPMENT ENVIRONMENTS

Students have access to development environments for desktop, mobile and enterprise applications, and a variety of mobile devices for testing.

DATA ANALYTICS CENTRE

Get access to software including Oracle and SQL Server, NoSQL data stores such as MongoDB, and technologies which support Hadoop. Students learn in physical and virtual environments to develop practical skills.

USABILITY LAB

Equipped with observation cameras and eye-trackers, our Usability Lab is used by students to analyse how people interact with software systems such as games, web and mobile applications.

SMART ZONE

A bustling centre of invention, innovation and creation, the Smart Zone houses dedicated workshop space, the latest in digital technology and high-end computing facilities.

The £1.3m space is the biggest collaboration space on campus, fusing state-of-the-art fabrication spaces with augmented and blended reality facilities, allowing you to bring your ideas to life using the latest digital and immersive technologies.



FACILITIES AT OUR LONDON CAMPUS

DATA JUNCTION

A mega-laboratory with advanced wireless casting and presenting facilities, learning spaces and a dedicated cyber and networking lab.

CYBER AND NETWORKING LAB

A self-contained lab with its own private internal network containing some of the latest equipment and software. The version of EnCase in the lab is the same version used by law enforcement.

TAKE A VIRTUAL
TOUR OF OUR
COMPUTING LABS
AND SPECIALIST
ENVIRONMENTS



Being able to **work with real Cisco equipment** in the labs has been great because it allows me to **get a grasp of what it's going to be like after I graduate.**



TOBI PAPOOLA
CYBER SECURITY

The staff and university have **fantastic relationships with industry experts**, which makes the course content up to date.



JONATHAN STEWARD
COMPUTER SCIENCE

MEET THE EXPERTS



**DR RUSSELL
CAMPION**

HEAD OF
DEPARTMENT -
COMPUTING

Associate Professor Dr Russell Campion is a member of the British Computer Society, has a PhD in Computer Science and is a Senior Fellow of the Higher Education Academy. He has worked on external enterprise projects and collaborated on research grants for designing and implementing multimedia solutions. His publication topics include digital multimedia, web-based subjects and mobile computing.



**DR DAVID
DYKE**

COURSE DIRECTOR
(UNDERGRADUATE)

Dr David Dyke is a Chartered Engineer and is the course director for our undergraduate courses. His expertise focuses on control engineering, signal processing, electrical circuit analysis, analogue electronics, hardware-based digital electronics, radar and robotics.



**CHRISTOPHER
HOWARD**

COURSE DIRECTOR
(POSTGRADUATE)

Christopher is a networking professional with over 30 years' experience in the technical and academic field. He is currently course director for our postgraduate courses and is also a Chartered Electronics Engineer. With a background in electronics, he has worked on numerous projects and even networked baggage handling systems at two international UK airports.



**ROBIN
OLDHAM**

COURSE DIRECTOR
(DIGITAL
APPRENTICESHIPS)

Robin is a course director for computer science and digital apprenticeships at Staffordshire University having worked in higher education for over 20 years as a lecturer, manager and technology professional. He has extensive experience of course design, development, validation, delivery and assessment across STEM subject areas in higher education.



**JANET
FRANCIS**

COMPUTER
SCIENCE SENIOR
LECTURER

Janet is a senior lecturer in databases, IT service innovation, project management and software engineering, with 12 years of industry experience. Her main research interests are apprenticeship, workplace learning, service innovation and digital transformation.



**DR JUSTIN
CHAMPION**

COMPUTER
SCIENCE SENIOR
LECTURER

Justin has worked at the University for over 10 years as a senior lecturer in networking and cloud computing. He has been involved in both developing and teaching a number of courses for our students, and even external companies in his specialist area of network devices and technologies. Justin is currently a member of both our CISCO and AWS Academy teams with a specialism in routing technology.



