

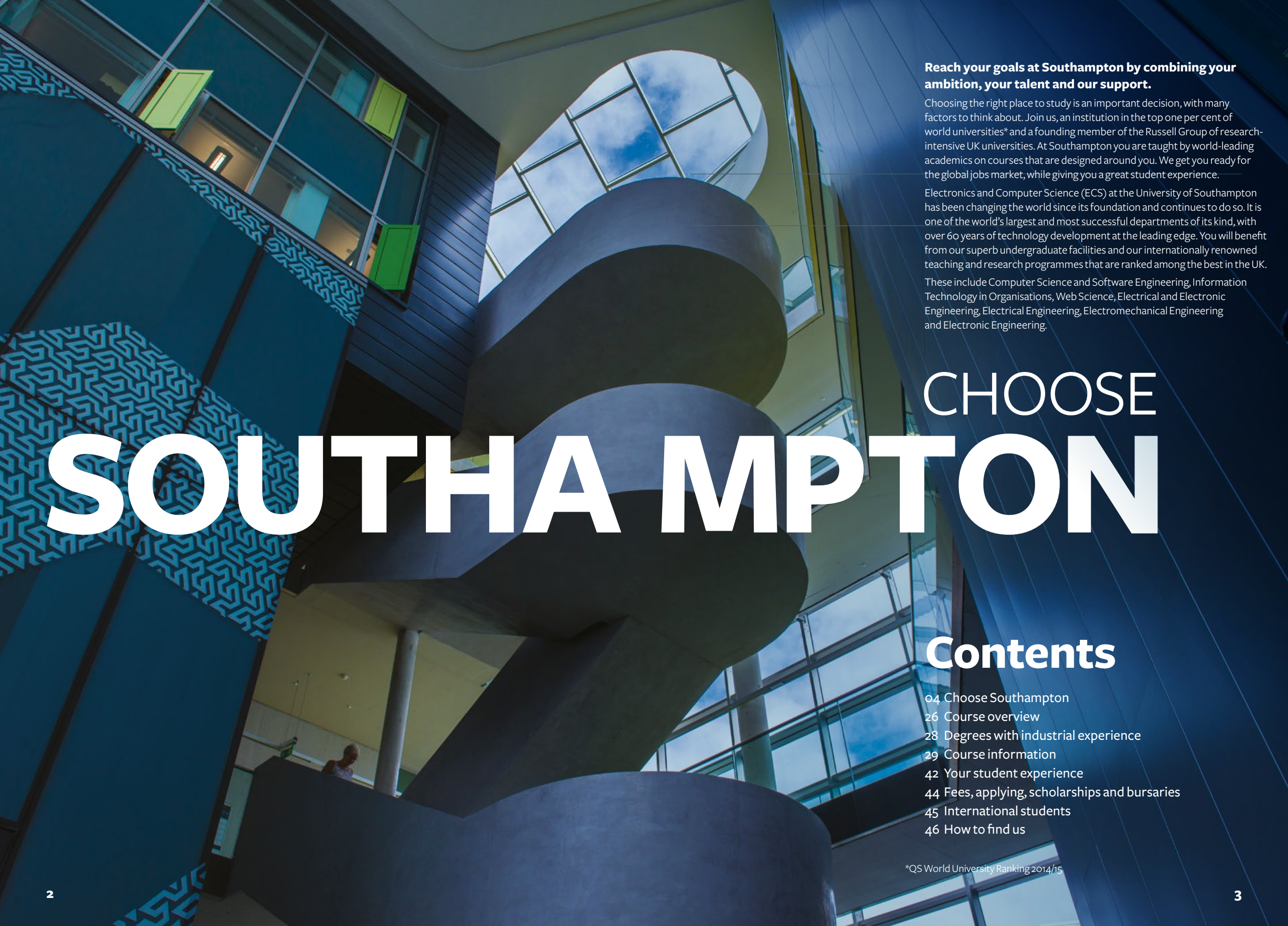
Electronics and
Computer Science

UNIVERSITY OF
Southampton

A student with glasses and a grey sweater is working on a white and yellow humanoid robot. The robot has a white head with a large circular sensor on its right eye, a white torso with a yellow shoulder, and a white arm with a yellow hand. The student is looking at the robot with a focused expression. The background is a blue wall with a red fire alarm pull station.

CREATING YOUR FUTURE

Electronics and Computer Science
Undergraduate Courses 2016



SOUTHAMPTON

Reach your goals at Southampton by combining your ambition, your talent and our support.

Choosing the right place to study is an important decision, with many factors to think about. Join us, an institution in the top one per cent of world universities* and a founding member of the Russell Group of research-intensive UK universities. At Southampton you are taught by world-leading academics on courses that are designed around you. We get you ready for the global jobs market, while giving you a great student experience.

Electronics and Computer Science (ECS) at the University of Southampton has been changing the world since its foundation and continues to do so. It is one of the world's largest and most successful departments of its kind, with over 60 years of technology development at the leading edge. You will benefit from our superb undergraduate facilities and our internationally renowned teaching and research programmes that are ranked among the best in the UK.

These include Computer Science and Software Engineering, Information Technology in Organisations, Web Science, Electrical and Electronic Engineering, Electrical Engineering, Electromechanical Engineering and Electronic Engineering.

CHOOSE SOUTHAMPTON

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*QS World University Ranking 2014/15

CHOOSE SOUTHAMPTON: WORLD CLASS FACILITIES

The Mountbatten complex, a £110m investment in UK science and technology, is one of Europe's leading multidisciplinary cleanroom facilities

“At Southampton, Electronics and Computer Science are uniquely combined, which means they can draw on features from both areas. It puts a different spin on the whole thing which I was really impressed by and the facilities are incredible. They surpass anything I have seen elsewhere!”

Ashley Robinson

MEng Electronic Engineering with Artificial Intelligence
Graduated 2014

WORLD CLASS RANKINGS

University League Tables
2014/15

Electrical and
Electronic Engineering

1st

in the UK.

*The Guardian University
Guide 2016*

In the top
1% of global
universities.
*QS World Rankings
2014/15*

Computer
Science and IT

6th

in the UK.

*Times Good University
Guide 2015*

100%

of BEng Electronic
Engineering graduates in
professional or managerial
work or study within
six months of graduating.
Unistats 2015

1st

**in the UK for Graduate
Prospects for Electrical
& Electronic Engineering
and 2nd for Computer
Science.**

*Complete University
Guide for 2016*

[Find out more
www.southampton.ac.uk/
researchfacilities](http://www.southampton.ac.uk/researchfacilities)

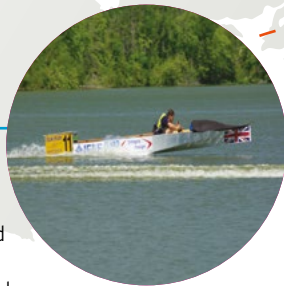
CHOOSE SOUTHAMPTON: A GLOBAL UNIVERSITY

The city of Southampton has a history of innovation and exploration. As a forward-thinking university, we uphold these values in our education and research; join us to forge a successful future.

- Our students can study in 54 countries in Europe and across the world
- Our 200,000 graduates are part of a network of professionals that covers 180 countries
- Our academics make a difference on every continent
- Our business, government and non-government organisation partners span the globe
- We are part of the Worldwide Universities Network, a collaboration of knowledge from around the world

SOLAR CHALLENGE

A team of ECS students and staff designed and built a solar- and electric- powered vessel to compete in and win the annual Solar Splash World Championships in the USA



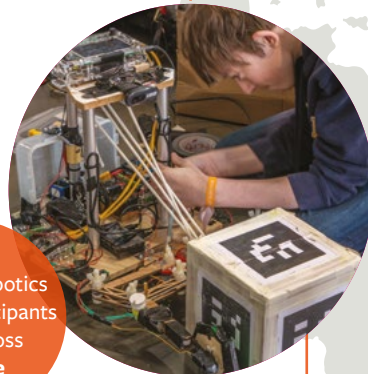
LIFE ON MARS

Electronic Engineering student Hector Hamilton was part of a Southampton bid to grow lettuce on the red planet; the only UK entry to reach the finals of the Mars One international competition.



We are an institution in the top **1%** of global universities

Student Robotics attract participants from across **Europe**



A ROBOTIC CHALLENGE

A team of University students led by ECS organise the annual Student Robotics competition to encourage sixth-form and college students to design, build and test fully autonomous robots

Study abroad: the University has over **400 links** with **233 partners** in **54 countries** around the world

ECS staff members come from more than **40** different countries around the world



MIXED REALITY SKI RACE

A professional skier in Austria battled simultaneously against two online gamers in Greece and in Germany in the world's first interactive mixed reality downhill ski race using technology pioneered by ECS researchers

We offer Electrical and Electronic Engineering at our Malaysia campus. Students have the chance to gain a unique 'Southampton' education in Malaysia combined with two years in the UK.



Find out more
www.southampton.ac.uk/global

CHOOSE SOUTHAMPTON: CHANGE THE WORLD

Exploring how the Web will shape our future

The University of Southampton has played a significant role in the development of the Internet and Web for nearly 30 years including invention of the Erbium Doped Fibre Amplifier (EDFA) – the ‘booster engine’ of the Internet and the foundation of the innovative discipline of Web Science 10 years ago.

The World Wide Web changed human life as we know it. Its impact and scale of adoption has gone beyond all expectations and expanded at an unparalleled rate.

Web Science has an ambitious agenda to understand and explain the Web. The University has recently launched the Web Science Institute (WSI), bringing together world-leading multidisciplinary expertise to tackle the most pressing global challenges facing the World Wide Web and wider society today. It is necessarily interdisciplinary, as much about social and organisational behaviour, as about the underpinning technology. The WSI is home to the EPSRC Centre for Doctoral Training in Web Science, with over 70 fully funded PhD students. It also runs a number of MSc programmes, the first UK undergraduate programme in Web Science and is leading the way in online education with our Web Science MOOC.

The Web and Internet Science research group (WAIS) within ECS is carrying out research to better understand the origin, evolution and growth of the World Wide Web and how it is transforming society. WAIS includes some of the most influential people in forming the Web as it is today – Professor Dame Wendy Hall, Professor Sir Nigel Shadbolt and Professor Sir Tim Berners-Lee – inventor of the World Wide Web 25 years ago. Members of WAIS are analysing the Web in order to track its development, understand its use as an organic human-driven entity, and engineer its future by developing new tools, languages and standards to ensure its continuing creative use.

Educational programmes are available in Web Science at undergraduate level (see page 31), taught masters level and PhD.

L to R: Visiting Professor Liam Maxwell, Professor Dame Wendy Hall and Professor Sir Nigel Shadbolt at the launch of the Web Science Institute

 Find out more
www.southampton.ac.uk/webscience

CHOOSE SOUTHAMPTON: CHANGE THE WORLD

Fulfilling future energy demand

Our researchers are partnering with industry to find savings in the monitoring and transmission of energy. From thumbnail-sized generators powered by ambient vibration to massive, undersea electrical cables, discoveries at Southampton are helping provide power to the UK and the world in a more economical and environmentally sustainable manner.

