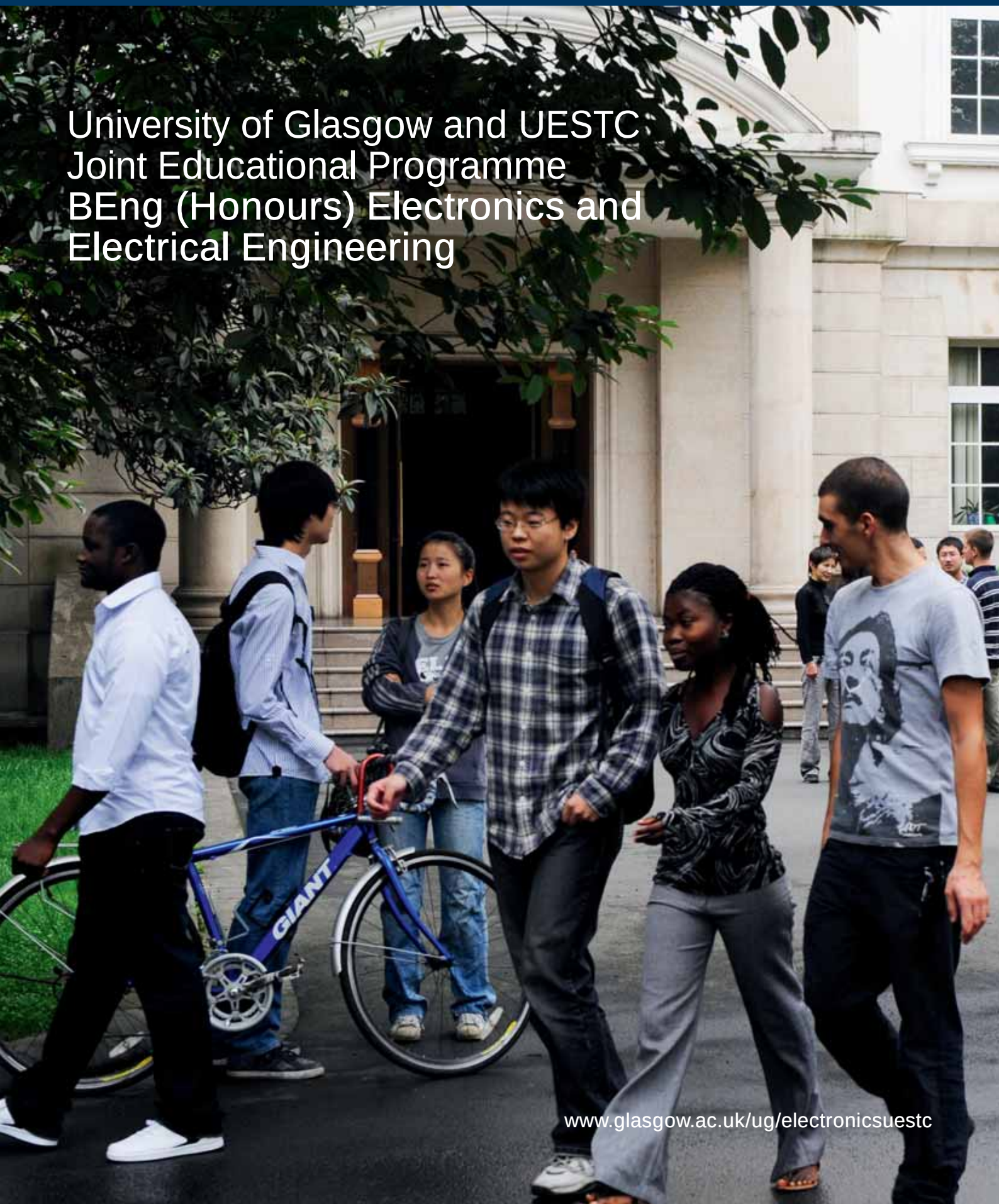
University of Glasgow

University of Electronic Science and Technology of China

University of Glasgow and UESTC Joint Educational Programme BEng (Honours) Electronics and Electrical Engineering



www.glasgow.ac.uk/ug/electronicsuestc

The University of Glasgow

The University of Glasgow is ranked 51st in the QS World University Rankings 2013 and is one of the UK's oldest institutions of learning, recognised internationally for its groundbreaking research. The University of Glasgow has a reputation for research that benefits industry, society and the environment. Founded in 1451, Glasgow is the fourth-oldest university in the English-speaking world and is a founding member of the prestigious Russell Group of leading UK research universities. Furthermore the University of Glasgow is a founder member of Universitas 21, an international grouping of universities dedicated to setting worldwide standards for higher education.

Glasgow scores consistently well in league tables for Electronics and Electrical Engineering; we are proud to have ranked 6th (Guardian University Guide 2014), 7th (Times Good University Guide 2014) and 9th (Independent Complete University Guide 2014) in the UK for 2014.

The University of Glasgow is proud of the many distinguished figures that have taught, worked and studied at the University, including seven Nobel laureates. Famous names include 'father of economics' Adam Smith; the physicist Lord Kelvin (William Thomson) a man as famous for his inventions as for his academic work; James Watt, an outstanding engineer who is considered to be a key figure in the Industrial Revolution through his significant contributions to the steam engine; William Rankine, a founder of thermodynamics who gave his name to the Fahrenheit equivalent of the absolute temperature scale; Joseph Lister who developed his revolutionary system of antiseptic surgery; and pioneer of television John Logie Baird.