**FIONA
KNIGHT**

COMPUTER
SCIENCE SENIOR
LECTURER

Fiona is a senior lecturer in computer science and has worked at the University for over 20 years. She specialises in web development, and completed a Masters where she investigated how voice applications on Alexa could be used to help students on their course. Fiona is interested in how interfaces can be designed to help users on many devices from voice, no screen, small design to design for large screens.



**DR BENHUR
BAKHTIARI
BASTAKI**

COURSE LEADER
(AI AND ROBOTICS)

Benhur is a professional member of the British Computer Society and the program advisor for Microsoft Learn for Educators Institutional Programme. He has been involved in a wide range of external projects and activities, utilising his expertise in artificial intelligence, machine learning, and software development to the benefit of business, industry, and other organisations.

OUR COURSES

COURSES AT OUR STOKE-ON-TRENT CAMPUS

| Course title | Award | UCAS code | UCAS offer | Duration in years |
|--|------------|-----------|------------|-------------------|
| Artificial Intelligence | BSc (Hons) | I76A | 112-120 | 3 |
| Artificial Intelligence (with foundation year) | BSc (Hons) | I76C | 48 | 4 |
| Artificial Intelligence (with placement year) | BSc (Hons) | I76B | 112-120 | 4 |
| Cloud and Network Computing | BSc (Hons) | I793 | 112-120 | 3 |
| Cloud and Network Computing (with foundation year) | BSc (Hons) | I795 | 48 | 4 |
| Cloud and Network Computing (with placement year) | BSc (Hons) | I794 | 112-120 | 4 |
| Computer Science | BSc (Hons) | I743 | 112-120 | 3 |
| Computer Science (with foundation year) | BSc (Hons) | I744 | 48 | 4 |
| Computer Science (with placement year) | BSc (Hons) | I745 | 112-120 | 4 |
| Cyber Security | BSc (Hons) | I751 | 112-120 | 3 |
| Cyber Security (with foundation year) | BSc (Hons) | I752 | 48 | 4 |
| Cyber Security (with placement year) | BSc (Hons) | I753 | 112-120 | 4 |
| Software Development | BSc (Hons) | I106 | 112-120 | 3 |
| Software Development (with foundation year) | BSc (Hons) | I108 | 48 | 4 |
| Software Development (with placement year) | BSc (Hons) | I107 | 112-120 | 4 |

COURSES AT OUR LONDON CAMPUS

| Course title | Award | UCAS code | UCAS offer | Duration in years |
|---|------------|-----------|------------|-------------------|
| Computer Science | BSc (Hons) | I746 | 112-120 | 3 |
| Computer Science (with placement year) | BSc (Hons) | I750 | 112-120 | 4 |
| Computer Science (with foundation year) | BSc (Hons) | I770 | 48 | 4 |
| Cyber Security | BSc (Hons) | I302 | 112-120 | 3 |
| Cyber Security (with placement year) | BSc (Hons) | I303 | 112-120 | 4 |
| Cyber Security (with foundation year) | BSc (Hons) | I771 | 48 | 4 |



APPRENTICESHIPS WITH STAFFORDSHIRE UNIVERSITY

If you're looking to study alongside work, Staffordshire University 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 degree or higher apprenticeship.

| Apprenticeship standard | Typical duration | Qualification level |
|---|------------------|---------------------|
| Digital and Technology Solutions Professional Degree Apprenticeship | 3.5 Yrs | Level 6 |

This apprenticeship features an integrated degree to help ensure you are ready for the fields of cyber security, business analysis, network engineering, IT consulting and software engineering.

Gain the necessary skills and training to help you thrive in the fast-paced digital and technological world.

FIND OUT MORE ABOUT OUR APPRENTICESHIPS



ARTIFICIAL INTELLIGENCE



From using virtual assistants to detecting fraud and diagnosing illnesses, artificial intelligence has become part of everyday life. Gain the skills, connections and experience to pursue a rewarding career in this rapidly growing field. We'll introduce you to projects with practical learning, and opportunities to use platforms you'll find in industry.



Find out more about the course here



WHY CHOOSE US...