Professors Paul Lewin and Alun Vaughan in Electronics and Computer Science are working with major industrial organisations and the UK transmission system operator National Grid to address important problems related to the design and use of high-voltage cables to reduce operational costs, minimise risk of network failure and cut carbon emissions. They are developing sophisticated materials that would adequately insulate new, high-voltage cables, be less energy intensive in their production and be fully recyclable at the end of their life.

Their research is carried out in our world leading Tony Davies High Voltage Laboratory. The lab is an active centre for research into dielectric materials, insulation systems, high voltage and related phenomena and can be used by electrical, electromechanical and electrical and electronic engineering undergraduate students in their projects.

“The faculty is passionate about their work while teaching the next generation of engineers and offering a structured curriculum that covers a range of areas in electrical engineering while being flexible at the same time. The University also has a great reputation in industry, which always helps when looking for work experience or applying for a job after graduation.”

Naved Syed
MEng Electrical Engineering

The Tesla coil in the Tony Davis High Voltage Laboratory

[Find out more
www.highvoltage.ecs.soton.ac.uk](https://www.highvoltage.ecs.soton.ac.uk)

OUR PEOPLE

Southampton people have a passion to change the world through their research and collaborations with global partners

- Our lecturers push the boundaries of knowledge
- You are taught differently; our research informs your education
- Studying with our world-leading academics gives you an edge
- You are involved with important research as it unfolds
- Join us and help shape the next generation of technology

Dr Elena Simperl

LEADING DATA SCIENCE DEVELOPMENT

Elena is the technical lead for the new European Data Science Academy and coordinates the Open Data Incubator for Europe (ODInE), a seven-part consortium offering startup support to open data entrepreneurs. An Associate Professor, she has recently launched a new MSc in Data Science.



Professor Nick Jennings, Head of ECS ROYAL RECOGNITION

Nick, Professor of Computer Science and a Chief Scientific Advisor to the UK Government, has been appointed as the first Regius Professor in Computer Science by HM The Queen in recognition of exceptional high-quality teaching and research at Southampton.



Dr Rob Maunder ELECTRONICS EXPERTISE

A former ECS student, Rob is now Associate Professor and Director of Electrical, Electronic and Electromechanical Engineering undergraduate programmes at Southampton. His research interests include wireless communications and he is part of a £6.4m programme to develop lighter, safer, and more fuel efficient aircraft.



Dr Kirk Martinez SENSING THE PLANET

Kirk studies our planet using innovative combinations of technologies from the Internet of Things. His pioneering research allows him to use internet connected sensor devices in inhospitable environments to provide data on our changing Earth.

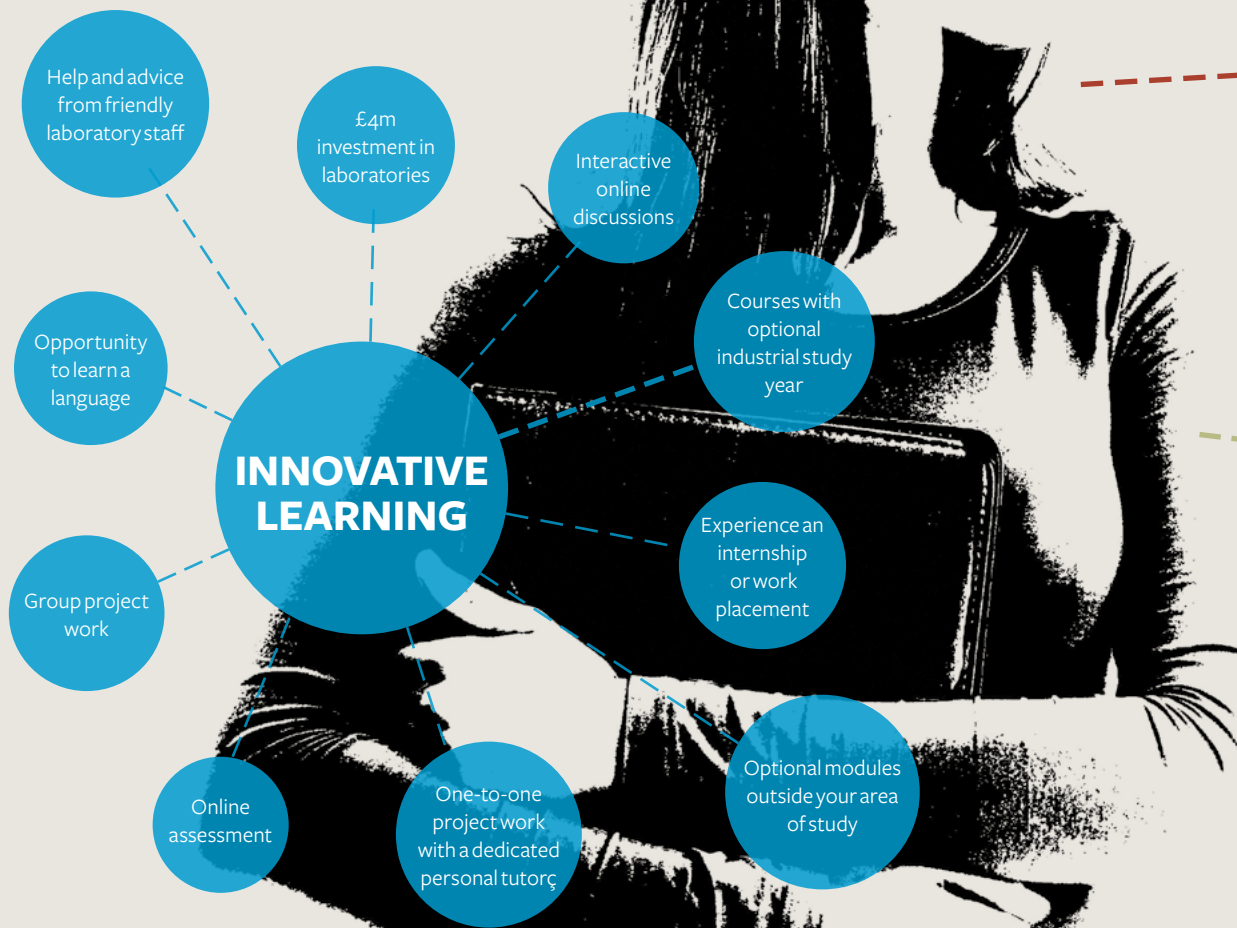
[Find out more
www.ecs.soton.ac.uk/people](http://www.ecs.soton.ac.uk/people)

CHOOSE SOUTHAMPTON: DESIGN YOUR OWN EDUCATION

Your courses are developed and taught by world experts

Your course offers you breadth as well as depth

- ➔ Be independent and shape your course
- ➔ As well as attending lectures and seminars, you can access many lectures and learning resources on the move
- ➔ We work with you to make programmes more flexible
- ➔ Employers are actively involved in shaping your degree programme
- ➔ Take advantage of the Southampton opportunity; get involved in many extra-curricular activities to enhance your experience



Find out more
www.southampton.ac.uk/choice

CHOOSE SOUTHAMPTON: TEACHING AND LEARNING

What makes an Electronics and Computer Science (ECS) education so special?

As a student in ECS you will be taught by academics who are recognised internationally as leaders in their fields of expertise. You will study in specially designed teaching labs that are recognised for the quality of their facilities by professional accreditation panels and visitors.

In the first two years your lectures and tutorials will cover the fundamental topics, while your practical skills will be developed with extensive lab and course work. During your second year you will develop your team-working through group design exercises and projects.


In Years 3 and 4 we offer an extensive range of specialist technical options. With more than 100 academics delivering at least one advanced module in their specialist area, you will have a wide range of subjects to choose from. During your final two years you will also take part in major individual and group projects that enable you to work with academics to enhance and demonstrate your specialist practical skills, research skills, report writing, team work and presentation skills.

The technical depth of our programmes is recognised by our specialist themed degrees including areas such as Artificial Intelligence, Computer Systems, Mobile and Secure Systems, Nanotechnology and Wireless Communications.

A detailed list of topics can be found on page 40.

“I like the variety of areas that I get to study. By working across faculties I feel my skills are tried and tested, challenging me to be a better student.”

Rachel Whalley
BSc Web Science
Year 1

 Find out more
[www.southampton.ac.uk/
ecs/studywithus](http://www.southampton.ac.uk/ecs/studywithus)

CHOOSE SOUTHAMPTON: SHAPE YOUR FUTURE

A degree at Southampton opens doors for career opportunities

Southampton fast-tracks your ambitions

- ➔ We prepare you for future challenges not yet imagined and jobs not yet thought of
- ➔ We are among the top 20 UK universities targeted by the largest number of top 100 graduate recruiters.*
- ➔ We are first in the UK for Graduate Prospects in Electrical & Electronic Engineering and second for Computer Science**
- ➔ Over 300 companies a year offer jobs to students through the ECS Careers Hub
- ➔ In the most recent Destinations of Leavers from Higher Education statistics eleven ECS graduates reported starting salaries above £40k
- ➔ We are one of the top 30 UK universities for starting salaries***

We can help you build your dream CV

- ➔ Take advantage of our commercial partnerships with more than 160 ECS affiliated companies via work placements, internships and volunteering
- ➔ Network with top employers at our annual Engineering and Technology Careers fair, which attracted 85 leading companies in 2015
- ➔ Keep up to date with the latest news of our ECS Careers Hub, which includes a database of current opportunities
- ➔ Get advice from ECS alumni about future careers
- ➔ Specialise further with one of our postgraduate courses and gain a more in-depth knowledge of your subject to realise your ambitions
- ➔ Gather evidence of your achievements through our programme of personal development to complement your academic study
- ➔ Build your entrepreneurial skills by engaging with our Student Enterprise programme

OUR GRADUATES LAND JOBS AT HIGH-PROFILE ORGANISATIONS SUCH AS:

Altera	Goldman Sachs
Apple	Google
Amazon	Hawk-Eye
ARM	IBM
Audi	Imagination Technologies
BAE Systems	Jaguar Land Rover
Bloomberg	J P Morgan
BBC	London Transport
Broadcom	McLaren
Cisco	Microsoft
Cobham Technologies	Netcraft
Entrepreneur First	Ocado
Ericsson Television	Samsung
Facebook	Sony
FactSet	STFC Technology

*High Fliers Research

**Complete University Guide for 2016

***The Sunday Times University Guide 2012

More than 160 ECS affiliated companies

Jobs advertised on the ECS intranet

BUILD YOUR DREAM CV

Annual Engineering and Technology Careers Fair

Dedicated ECS Careers Hub

Careers events

Work placements, internships and volunteering

Advice from ECS Alumni

Personal development programme

Engineering & Technology Graduate Careers Fair

Find out more

To learn how your Southampton Opportunity can get you ready for employment, visit www.southampton.ac.uk/ecs/careershub



WHAT'S YOUR **AMBITION?**


TO DIRECT MULTI-MILLION POUND PROJECTS

Robin Johnson

MEng Software Engineering, final year

"I really enjoy the creativity of my course. People may not associate computer sciences with creativity but it really can be. You gain an understanding of the world as it is developing. You look at how people behave and you can start to predict how technologies and social media will change and how you can contribute to that change."

The programme's Group Design Projects simulate a real-world environment where you develop products to fulfil a real need and meet the requirements of a business client, from pitch, to design and prototyping. The project I worked on had the Institute of Sound and Vibration Research as a client. We built a prototype for a remote hearing test that would allow people with potential hearing difficulties to test their hearing without the need to travel to a test centre."

 Find out more
[www.southampton.ac.uk/
dreamcv](http://www.southampton.ac.uk/dreamcv)

COURSE OVERVIEW

Are you prepared to work at the top of your field? Our range of stimulating and cutting-edge ECS degree programmes will ensure you are a step ahead in the global jobs market.

Choose Southampton

- We are first in the UK for Graduate Prospects in Electrical & Electronic Engineering and second for Computer Science. *Complete University Guide for 2016*
- 100% of employed Electronics and Computer Science graduates are in professional / managerial jobs six months after graduating (DLHE)
- World-renowned academics and excellent industry-standard facilities
- Academics with Fellowships from the Royal Academy of Engineering and the Royal Society are involved in teaching of undergraduate students
- Electrical and electronic engineering were ranked number one in 1987 (THES) and are still in the top three today – nearly 30 years later
- First in the UK for the volume and quality of our research in Electrical and Electronic Engineering and 100% of our Computer Science research impact is recognised as world-leading or internationally excellent (REF 2014)
- Theory backed up by practical experience and industrial placements
- More elite UKESF scholarships awarded to ECS than to any other university

100%

MEng Electrical and BEng Electronic Engineering students go on to professional / managerial work or study
Unistats 2014

92%

MEng Computer Science students are satisfied with the quality of their course
Unistats 2014

Electrical and Electronic Engineering

1st
in the UK.

The Guardian University Guide 2016

Course Structure

All of our courses give you the opportunity to complete a year's industrial placement and study a modern language. Your lectures and tutorials will be backed up by experimental and project work in the laboratories.

Our courses are offered as:

- BEng (Bachelor of Engineering), BSc (Bachelor of Science) – three year courses
- MEng (Master of Engineering) and MComp (Master of Computing) – four year courses giving you a higher technical and professional qualification. Many programmes can also be offered with Industrial Studies. See page 39 for details.

Engineering Foundation Year

Designed for students without traditional entry qualifications, a Foundation Year provides an entry route to our computer science and engineering degrees. If you meet the required grades in your foundation year you then automatically progress onto your chosen degree programme. To find out more visit www.southampton.ac.uk/foundationyear

Course areas in ECS

Software Engineering, Computer Science – you will design software for demanding applications at the forefront of software development such as aspect-oriented programming, computational finance, rich internet applications, and secure and mobile systems.

Information Technology in Organisations – ITO combines both the technical theory, practical and business skills for you to design and develop IT solutions for a range of organisations. We aim to produce IT professionals who understand the technology, organisational needs and the way people work together to design effective IT solutions.

Web Science – our unique interdisciplinary course will help you investigate the Web as a social and technical phenomenon. You will explore the technical underpinnings of the web, as well as how billions of people across the world use and depend on it for their business, politics and social networking.

Electronic Engineering – electronic signals drive the world around us from consumer electronics, computer processors and artificial intelligence, to nanoscale materials and communication technology. Our electronic engineering graduates are in constant demand to make this happen.

Electrical and Electromechanical Engineering – these broad-based courses cover elements ranging from power systems and electronics to computing. If you are interested in systems engineering or robotics then electromechanical systems is for you.

Electrical and Electronic Engineering – based on our long experience of teaching electrical engineering and electronic engineering, this course is available at both our Southampton campus and our campus in Malaysia. You will investigate a wide range of electrical and electronic engineering, from the electronics and chip design behind smartphones to the energy requirements of power transmission.

How will you learn?

You will be taught in a variety of ways including formal lectures and tutorials, coursework and practical laboratory sessions. Throughout your programme you will develop skills for the workplace through group activities and large design projects. In your later years you will complete industrially sponsored group design projects and learn to engineer professionally within a strict budget and deadline.

Flexible learning

Our new Flexible Learning Programme lets you personalise your learning by choosing interdisciplinary modules or existing modules from other programmes such as entrepreneurship, law, management, mathematics and modern languages. For example, our Information Technology in Organisations programme can be taken with a range of business orientated modules.

Professional accreditation and awards

Our work has been recognised nationally. The relevant professional accreditation bodies for our degree programmes are the British Computer Society and the Institution of Engineering and Technology. We are one of only a handful of universities to receive the prestigious title Regius Professor, an honour bestowed by The Queen, marking our excellence in the field of Computer Science and reflecting our exceptionally high quality of teaching and research. We have also received the Athena SWAN Bronze Award for our commitment to tackle the problem of gender inequality in science.

Find out more

University Residences
T: +44 (0)23 8059 2969
E: fpse-ugapply@southampton.ac.uk
www.southampton.ac.uk/ecs

MULTIMILLION POUND LAB INVESTMENT



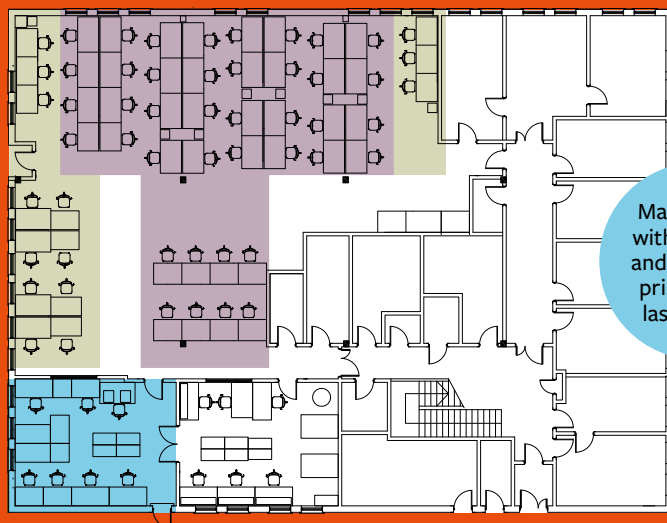
A multimillion pound investment into the University of Southampton's Electronics and Computer Science (ECS) laboratories in the summer of 2015 will ensure future students will be using the latest technology and state-of-the-art facilities to support their degree programmes.

The £4m investment, funded by the University and the Higher Education Funding Council for England (HEFCE), will see three undergraduate laboratories for computing and for electrical and electronic engineering completely overhauled and equipped with state-of-the-art facilities.

"Our new flexible facility will prepare students for industries of the future. The three laboratories will significantly increase capacity and enhance capability. A further £1.5m will be invested in advanced test, design, build and computing equipment to support our broad range of degree programmes in Electronics and Computer Science."

Professor Nick Jennings
Head of Electronics and Computer Science

Projects Laboratory



Maker space with PCB pick and place, 3-D printers and laser cutter

14 x specialist benches for power, radio frequency and high voltage electronics

44 x benches oscilloscope, logic analyser, digital multimeter, arbitrary waveform generator, dual monitors and power supply units

Electrical and Electronic Engineering Laboratory

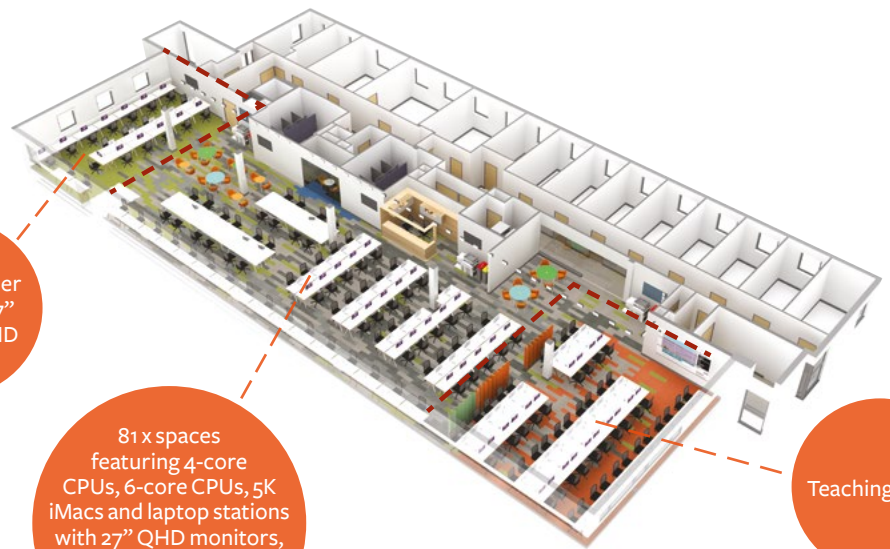


16 x machine set benches for electrical engineering experiments

112 x benches with oscilloscope, logic analyser, digital multimeter, arbitrary waveform generator, dual 27" QHD monitors and 3 x power supply units

Project demonstrations and interactive teaching

Computing Laboratory



Specialist coding corner with 48 x 27" portrait QHD monitors

81 x spaces featuring 4-core CPUs, 6-core CPUs, 5K iMacs and laptop stations with 27" QHD monitors, 28" UltraHD monitors and 34" WQHD curved monitors

Teaching space

[Find out more](http://www.ecs.soton.ac.uk/newlabs)
www.ecs.soton.ac.uk/newlabs

Computer Science

Programme Director:
Dr Nicholas M Gibbins

Start date: October 2016

Duration: BSc 3 years - MEng 4 years

Typical offers require the following

Entry requirements: 3 year BSc: AAA in three A Levels, including Mathematics (or equivalent qualifications)

4 year MEng: A*AA in three A Levels, including Mathematics (or equivalent qualifications)

Intake: 110

Language requirements:
IELTS 6.5 overall with at least 5.5 in each competency

Selection process: UCAS application

Accreditation:
British Computer Society

Our typical entry requirements may be subject to change.

Before you apply, please visit www.ecs.soton.ac.uk/entryreq

Career destinations

Our graduates go on to gain jobs in a wide variety of companies including software development, media and communications, finance, energy, high-tech manufacturing, and security.

At Southampton our Computer Science graduates have a world-leading reputation for creative solutions based on cutting-edge knowledge and state-of-the-art technical skills. Globally computer science systems, networks and applications affect our everyday lives in healthcare, business, entertainment and communications.

Our outstanding facilities and renowned teaching staff prepare our students to work in a wide variety of areas and fields. We are proud they are setting the agenda for tomorrow's ever-changing digital world.

Assessment

Practical skills are assessed through laboratories and project work (both individual and group), while theoretical skills and knowledge are assessed through coursework and exams.

Programme structure

BSc Computer Science (G400)

This three-year programme will give you the grounding to work in any area of the computing industry. During the first two years you will develop the core and professional skills, knowledge and understanding that underpin computer science. In your third year you can tailor your programme to suit your interests and career aims. You will also work on an individual project with the potential to explore cutting edge technologies and innovative applications.

MEng Computer Science (G401)

This four-year programme prepares you for the next generation of systems and software by exploring hot research topics such as complexity theory, social media technology, or biologically inspired robotics. In the fourth year you will take part in a group design project working with a real industry customer or solving challenging problems through imaginative application of technology. The programme can also be offered with Industrial Studies. See page 39 for details.