- Through our close relationship with Azure, you'll have access to extra certifications to improve your employability.
- Spend a year working in industry on placement before you graduate, helping to transform services and products through AI.
- Explore mining data to identify patterns, use algorithms to predict what will happen, develop solutions to improve outcomes, and understand how computers process human language.
- Your skills will be in high demand as artificial intelligence is applied everywhere - from mobile phone apps and self-driving cars to biometric recognition and customer service chatbots.
- Our Staffordshire Digital Innovation Partnerships (SDIPs) enable us to place our students with organisations to research and design an innovation in the workplace.

WHAT YOU'LL LEARN...

On the course, you'll get a grounding in programming, using C# and Java, and will learn about different types of data, along with techniques such as data processing and data visualisation. You'll explore machine learning, natural language processing, deep learning, data analytics and neural networks.

Module examples:

- Applications of AI
- Data Structures and Algorithms
- Advanced Machine Learning
- Computer Vision
- Natural Language Processing

WHAT YOU COULD DO NEXT...

There's huge demand for skilled specialists who understand the opportunities of using artificial intelligence in lots of different contexts. Our graduates have gone on to work in a variety of sectors as data analysts, AI or algorithm developers, business intelligence developers, software developers and data scientists.

CLOUD AND NETWORK COMPUTING



Most companies rely on networking for their day-to-day work. As every second counts, they can't afford for networks to fail. This degree will give you the fundamental networking and cloud technologies skills to become an expert in the configuration, design, implementation and evaluation of networked systems and devices.



Find out more about the course here



WHY CHOOSE US...

- Staffordshire University is a member of the Amazon Web Services (AWS) Academy and we've embedded the AWS Certified Solutions Architect knowledge within the course.
- You'll be encouraged to gain CISCO certifications, which are highly valued by graduate recruiters in the industry.
- We offer some amazing work placement opportunities with companies locally, nationally and abroad. You can spend a year working in industry before you graduate.
- Our facilities include the latest equipment you'll find in industry. Use our learner labs to experiment and create networks, or explore the cloud environment with your own Amazon Web Services (AWS) account.
- This hands-on experience is one of the reasons why we're ranked in the Top 25 for student satisfaction in Computer Science (2023 Guardian University Guide).

WHAT YOU'LL LEARN...

We teach the theory and practical aspects of cloud and network computing. It includes exploring serverless technology, databases and how to build cloud infrastructure. We'll also teach you how to create secure networks, using our own networking equipment. You'll apply your learning, rather than just learning the theory.

Module examples:

- Networks and Communications
- Cloud Infrastructure and Design
- Automation
- Network and Cloud Security
- Cloud Architecture

WHAT YOU COULD DO NEXT...

Cloud technologies are a major growth area and there's huge demand for skilled networking specialists, so your degree will make you highly employable. Possible careers could include computer network architect, network administrator, cloud infrastructure analyst or a cloud network engineer.

COMPUTER SCIENCE



You'll gain far more than just a computer science degree with us. We equip students with the skills and practical experience to become highly employable. From the industry-standard facilities you'll use, through to opportunities to gain Amazon Web Services (AWS) and Cisco certifications, we know what makes the difference.



Find out more about the course here



Stoke-on-Trent campus



London campus



WHY CHOOSE US...

- You'll have the chance to work in industry before you graduate, with companies locally, nationally or as far afield as the US and Singapore.
- Our facilities include the latest equipment you'll find in industry. From our learner labs, to exploring the cloud environment with your own Amazon Web Services (AWS) account, and our Collision Space, to give you the feel of a real workplace.
- You'll do everything from a real-world perspective, with opportunities to complete live briefs and set up your own simulated companies.
- This hands-on experience is one of the reasons why we're ranked in the Top 25 for student satisfaction in Computer Science (2023 Guardian University Guide).

WHAT YOU'LL LEARN...

The course will give you a solid foundation in all major aspects of computing. It includes digital technologies, network concepts, cyber security, programming, software development and cloud computing. From web design and user experience through to mastering programming languages, such as JavaScript and Python, you'll see how everything knits together.