MEng Computer Science with Artificial Intelligence (G4GR)

Taking specialist courses similar to those for G401, you will begin to understand the practical industrial applications of artificial intelligence and undertake individual research projects.

MEng Computer Science with Distributed Systems and Networks (G4G5)

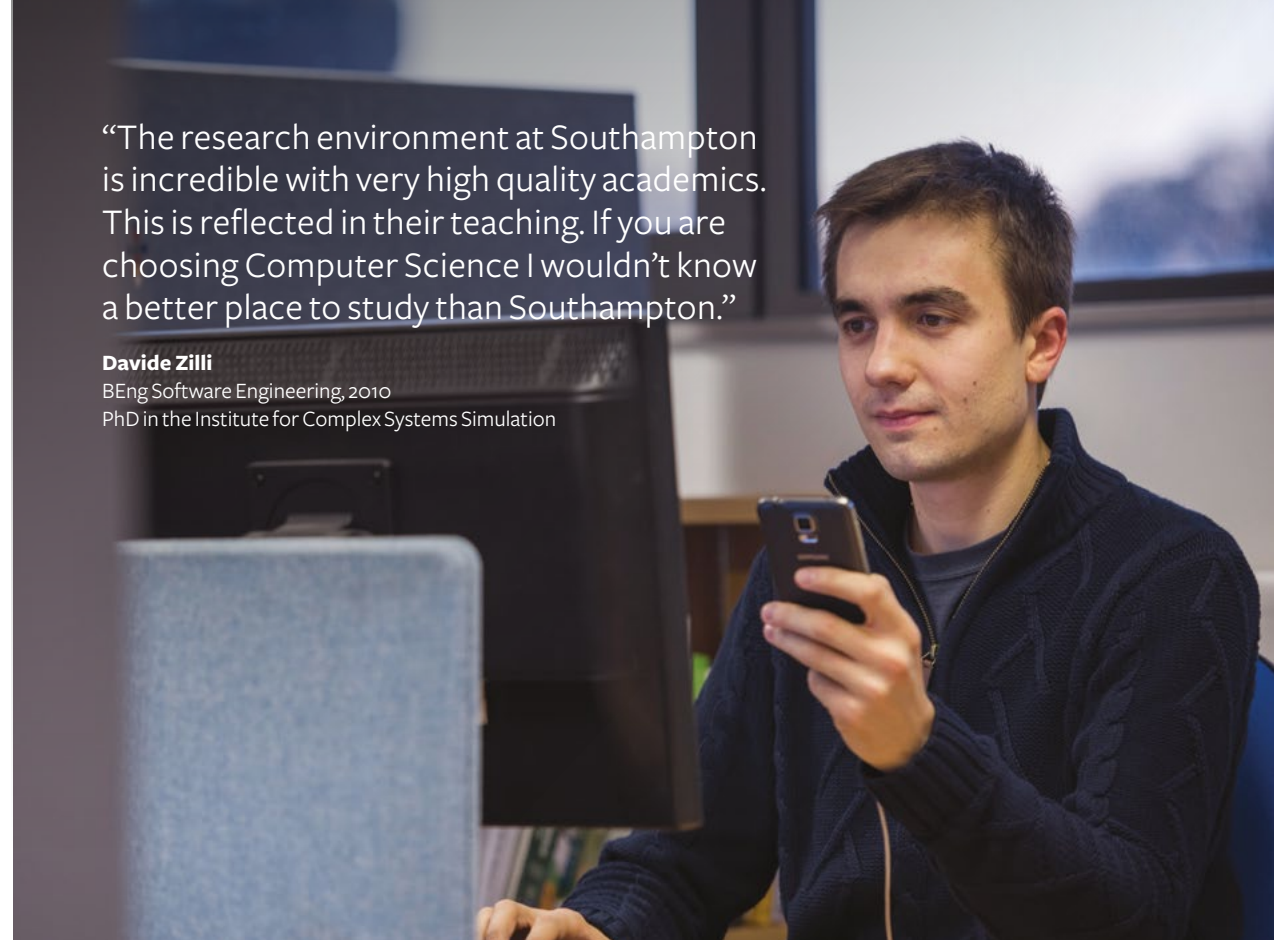
Taking specialist courses similar to those for G401, you will begin to understand the practical industrial applications of distributed systems and networks, and undertake individual research projects.

“The research environment at Southampton is incredible with very high quality academics. This is reflected in their teaching. If you are choosing Computer Science I wouldn't know a better place to study than Southampton.”

Davide Zilli

BEng Software Engineering, 2010

PhD in the Institute for Complex Systems Simulation



MEng Computer Science with Image and Multimedia Systems (G450)

Taking specialist courses similar to those for G401, you will broaden your interests in image and multimedia systems through practical industrial applications, group work and individual design projects.

MEng Computer Science with Mobile and Secure Systems (G421)

This course focuses on two of the most exciting areas of the emerging technologies. Special features include dedicated additional laboratory modules to familiarise you with hand-held, low-power devices using group gaming exercises and other investigative scenarios.

Core modules taken in Years 1 and 2

- Programming
- Algorithmics
- Professional Development
- Computer Systems
- Foundations of Computer Science
- Data Management
- Software Modelling and Design
- Distributed Systems and Networks
- Intelligent Systems
- Theory of Computing
- Programming Language Concepts
- Interaction Design
- Software Engineering Group Project

Optional modules in Years 3 and 4

We offer numerous optional modules that reflect the specialist areas of Computer Science and the key technology areas that will be critical in the future within the overall context of Electronics and Computer Science. See page 40 for further details.

Find out more

T: +44 (0)23 8059 2969

E: fpse-ugapply@southampton.ac.uk

www.southampton.ac.uk/ecs/cs

Information Technology in Organisations (ITO)

Programme Director: Dr Gary Wills

Start date: October 201

Duration: BSc 3 years - MComp 4 years

Typical offers require the following

Entry requirements: 3 year BSc:

AAB in three A Levels or DDD in BTEC Level 3 Extended Diploma in IT (or equivalent qualifications)
A good grade at GCSE Maths (or equivalent) is required

4 year MComp: AAA in three A Levels or DDD* in BTEC Level 3 Extended Diploma in IT (or equivalent qualifications)
A good grade at GCSE Maths (or equivalent) is required

Intake: 40

Language requirements:

IELTS 6.5 overall with at least 5.5 in each competency

Selection process: UCAS application

Accreditation:

British Computer Society

Our typical entry requirements may be subject to change.

Before you apply, please visit

www.ecs.soton.ac.uk/entryreq

Career destinations

Our graduates go on to gain jobs in a wide variety of industries and companies including IT consultancy, management and the finance sector.

Overview

The ITO programmes provide students with a good theoretical and practical understanding of the application of computing technologies within an organisational setting. Although ITO's primary focus is on the technical perspective of ITO (including programming of these systems) the professional, commercial and managerial aspect of IT systems are also covered.

Assessment

Practical skills are assessed through laboratories and project work (both individual and group), while theoretical skills and knowledge are assessed through coursework and exams.

Programme structure

BSc IT in Organisations (G560)

This three-year programme gives you a good grounding in the fundamental issues (technical and business) of IT in Organisations. You will look at the growing trends in e-business and e-commerce, the effects of IT on society, the security of IT systems, and the technology that underpins these activities.

MComp IT in Organisations (G500)

This four-year programme will give you a more advanced understanding of IT in Organisations and allows you to achieve Chartered IT Professional status in the shortest time. It addresses the more advanced technical aspects of IT in organisations and you can focus on having a management, technical or balanced portfolio of modules to suit your interests and career aims. You will complete a group design project, an individual research project and a compulsory e-business strategy module. The programme can also be offered with Industrial Studies. See page 39 for details.

Core modules taken in Years 1 and 2

- Web Design
- Foundations of Computer Science
- Algorithmics
- Programming (Java)
- Business Information Systems
- Computational Systems
- Systems and Platforms
- Groups, Teams and Leaders
- Databases and Application
- Application Scripting (ooPHP)
- Networking in Organisations
- Commercial Aspect of IT
- Human Factors in Design
- Integrative Project
- Mathematics for ITO

Optional modules in Years 3 and 4

We offer numerous optional modules that reflect the specialist areas of interest in Information Technology in Organisations. These optional modules fit within the overall context of Electronics and Computer Science. See page 40 for further details.

ITO with a Minor

Information Technology in Organisations (ITO) offers students the option to undertake a minor alongside the major in ITO. A minor allows you to broaden out your degree by replacing your optional modules over the first three years with a dedicated set of modules for the minors. Currently on offer from ECS are minors in:

- Applied Economics
- International Relations
- Modern Languages
- Psychology
- Sustainability

Find out more

T: +44 (0)23 8059 2969

E: fpse-ugapply@southampton.ac.uk

www.southampton.ac.uk/ecs/ito

Software Engineering

Programme Director:

Dr Nicholas M Gibbins

Start date: October 2016

Duration: BEng 3 years - MEng 4 years

Typical offers require the following

Entry requirements: 3 year

BEng: AAA in three A Levels, including Mathematics (or equivalent qualifications)

4 year MEng: A*AA in three A Levels, including Mathematics (or equivalent qualifications)

Intake: 15

Language requirements:

IELTS 6.5 overall with at least 5.5 in each competency

Selection process: UCAS application

Accreditation:

British Computer Society

Our typical entry requirements

may be subject to change.

Before you apply, please visit

www.ecs.soton.ac.uk/entryreq

Career destinations

Our graduates go on to gain jobs in a wide variety of industries including energy, high-tech manufacturing, and defence and communications.

Overview

Engineering high quality, secure and reliable software systems has never been so challenging. The modern world is driven by an astonishing variety of interconnected software, from phone apps to systems that control critical utilities and infrastructure.

At Southampton we produce sought-after graduates who can create the next generation of software systems and who go on to work with some of the world's biggest technology companies.

Assessment

Practical skills are assessed through laboratory and project work (both individual and group), while theoretical skills and knowledge are assessed through coursework and exams.

Programme structure

BEng Software Engineering (G4G6)

This three-year programme allows you to pursue a career in any area of the software industry. During the first two years you will develop the core and professional skills, knowledge and understanding that underpin software engineering. In your third year you can tailor your programme to suit your interests and career aims. You will also work on an individual project to take a piece of software from development to implementation and evaluation.

MEng Software Engineering (G600)

This four-year programme gives you the chance to learn how software engineering must adapt to deal with new technologies and challenges. In the fourth year you will take part in a group design project working with a real industry customer or solving challenging problems through the imaginative application of technology. The programme can also be offered with Industrial Studies. See page 39 for details.

Core modules taken in Years 1 and 2:

- Programming
- Algorithmics
- Professional Development
- Computer Systems
- Foundations of Computer Science
- Data Management
- Software Modelling and Design
- Distributed Systems and Networks
- Intelligent Systems
- Theory of Computing
- Programming Language Concepts
- Interaction Design
- Software Engineering Group Project

Optional modules in Years 3 and 4

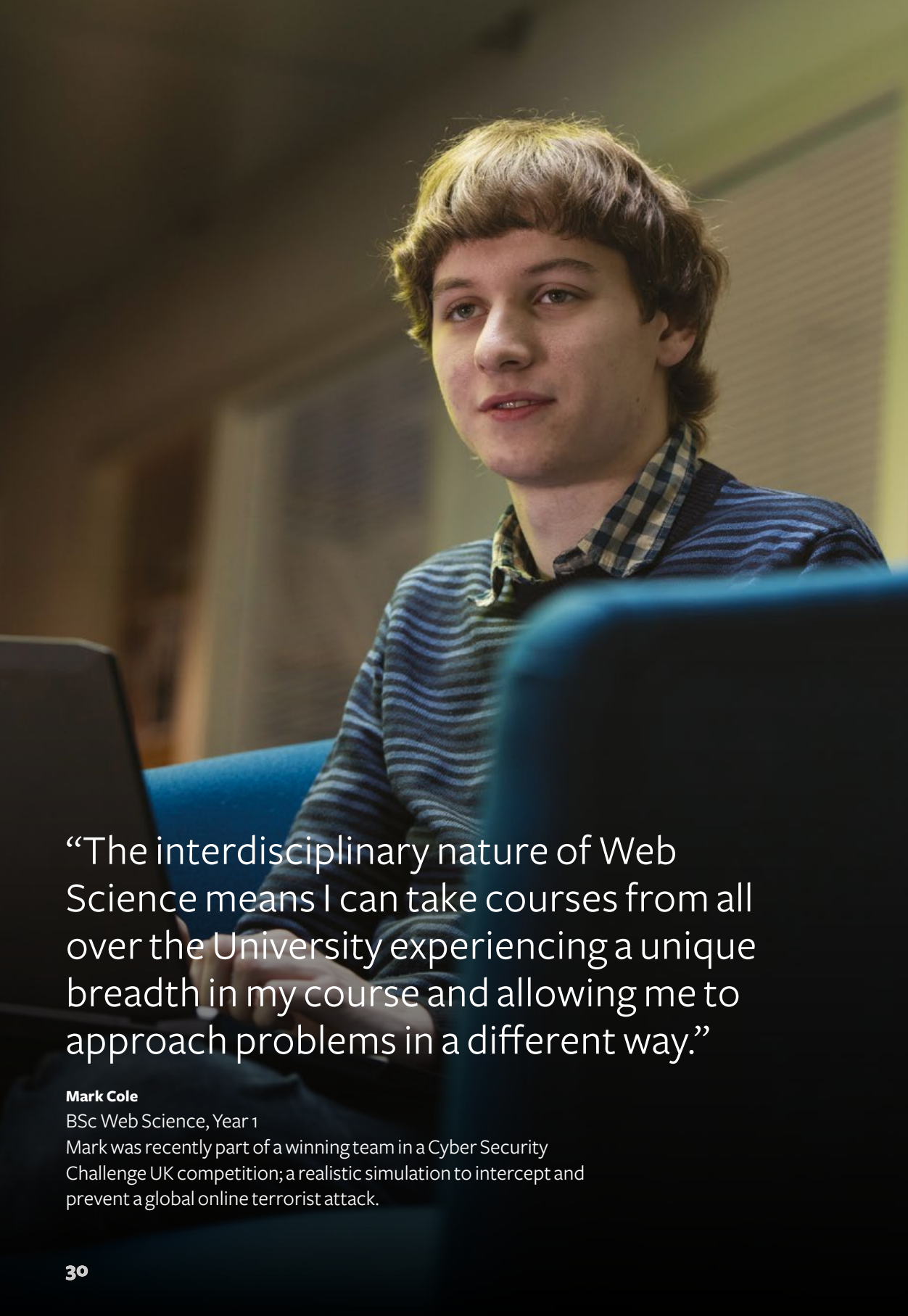
We offer numerous optional modules that reflect the specialist areas of Software engineering and the key technology areas that will be critical in the future within the overall context of Electronics and Computer Science. See page 40 for further details.

Find out more

T: +44 (0)23 8059 2969

E: fpse-ugapply@southampton.ac.uk

www.southampton.ac.uk/ecs/se



“The interdisciplinary nature of Web Science means I can take courses from all over the University experiencing a unique breadth in my course and allowing me to approach problems in a different way.”

Mark Cole

BSc Web Science, Year 1

Mark was recently part of a winning team in a Cyber Security Challenge UK competition; a realistic simulation to intercept and prevent a global online terrorist attack.

Key information

Programme Director: Dr Mark Weal

Start date: October 2016

Duration: 3 years

Typical offers require the following

Entry requirements: 3 year BSc:

AAB in three A Levels, including Mathematics (or equivalent qualifications)

Intake: 20

Language requirements:

IELTS 6.5 overall with at least 5.5 in each competency

Selection process: UCAS application

Accreditation:

British Computer Society

Our typical entry requirements may be subject to change.

Before you apply, please visit

www.ecs.soton.ac.uk/entryreq

Career destinations

Web Science will equip you with unique cross-cutting knowledge and skills, marketable to a broad range of employers and employment sectors. We have strong relationships with employers, and our graduates are particularly in demand for their understanding of organisations and their practical abilities in the workplace.

Find out more

T: +44 (0)23 8059 2969

E: fpse-ugapply@southampton.ac.uk

www.southampton.ac.uk/webscience

Web Science

Overview

We are pioneering the development of Web Science, a new discipline that aims to provide a thorough understanding of the Web as a social and technical phenomenon. This multidisciplinary course explores the impact of the Web on society and builds skills and expertise in the technical underpinnings of the Web as well as the social processes that have shaped its evolution.

You will be taught by researchers at the forefront of Web Science who are tackling some of the Web's biggest challenges and will benefit from our excellent facilities, key partnerships with major industries and world-leading research base.

Assessment

Your theory will be assessed through examinations and coursework, while your practical experience will be assessed by laboratory work, design exercises and dissertations.

Programme structure

BSc Web Science – Computer Science (I201)

This three-year programme develops a critical understanding of the Web, its history and current trajectories of development. You will specialise in computational understanding and analysis of the Web and will take additional modules in programming and scripting, data management and the technical underpinnings of the Web.

BSc Web Science – Social Science (I200)

You can choose this alternative three-year pathway that offers theoretical and methodological expertise in the social scientific understanding and analysis of the Web.

Core modules taken in Years 1 and 2

- Information, Technology and Social Change
- Programming
- Web Design
- Foundations in Social Theory
- Introduction to Quantitative Methods
- Web Agents, Actors and Agency
- Interdisciplinary Group Project
- Databases and Application
- Interaction Design
- Digital Literacies

In **Years 2 and 3** we offer numerous optional modules visit www.southampton.ac.uk/webscience to find out more.

Programme Director:**Dr Rob Maunder****Start date:** October 2016**Duration:** BEng 3 years - MEng 4 years**Typical offers require the following****Entry requirements: 3 year BEng:**

AAA in three A Levels (or equivalent qualifications), including Mathematics and Physics. Physics may be substituted by Further Mathematics, Computer Science, or Electronics

4 year MEng: A*AA in three A Levels

(or equivalent qualifications), including Mathematics and Physics. Physics may be substituted by Further Mathematics, Computer Science, or Electronics

Intake: 45**Language requirements:**

IELTS 6.5 overall with at least 5.5 in each competency

Selection process: UCAS application

Funding: scholarships and paid industrial placements are available from the UK Electronics Skills Foundation and the Institution of Engineering and Technology.

www.ecs.soton.ac.uk/money

Accreditation: The Institution of Engineering and Technology

Our typical entry requirements may be subject to change.

Before you apply, please visit

www.ecs.soton.ac.uk/entryreq

Career destinations

Our graduates go on to gain jobs in a wide variety of industries including communications, energy, transport, high-tech manufacturing, and security.

Find out more

T: +44 (0)23 8059 2969

E: fpse-ugapply@southampton.ac.uk

www.southampton.ac.uk/ecs/ele

Electronic Engineering

Overview

Southampton has an unrivalled reputation in Electronic Engineering and our graduates are employed worldwide in highly prestigious positions. They use the skills and knowledge they developed in Southampton to engineer the electronic signals that pervade the world around us.

From cutting-edge electronics, computer processors and artificial intelligence, to nanoscale materials and communication techniques – our students have a hand in it all.

Assessment

Laboratories, design exercises and projects are used to assess the practical aspects, while coursework and exams assess the theoretical elements.

Programme structure**BEng Electronic Engineering (H610)**

This three-year programme will enable you to work in any area of the electronics industry. During the first two years you will develop the skills, knowledge and understanding that underpin electronic engineering. In your third year you can tailor your programme to suit your interests and career aims. You will also work on an individual project to build a challenging and unique electronic system.

MEng Electronic Engineering (H603)

This four-year programme develops the management skills needed to become a leader in the electronics industry. In the fourth year you will be challenged to solve real problems for an industrial customer or to transfer technology from the University to industrial practice. The programme can also be offered with Industrial Studies. See page 39 for details.

MEng Electronic Engineering with Artificial Intelligence (H6G7)

This degree focuses on the design and implementation of state-of-the-art artificial intelligence techniques, with consideration of image processing and computer vision, machine learning, robotic systems, computational biology and finance, as well as complexity. The programme includes core content from H603.

MEng Electronic Engineering with Computer Systems (H6G4)

Explore the design, synthesis, fabrication and efficient programming of computer systems at a fundamental architectural level. Specialist topics include real-time computing and embedded systems, advanced computer architecture, and system-on-chip design techniques. The programme includes core content from H603.

MEng Electronic Engineering with Mobile and Secure Systems (H691)

This degree focuses on the design and implementation of secure electronic systems that maintain the confidentiality, integrity and authenticity of information, while allowing mobility and interoperability with external wireless networks. Advanced topics include cyber security, safety-critical systems, automated software verification, and cryptography. The programme includes core content from H603.

“Group projects have allowed me to experience what it is like to work on a project in the real world and apply the knowledge I have gained from the course. It has given me the chance to actually be an engineer.”

Emily Barnes

MEng Electronic Engineering
Year 4

MEng Electronic Engineering with Nanotechnology (H611)

Explore the underpinning physics of state-of-the-art nanoscale electronic, photonic, fluidic, bio-electronic and electromechanical materials and devices, as well as their design and fabrication. Specialist topics on this degree include nanoelectronic devices, green electronics, and bionanotechnology. The programme includes core content from H603.

MEng Electronic Engineering with Photonics (H680)

This degree specialises in the design and fabrication of optical fibres, as well as semiconductor light sources and detectors. You will study the design and implementation of signal processing techniques, circuits and systems for efficiently modulating information onto the optical fibre for the purpose of optical communication and other applications of photonics. The programme includes core content from H603.

MEng Electronic Engineering with Wireless Communications (H641)

The advanced topics for this degree cover the characteristics of electromagnetic wave propagation in radio channels. You will specialise in the design and implementation of signal processing techniques, circuits and systems for efficiently and reliably modulating information onto the channel for the purpose of wireless communication networking. The programme includes core content from H603.