Module examples:

- Computer Architecture and Operating Systems Design
- Hardware, Micro-Controllers and Sensors
- Interface Design and User Experience

WHAT YOU COULD DO NEXT...

Our computer science graduates are snapped up by employers as their skills are in high demand. Some get offered jobs through their placements. Possible careers could include a computer systems analyst, computer hardware engineer, computer network architect, web developer or computer programmer.

CYBER SECURITY



Most businesses rely on cyber security to protect their critical systems and stay one step ahead of criminals. Viruses, malicious attacks and hacking can cripple company software and place confidential data at risk. Complete this degree and your specialist skills will be in huge demand as employers grapple with these challenges.



Find out more about the course here



Stoke-on-Trent campus



London campus



WHY CHOOSE US...

- Gain practical experience through our amazing industry links and placement opportunities, and benefit from guest lectures and Q&A sessions.
- Through a partnership with Staffordshire Police's High Tech Crime Unit, you can take on a forensic internship prior to your final year.
- Alongside your degree, there's the chance to gain certification with EnCase, Microsystemation XRY and Cellebrite UFED.
- You can also become a certified ethical hacker through EC-Council.
- The version of EnCase we use in the lab is identical to the one used by real law enforcement agencies.
- We have a Cyber Lab with its own private, isolated network so you can test out scenarios and complete challenges.

WHAT YOU'LL LEARN...

You will develop an in-depth knowledge of cyber security as the course covers the essentials of networking, programming, software development, data analytics and machine learning. You'll look at regulations and ethics, as well as the theoretical and practical aspects of cyber security.

Module examples:

- Ethical Hacking
- Cloud Infrastructure and Design
- Digital Forensics Fundamentals
- Cryptography and AIR
- Network and Infrastructure Security

WHAT YOU COULD DO NEXT...

There's huge demand for skilled specialists in cyber security and so your degree will make you highly employable. It could involve working in healthcare or financial services, for police forces and other law enforcement, Government security agencies or private companies.

SOFTWARE DEVELOPMENT



Specialise in back-end development, which is all about how things actually work behind the scenes. It involves server-side programming and mobile applications. It means you'll be able to program for websites and distributed, cloud-based systems to drive businesses forward and stand out in the increasingly digital world.



Find out more about the course here



WHY CHOOSE US...

- You'll do everything from a real-world perspective, with opportunities to complete live briefs. It means you'll become agile and flexible – qualities valued by graduate recruiters.
- We offer some amazing work placement opportunities with companies locally, nationally and abroad. You can spend a year working in industry before you graduate.
- Our facilities include the latest equipment you'll find in industry. You'll have access to software development environments for desktop, mobile and enterprise applications.
- This hands-on experience is one of the reasons why we're ranked in the Top 25 for student satisfaction in Computer Science (2023 Guardian University Guide).

WHAT YOU'LL LEARN...

You'll focus on the software development lifecycle, from gathering requirements to systems integration. We'll also give you a grounding in application types and software architectures, including frameworks and design patterns. And you'll become fluent in programming with Java, C#, Android and Swift.

Module examples:

- Mobile Application Development
- Software Development and Artificial Intelligence
- Developing with Frameworks
- Clean Coding
- Advanced Programming

WHAT YOU COULD DO NEXT...

With a need for thousands more software developers in the UK, it's a specialist field with huge opportunities for our graduates. Our graduates are often snapped up through their work placements too. Careers could include software developer, application developer, web developer or computer programmer.

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 May 2023, the courses listed in this guide represent those we intend to offer for the 2023/2024 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 Staffordshire University, 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 Staffordshire University, your offer will be subject to the University's Terms and Conditions of Offer. If you become a student of Staffordshire University, 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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**IN THE UK FOR
QUALITY EDUCATION**

Sustainable Development Goal 4
THE Impact Rankings 2023

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

68%

**OF RESEARCH IS
'INTERNATIONALLY EXCELLENT'
OR 'WORLD LEADING'**

Research Excellence
Framework 2021

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

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