Core modules taken in Years 1 and 2

- Electronic Circuits
- Electronic Systems
- Advanced Electronic Systems
- Electronic Design
- Digital Systems and Microprocessors
- Digital Systems and Signal Processing
- Computer Engineering
- Programming

- Advanced Programming
- Solid State Electronics
- Devices
- Electrical Materials and Fields
- Electromagnetism for Communications
- Control and Communications
- Mathematics for Electrical and Electronic Engineering

Optional modules in Years 3 and 4

We offer numerous optional modules that reflect the specialist areas of Electronic Engineering and the key technology areas that will be critical in the future within the overall context of Electronics and Computer Science. In addition to the individual project, students select up to five modules from around 25 technical options plus numerous non-technical options in Year 3. In addition to the group project, MEng students select up to five modules from around 45 technical options in Year 4. See page 40 for further details.

Programme Director:**Dr Paolo Rapisarda****Start date:** October 2016**Duration:** BEng 3 years - MEng 4 years**Typical offers require the following****Entry requirements: 3 year BEng:**

AAA in three A Levels (or equivalent qualifications), including Mathematics and Physics. In some cases, Physics may be substituted by Further Mathematics or Electronics

4 year MEng: A*AA in three A Levels (or equivalent qualifications), including Mathematics and Physics. In some cases, Physics may be substituted by Further Mathematics or Electronics

Intake: 45**Language requirements:**

IELTS 6.5 overall with at least 5.5 in each competency

Selection process: UCAS application

Funding: scholarships and paid industrial placements are available from the UK Electronics Skills Foundation and the Institution of Engineering and Technology (including their 'Power Academy' scheme)

www.ecs.soton.ac.uk/money

Accreditation: The Institution of Engineering and Technology

Our typical entry requirements may be subject to change.

Before you apply, please visit www.ecs.soton.ac.uk/entryreq

Career destinations

Our graduates go on to gain jobs in a wide variety of industries involved in power generation and distribution, communications, microelectronics, renewable energy, transport or security.

Find out more

T: +44 (0)23 8059 2969

E: fpse-ugapply@southampton.ac.uk

www.southampton.ac.uk/ecs/eee

Electrical and Electronic Engineering

Overview

Many aspects of our modern life are influenced by electrical and electronic engineering including energy, healthcare, entertainment, commerce, communications manufacturing and the environment.

This flexible programme combines our extensive experience in teaching highly regarded Electrical Engineering and Electronic Engineering degrees. You will gain a broad range of skills and have the flexibility to tailor your course to suit your interests in Electrical and Electronic Engineering.

Assessment

Laboratories, design exercises and projects are used to assess the practical aspects, while coursework and exams assess the theoretical aspects.

Programme structure**BEng Electrical and Electronic Engineering (H600)**

This three-year programme gives you the strong fundamental skills to become a good electrical and electronic engineer. In the third year you can tailor the course to suit your interests or career aims. You will also get involved in the design, simulation, building and testing of an electrical and/or electronic system as part of your individual project in collaboration with an academic who is also an active researcher.

MEng Electrical and Electronic Engineering (H602)

This four-year programme will provide you with the necessary management skills to become an industry leader. You will test and further develop your technical skills and learn and develop management skills by working in a project team to tackle a real

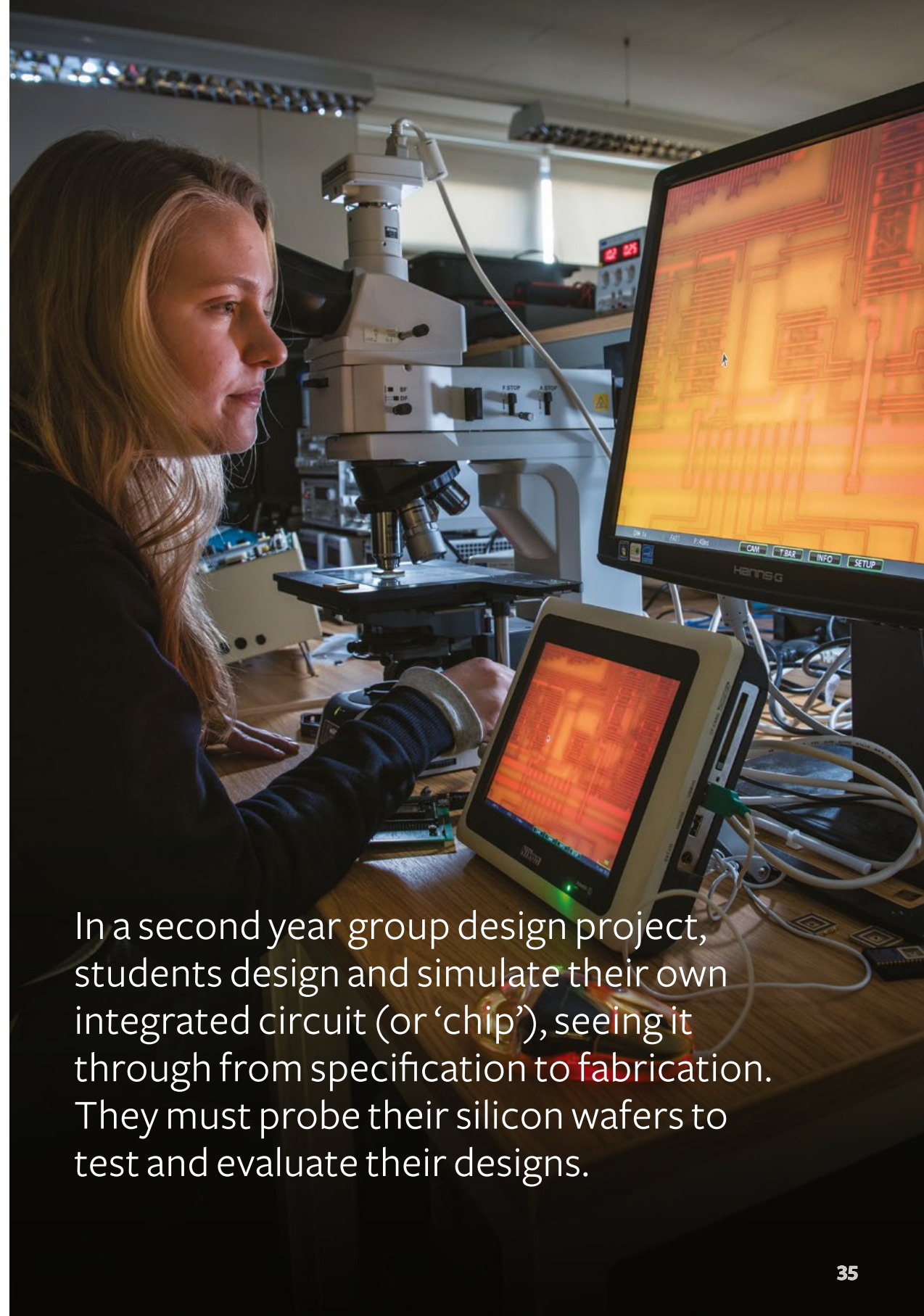
engineering problem. You will further develop your knowledge in electrical and electronic engineering through the range of optional modules available across ECS. The programme can also be offered with Industrial Studies. See page 39 for details.

Core modules taken in Years 1 and 2

- Electrical Materials and Fields
- Electronic Circuits
- Electronic Systems
- Solid State Devices
- Programming
- Digital Systems and Microprocessors
- Mathematics
- Power Electronics and Drives
- Electromagnetism for Electrical and Electronic Engineering
- Control and Communications
- Digital Systems and Signal Processing
- Circuits and Transmission
- Electrical and Electronic Engineering Design

Optional modules

In **Years 1 and 2**, Electrical and Electronic Engineering students also pick an optional module in their area of interest (for example Advanced Programming, Devices, Electrical Machines, Materials, Computer Engineering, Mechanics or Advanced Electronic Systems). In **Years 3 and 4** we offer numerous optional modules that reflect the specialist areas of interest in Electrical and Electronic Engineering and the key technology areas that will be critical in the future, within the overall expertise of ECS. See page 40 for further details.



In a second year group design project, students design and simulate their own integrated circuit (or 'chip'), seeing it through from specification to fabrication. They must probe their silicon wafers to test and evaluate their designs.

The right balance between theory and practice.

At Southampton we strive to make a careful balance between theory and practice, enabling you to both 'know and 'do' your subject. Our students get the opportunity to try out the theory that they're learning in lectures through a mixture of lab work, design exercises, coursework and projects – all designed to enthuse, teach and stretch. Our labs are regularly updated and revised, to give you the facilities to enable you to maximise your potential.

“The rover project was invaluable to understand the several stages of product development such as designing, fundraising, building and testing. It was a great team project where I got to apply theory to a real problem. I always talk about it in job interviews!”

Pedro Amaro
BEng Electrical Engineering,
currently studying for PhD in Electronics and Electrical Engineering

Key information

Programme Director:
Professor George Chen

Start date: October 2016

Duration: BEng 3 years - MEng 4 years

Typical offers require the following

Entry requirements: 3 year BEng:

AAB in three A Levels (or equivalent qualifications), including A in Mathematics and A in Physics

4 year MEng: AAA in three A Levels (or equivalent qualifications), including A in Mathematics and A in Physics

Intake: 25

Language requirements:

IELTS 6.5 overall with at least 5.5 in each competency

Selection process: UCAS application

Funding: scholarships, industrial placements and guaranteed employment are available for students selected for the Power Academy

Accreditation: The Institution of Engineering and Technology

Our typical entry requirements may be subject to change. Before you apply, please visit www.ecs.soton.ac.uk/entryreq

Career destinations

Our graduates go on to gain jobs in the electricity supply industry, major electrical and power companies, government departments, transport industry and the security industry. Or you may choose a career in research, international sales or management

Find out more

T: +44 (0)23 8059 2969

E: fpse-ugapply@southampton.ac.uk

www.southampton.ac.uk/ecsf/ee

Electrical Engineering

Overview

Electrical engineering concerns anything that involves electrical power, from the electromagnetism of superconducting systems to the principles of power generation and transmission, and the development of more efficient and sustainable energy sources.

At Southampton we will provide you with the analytical skills to design and develop the technology of tomorrow using our outstanding experimental facilities, including our high-voltage laboratory.

Assessment

Examination and coursework ensure rigorous assessments of theoretical knowledge. Laboratories, design exercises and projects are used to test practical aspects.

Programmes

BEng Electrical Engineering (H62o)

This degree covers all topics related to electrical power, from fundamentals of power generation and transmission, the control theory to the development of more efficient and sustainable energy sources, and superconducting electric cables. Core technical subjects are covered in year one, followed by a focus on specialised subjects in year two and the opportunity to tailor your studies according to your interests in year three. Individual project work with one of our research groups will allow you to work at the frontier of knowledge.

MEng Electrical Engineering (H6o1)

This four-year programme includes more advanced engineering topics, management studies, law, and group projects. You will tackle wide-ranging engineering challenges and gain

industrial experience through vacation employment. In Year 4 you will get the chance to do a group project, either working with a real customer from industry or transferring technology from the University into industrial practice with a chance to exercise self and team management skills. The programme can also be offered with Industrial Studies. See page 39 for details.

Core modules taken in Years 1 and 2

- Electromagnetic Fields and Applied Electromagnetism
- Electric and Electronic Circuits
- Analogues and Digital Electronics
- Solid State Devices and Microprocessors
- Electrical Materials
- Programming
- Mechanics
- Mathematics
- Control
- Engineering Design
- Electrical Machines
- Power Electronics and Drivers
- Power Systems Technology
- High Voltage Engineering
- Exploitation of Electrical and Electronic Technology

Optional modules in Years 3 and 4

We offer numerous optional modules that reflect the specialist areas of electrical engineering and the key technology areas that will be critical in the future within the overall context of Electronics and Computer Science. For example, MEng students select up to five modules from 40 technical options in Year 4. See page 40 for further details.

Programme Director:
Professor George Chen

Start date: October 2016

Duration: BEng 3 years - MEng 4 years

Typical offers require the following

Entry requirements: 3 year BEng:

AAB in three A Levels (or equivalent qualifications), including A in Mathematics and A in Physics

4 year MEng: AAA in three A Levels (or equivalent qualifications), including A in Mathematics and A in Physics

Intake: 25

Language requirements:

IELTS 6.5 overall with at least 5.5 in each competency

Selection process: UCAS application

Funding: scholarships, industrial placements and guaranteed employment are available for students selected for the Power Academy

Accreditation: The Institution of Engineering and Technology

Our typical entry requirements may be subject to change.

Before you apply, please visit www.ecs.soton.ac.uk/entryreq

Career destinations

Our graduates go on to gain jobs in the electricity supply industry, major electrical companies, government departments, transport industry and the security industry. Or you may choose a career in research, international sales or management

Find out more

T: +44 (0)238059 2969

E: fpse-ugapply@southampton.ac.uk

www.southampton.ac.uk/ecs/eme

Electromechanical Engineering

Overview

Electromechanical engineering meets the increasing demand from industry for engineers with cross-disciplinary skills in the fields of robotics, flexible manufacturing, electromechanical power systems and electrical power transmission and distribution systems. It combines a mixture of mechanical and electrical engineering.

You will investigate the problems of combining electrical and mechanical components into electromechanical devices or systems such as micro-machines, electric vehicles and powerful industrial robots.

Assessment

You will be assessed by examinations, coursework, essays and laboratory and design projects.

Programmes

BEng Electromechanical Engineering (HH36)

This three-year programme will ensure you are versatile enough to deal with systems that have both mechanical and electrical elements. Your learning will be supported by excellent experimental facilities in our Electrical and Electronics Teaching Laboratories and Control Laboratory. Project work begins in the first year and continues with design and build tasks in every year of your degree. You will get the chance to exercise your creative talent, deploy your skills and exploit the knowledge gained to produce electromechanical devices.

MEng Electromechanical Engineering (HHH6)

This four-year programme includes more advanced engineering topics and gives you the chance to learn the wide range of disciplines required for a challenging career including,

management studies and law. In Year 4 you will get the chance to do a group project, designing and constructing a product to meet a real world need. This will build your confidence and your skills to deliver working prototypes. You will also gain industrial experience through vacation employment. The programme can also be offered with Industrial Studies. See page 39 for details.

Core modules taken in Years 1 and 2

- Electromagnetic Fields
- Electromechanical Energy Conversion
- Electric and Electronic Circuits
- Analogues and Digital Electronics
- Electrical Materials
- Solid State Devices and Microprocessors
- Programming
- Mechanics
- Mathematics
- Control
- Engineering Design
- Electrical Machines
- Power Systems Technology
- Robotics and Electromechanical Design
- Exploitation of Electrical and Electronic Technology

Optional modules in Years 3 and 4

We offer numerous optional modules that reflect the specialist areas of electromechanical engineering and the key technology areas that will be critical in the future within the overall context of Electronics and Computer Science. For example, MEng students select up to five modules from 40 technical options in Year 4. See page 40 for further details.

Degrees with Industrial Experience

Through its dedicated Careers Hub and strong relationships with employers, ECS provides enviable opportunities for students to gain industrial experience, including summer placements.

Students on our main MEng and MComp programmes may also apply to take a year in industry with one of our recognised partner companies and to graduate with an MEng or MComp degree with Industrial Studies.

A year in industry - sometimes known as a placement year, or sandwich year - is a great way to give you a competitive edge among graduate recruiters by showing you can relate your academic skills and knowledge to contemporary industrial practice. It can help you to connect with future employers, add value to your CV or launch your career in a new-found direction, as well enabling you to develop business and team-working skills in your chosen industry.

The year in industry is taken after Year 2 or Year 3 and is assessed by academics and industry experts. During the year you will continue to have the support of the University with regular contact between you and the ECS team.

If you are interested in this route you should apply for an MEng or MComp as normal, and then apply to transfer to the Industrial Studies pathway during the second or third year of your degree. Acceptance is based on academic performance during your course and selection by a suitable employer. There are reduced fees while you are on placement and you will receive a salary from the company for that year.

Courses with Industrial Studies

- MEng Computer Science
- MComp in IT in Organisations
- MEng Software Engineering
- MEng Electronic Engineering
- MEng Electrical and Electronic Engineering
- MEng Electrical Engineering
- MEng Electromechanical Engineering

“I am so glad I accepted this placement. I learned so much about presenting, communicating – many things you don’t necessarily learn at university – and the amount of contacts I made was amazing.”

Raj Shah

BEng Electromechanical Engineering
Industrial placement with IBM

Optional Modules

As well as your core modules you will also be able to choose from an extensive range of optional modules that reflect the specialist areas of your programme and the key technology areas that will be critical in the future within the overall expertise of ECS. Here are some of the subject areas available to you:

Agent Based Computing	Nanoelectronics
Analogue and Digital Electronics	Nanotechnology
Artificial Intelligence	Online Social Networks
Biomedical Technology	Optoelectronics
Computational Finance	Photonics
Computer Vision	Power Electronics
Critical Systems	Power Transmission and Distribution
Cryptography	Principles and Practice of Computer Graphics
Cyber Security	Programming Languages
Distributed Systems	Quantum Devices and Technology
E-Business Strategy	Robotic Systems
Embedded Systems	Secure Systems
High Voltage Systems	Sensors
Hypertext	Serious Games
Integrated Circuits	Silicon Photonics
Intelligent Agents	Simulation
Intelligent Algorithms	System on Chip
Image Processing	Web Science
Machine Learning	Web Technology
Metamaterials, Nanophonics and Plasmonics	Wireless and Mobile Networks
Micro Electromechanical Machines	Wireless and Optical Communications

You can also choose from options offered elsewhere in the University such as Entrepreneurship, Law, Management, Mathematics and Modern Languages. As part of its Flexible Learning Programme, the University has recently developed a range of interdisciplinary modules that also allow you to study subjects such as American Democracy, Gender and Society, Human Origins, The Living Earth, Philosophy of Science, or Twentieth Century Music.

 Find out more
[www.southampton.ac.uk/
ecs/UGcoursefinder](http://www.southampton.ac.uk/ecs/UGcoursefinder)

T: +44 (0)23 8059 2969

E: fpse-ugapply@southampton.ac.uk



PROMOTING WOMEN IN SCIENCE AND ENGINEERING

In ECS we are proud to have recently received the Athena SWAN Bronze Award recognising our work in tackling the problem of gender inequality in science.

This national achievement reflects our commitment to ensure women are encouraged into an area that has historically been dominated by men.

In ECS our female academics and students are already showing the success that women can have in the fields of Electronics and Computer science.

Our female academics are world-renowned for their work and research, including Professor Dame Wendy Hall, a pioneer of the Web, who is dedicated to raising the profile of women in Electronics and Computer Science.

Many of our female students are also accomplishing great things in the field. Syrian-born Ghaithaa Manla is just one of our success stories. She came over to the UK to study her MSc in Electronic Engineering and enjoyed her time at Southampton so much she has stayed. Since then she has completed her PhD, helped other international students settle into Southampton, been Coordinator of women's networking group Theano and is now a research fellow in ECS.

In ECS we actively promote diversity across our courses. A Diversity Committee supports training and career coaching for women, while ECS Women was started by our students to support women across all levels. The group takes an active part in conferences promoting females in science, engineering, and mathematics (STEM) subjects, and organises events to improve employability such as self-confidence building, CV and interview workshops, and network meetings.

ECS was also instrumental in instigating the formation of the University's Theano networking group that aims to promote the advancement of women in science, engineering and technology in higher education. It also regularly takes part in outreach initiatives in schools and colleges such as Think IT with IBM.



 Find out more
[www.southampton.ac.uk/
ecs/athenaswan](http://www.southampton.ac.uk/ecs/athenaswan)

YOUR STUDENT EXPERIENCE

Our seven campuses all offer a friendly, vibrant and diverse atmosphere for work and leisure.

Campuses

As an ECS student all of your work and lectures will be based at the main Highfield Campus, in the north of Southampton. Set in green and pleasantly landscaped surroundings, it is an easy walk from the city centre. Here you will find new and refurbished student facilities such as the Students' Union, the Jubilee Sports Centre, the Hartley Library, a 330-seat Uniplex cinema and three leading arts venues: the Nuffield theatre, the Turner Sims concert hall and the John Hansard gallery. There is also a range of cafés and restaurants, a bookshop, a post office and four major banks.

We have six other sites – our new £116 million Boldrewood Campus; Avenue Campus; Southampton General Hospital; the National Oceanography Centre, Southampton; Winchester School of Art; and our branch campus for engineering in EduCity, Iskandar, in Malaysia.

Social life

Run by students for students, SUSU, the University of Southampton Students' Union, offers a wide range of services and opportunities for you to get the most out of your free time.

- Experience Your Freshers' – a week full of activities to help you settle in
- Discover a new talent: try some of our 92 sports clubs from archery to Taekwondo
- Join one of our 218 societies from performing arts to politics
- Help local people: get involved in community volunteering projects and fundraising
- Socialise with friends in one of our bars or cafés on our campuses and in our halls of residences
- See high-profile acts, such as Pixie Lott and Greg James
- Catch a film in our 330-seat cinema
- Dance the night away in our large venue for big events and gigs
- Become a DJ or director at Surge Radio and SUSUtv
- Try out journalism for the *Wessex Scene* or *The Edge* magazines



03



You can socialise with friends in one of our bars or cafés on campus and in our halls of residences, as well as in the city of Southampton

04



02



05

JumpStart

The JumpStart programme is a week-long induction event that aims to ensure you settle into ECS, the University and the City of Southampton as quickly as possible.

It involves team challenges, social events, tours of the laboratories, meetings with your tutor group and key staff, and provides everything to help you adapt easily into your new student life.

Accommodation

Get the best out of your student life; stay in one of our 6,500 student rooms in halls. You can choose from a range of room types that includes a new development of over 1,400 rooms in Southampton city centre.

Live in either self-catered halls of residence with well-equipped communal kitchens, or part-catered accommodation where you enjoy the benefits of breakfast and evening meals throughout the week, plus some other meals at the weekend.

If you are a registered first-year undergraduate student new to the University, starting a full-time course, with no dependents, you will be guaranteed an offer of halls accommodation as long as you fulfil the full criteria of the guarantee, which includes applying before 1 August.

To uphold the guarantee, in years of exceptional demand we may offer accommodation in a twin shared room at the start of the academic year for a short, temporary period of time.

For more information on our guarantee to you, visit www.southampton.ac.uk/guarantee



01

- 01 Avenue Campus
- 02 National Oceanography Centre Southampton
- 03 Well-equipped kitchens
- 04 The Bridge Bar
- 05 Try Taekwondo

Find out more

University Residences
T: +44 (0)23 8059 5959
E: accommodation@southampton.ac.uk
www.southampton.ac.uk/accommodation

APPLYING AND FUNDING

We realise that going to university is a significant investment, so we'll ensure you have all the information you need to make an informed decision.

General entry requirements

To apply for undergraduate study you must satisfy our general entry requirements and any specific requirements of your chosen programme. Typical entry requirements for applicants with GCE A-levels can be found online.

How to apply

Apply online at www.ucas.com the website for the Universities and Colleges Admissions Service (UCAS). Our UCAS code name is SOTON and our number is S27. All students should apply between 1 September 2015 and 15 January 2016. If you are an international student from outside the UK or EU, we may consider your application up until 30 June 2016. However, we cannot guarantee there will be vacancies on our courses after the January deadline. Further information may be found in our Admissions Policy at www.southampton.ac.uk/admissions-policy

Tuition fees and funding

The University will set fees for 2016/17 when the government establishes limits for tuition fees. For 2015/16, the University set the tuition fee for UK students at £9,000 and we offer a large number of generous fee waivers and bursaries for eligible students.

For UK students from lower income families, these financial packages will be based on household income supplied to us by the Student Loans Company.

Your tuition fee may cover compulsory course costs, such as field trips and laboratory clothing; however a contribution may be necessary towards certain elements. Please check with the Admissions team for more details.

Visit our website for the latest information on tuition fees before you submit your UCAS form for entry in the 2016/17 academic year. Students who have applied for a deferred place in 2015/16 will be eligible for the 2016/17 tuition fees and support.

If you are a UK student you can apply for loans to help pay for both fees and maintenance. For more details, visit www.southampton.ac.uk/fees

Channel Islands/ Isle of Man student fees

Fees are set by the islands' governments and UK universities are notified of the levels in the spring prior to the academic session in which students commence their programme of study.

International student fees for 2016

Tuition fees for all ECS programmes (including Foundation Year) will be £18,010 per year.

Scholarships and bursaries

We offer a variety of scholarships and progression awards to the most talented students and a generous range of bursaries designed to help UK undergraduate students in the most financial need. For more details and eligibility criteria, visit www.ecs.soton.ac.uk/money

 Find out more
www.southampton.ac.uk/fees

T: +44 (0)23 8059 4732

E: admissions@southampton.ac.uk

INTERNATIONAL STUDENTS

Join us and students from more than 135 different countries at Southampton.

Living and studying in a different country has its own unique challenges. We make student entry straightforward, offer attractive scholarships to eligible applicants, help you settle into your new life and advise you on all aspects of living in the UK.

Our network of services and advisors ensure that your studies and life at Southampton is as productive and stress-free as possible.

International Office

Staff from our International Office attend educational exhibitions around the world as well as making numerous visits overseas and to colleges in the UK. If you are unable to visit us in Southampton, make sure you book an appointment to meet us at one of the exhibitions or join us on a virtual open day.

You will find a quick introduction to the University on our website, which is available in other languages. You can also view web pages dedicated to 50 specific countries.

To join us on a virtual open day, visit www.southampton.ac.uk/virtualopen day

Welcome Programme

In September each year, we arrange Welcome Programme, which helps you settle into life here. The week includes general events to introduce you to our facilities, subject-specific events to begin your academic induction and a range of social and cultural activities.

During the week, you will meet other undergraduate students and explore the University and the city, so that you know where to worship, relax and shop. You will also meet current international students who will be able to give you good advice.

Meet and Greet

The Meet and Greet Service from London Heathrow Airport is provided free of charge and is designed to get you to the University in time for the Welcome Programme. You can register for both this Service and the Welcome Programme from July on our website.

Visas

Before you join us, find out about the UK's immigration procedures. Do this well in advance of your arrival in the UK. Our website provides information on student visas, police registration, working in the UK and has links to other useful websites.

For more information, visit www.southampton.ac.uk/visa

International scholarships

We offer a number of subject-specific scholarships and bursaries to international students. These are based on international merit and vary depending on the subject.

English language requirements

If English is not your first language, you will need to demonstrate that you have reached a satisfactory standard in an approved English language test. For the majority of our courses we require an IELTS level of 6.5 or equivalent, achieved in the past two years. If you need to improve your English language skills, you can apply to our pre-sessional English language courses. For more information on general English Language requirements please visit our website.

 Find out more
www.southampton.ac.uk/international

T: +44 (0)23 8059 9699

E: global@southampton.ac.uk

HOW TO FIND US



CAMPUS INFORMATION

- University buildings
- Halls of residence

TRANSPORT INFORMATION

- Airport
- Ferry terminal
- Railway station
- Coach station

Find out more
www.southampton.ac.uk/campuses

TERMS & CONDITIONS

The University's Charter, Statutes, Regulations and Policies are set out in the University Calendar and can be accessed online at www.calendar.soton.ac.uk

Terms of use

This brochure does not constitute an offer or invitation by the University of Southampton to study at Southampton. This brochure provides an overview of the University and life at Southampton, along with information about all the undergraduate programmes available at the time of publication. It is provided for information purposes only. Relevant weblinks are shown throughout the brochure. Please also consult the programme information online for further details or for any changes that have appeared since first publication of the brochure.

The information contained in the brochure, welcome guides or on our websites, is subject to change and may be updated by the University from time to time to reflect intellectual advances in the subject, changing requirements of professional bodies and changes in academic staff members' interests and expertise. Changes may also occur as a result of monitoring and review by the University, external agencies or regulators.

1. Change or discontinuance of programmes

The University of Southampton will use all reasonable efforts to deliver advertised programmes and other services and facilities in accordance with the descriptions set out in the brochure, student handbooks, welcome guides and website. It will provide students with the tuition and learning support and other services and facilities so described with reasonable care and skill.

We undertake a continuous review of our programmes, services and facilities to ensure quality enhancement. We are also largely funded through public and charitable means and are required to manage these funds in an efficient and cost-effective way for the benefit of the whole of the University community.

We therefore, reserve the right where necessary:

- to alter the timetable, location, number of classes, content or method of delivery of programmes of study and/or examination processes, provided such alterations are reasonable;
- to make reasonable variations to the content and syllabus of programmes of study (including in relation to placements);
- to suspend or discontinue programmes of study (for example, because a key member of staff is unwell or leaves the University);
- to make changes to our Statutes, Ordinances, Regulations, policies and procedures which we reasonably consider necessary (for example, in the light of changes in the law or the requirements of the University's regulators). Such changes if significant will normally come into force at the beginning of the following academic year or, if fundamental to the programme, will normally come into force with effect from the next cohort of students;
- to close programmes of study or to combine or merge them with others (for example, because too

few students apply to join the programme for it to be viable).

If the University closes, discontinues or combines a programme of study or otherwise changes a programme of study significantly (the "Change"), the University will inform applicants (or students where relevant) affected by the Change at the earliest possible opportunity.

- a. If the Change comes into force before the University has made an offer of a place or before an applicant has accepted an offer of a place, an applicant will be entitled to withdraw his or her application, without any liability to the University, by informing the University in writing within a reasonable time of being notified of the Change.
- b. If the Change comes into force after an offer has been accepted but prior to the student enrolling, the student may either:
 - (i) withdraw from the University and be given an appropriate refund of tuition fees and deposits, or
 - (ii) transfer to another available programme (if any) as may be offered by the University for which the student is qualified.

If in these circumstances the student wishes to withdraw from the University and to apply for a programme at a different university, the University shall use its reasonable endeavours to assist the student.

- c. If the Change comes into force after a student has enrolled, the University will use reasonable endeavours to teach the programme out but cannot guarantee to do so. If the University cannot teach out a programme of study, it will use its reasonable endeavours to facilitate the transfer of a student to an equivalent programme for which the student is qualified and which has places available within the University or at a different university.

2. Changes to services or facilities

The University will make available to students such learning support and other services and facilities as it considers appropriate, but may vary what it provides from time to time (for example, the University may consider it desirable to change the way it provides library or IT support).

3. Financial or other losses

The University will not be held liable for any direct or indirect financial or other losses or damage arising from such closures, discontinuations, changes to or mergers of any programme of study, service or facility.

Upon acceptance by an applicant of an offer of a place at the University, the relationship between the applicant and the University becomes contractual. When the contract is formed between the student and the University it will last for the relevant academic year only unless the student withdraws from the programme or the programme is terminated. Please note: the right of a student to withdraw from a programme of study under the provisions set out in paragraph 1(b) above following a Change, are in addition to any statutory rights of

cancellation that may exist under the Consumer Contracts (Information, Cancellation and Additional Charges) Regulations 2013. In entering into that contract, the terms of the contract will not be enforceable by any person not a party to that contract under the Contracts (Rights of Third Parties) Act 1999.

Force majeure

The University will not be held liable for any loss, damage or expense resulting from any delay, variation or failure in the provision of programmes of study, services or facilities arising from circumstances beyond the University's reasonable control, including (but not limited to) war or threat of war, riot, civil strife, terrorist activity, industrial dispute, natural or nuclear disaster, adverse weather conditions, interruption in power supplies or other services for any reason, fire, boycott and telecommunications failure.

In the event that such circumstances beyond the reasonable control of the University arise, it will use all reasonable endeavours to minimise disruption as far as it is practical to do so provided that such endeavours do not undermine the University's Quality Assurance requirements.

Admissions Policy and Complaints

The University will assess applications in line with its then current Admissions Policy. The Admissions Policy, current at the time of publication, is published online and is available at www.southampton.ac.uk. The Admissions Policy is reviewed at least annually.

Applicants may raise complaints related to admissions under the University's Regulations Governing Complaints from Applicants, which can be found in the Calendar at www.calendar.soton.ac.uk. Further information about, or clarification of, these procedures is available from Admissions Team, Student and Academic Administration, University of Southampton, Southampton SO17 1BJ, email: admissions@soton.ac.uk.

Data Protection

During the application procedure, the University will be provided with personal information relating to the applicant. An applicant's personal data will be held and processed by the University in accordance with the requirements of the Data Protection Act 1998.

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A copy of this brochure and the University's current information for students with disabilities and specific learning difficulties can be made available, on request, in alternative formats, such as electronic, large print, Braille or audio, and, in some cases, other languages.

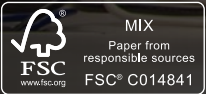
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www.southampton.ac.uk/ecs
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International enquiries:
global@southampton.ac.uk
+44 (0)23 8059 9699



Cover image: Electronics and Computer Science students benefit from innovative teaching based on world-leading research.



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