Excellence in teaching

A research-led approach is one of the reasons why a degree from the University of Glasgow is so prized and students also benefit from a commitment to providing an intellectually stimulating learning environment. Students at the University of Glasgow learn from dedicated teaching staff, recognised as leaders in their fields: 75% of Glasgow's academics contribute to subjects where the majority of research is world-leading or internationally excellent *(Research Assessment Exercise, 2008)*. Students are guided in developing the ability to direct their own learning, ensuring they graduate equipped with the skills they need to compete in a global workplace.

An international community

Glasgow's outstanding reputation for research, vast experience and investment in facilities all contribute to make the University an attractive choice for the best students from across the globe. Glasgow welcomes students from more than 100 countries and University staff collaborate with some 200 institutions around the world. Rated fourth for international student satisfaction among UK universities participating in the International Student Barometer Summer 2013 we know that the friendships and networks our students make at Glasgow can last a lifetime - we are in touch with 118,000 alumni in 162 countries.

University of Glasgow's famous alumni include 'father of economics' Adam Smith, outstanding engineers James Watt and William Rankine, Lord Kelvin, and pioneer of television, John Logie Baird.'

Glasgow: a truly cosmopolitan city

Scotland has been rated third in the Top 10 world holiday destinations for 2014 by Lonely Planet. As Scotland's largest city, and with a population of 600,000, Glasgow is a cosmopolitan city home to people of many nationalities. Glasgow is a vibrant city offering a legendary live music scene, hosting countless international festivals, and providing the best shopping in the UK outside London. Glasgow is also one of the world's leading destinations for sporting events; we hosted football matches as part of the London 2012 Olympic Games and are delighted to be hosting the 2014 Commonwealth Games.






The University of Electronic Science and Technology of China (UESTC)

Renowned as China’s birthplace for the national electronic industry, UESTC is situated in the city of Chengdu, the capital of Sichuan Province in Southwest China. UESTC was founded in 1956 through the combination of the electronic divisions of three well established universities; Shanghai Jiaotong University, Nanjing Institute of Technology and South China Institute of Technology. UESTC became one of China’s key universities in 1960, and is one of the seven earliest universities in national defence. In 1997 it was included as one of the first universities in ‘Project 211’, a project in China for developing 100 first-class universities and a number of key fields of research for the 21st century. In 2001, UESTC was admitted into the nation’s ‘Project 985’, a project that supports the development of world-class research-orientated universities.

During the past fifty years UESTC has evolved from a University specialising in electronic information, to a key multidisciplinary university with electronic science and technology as its nucleus, engineering as its major field and an integrated approach to science, engineering, management and liberal arts.

History

1956 Chengdu Institute of Radio Engineering (CIRE), the first electronic information institute of higher education in China, was founded.

1960 Chengdu Institute of Radio Engineering was declared one of China’s National Key Institutes by the Higher Education Ministry of State.

1988 Chengdu Institute of Radio Engineering was renamed University of Electronic Science and Technology of China.

1997 The University was included into “the State’s Education Revival Project” for the top one hundred key universities (Project 211).

2000 The University was transferred to the MOE-university system, hence a national key university directly affiliated into the State’s Ministry of Education.

2001 The University was admitted to the State’s “Project 985” for the top 39 universities in China.

2007 Qingshuihe Campus occupying an area of 219 hectares, or 540 acres was opened.

The University of Glasgow Partnership with the University of Electronic Science and Technology of China:

The University of Glasgow has a long tradition of welcoming students from China and building partnerships with prestigious Chinese universities. Our first Chinese student joined us in 1886 and we currently have more than 1,500 Chinese students studying at Glasgow. Our relationship with UESTC dates back to 2009, when we first signed an agreement to promote joint research and student mobility. The University of Glasgow's collaboration with UESTC has since entered into a new and exciting phase of development, with the joint delivery of the four year undergraduate BEng (Honours) degree programme in Electronics and Electrical Engineering in Chengdu that enrolled its first class in September 2013. This stimulating programme allows both Chinese and international students to study for a UK qualification in China.

The School of Engineering at the University of Glasgow:

As the oldest and one of the most prestigious Schools of Engineering in the UK, we have been delivering a world class engineering education for more than 160 years. The Regius Chair of Civil Engineering and Mechanics was established at Glasgow by Queen Victoria in 1840 and we introduced the first Engineering Degree programme in the UK 1872. The education we provide is informed and supported by our portfolio of fundamental and industry relevant research at the cutting edge of technology. Glasgow is in the top 1% of the world's universities and we are proud that we have academic staff who are recognised as being among the world leaders in their field.

Electronics and Electrical Engineering at the University of Glasgow:

Electronics and Electrical Engineering at Glasgow has a truly international reputation. Over the past 30 years we have built a formidable track record in physical electronics, nanoscience and nanotechnology. The University is a recognised pioneer in the fields of nanoscience and nanotechnology and has developed outstanding experimental laboratory facilities, which include the James Watt Nanofabrication Centre, one of Europe's premier research clean rooms.

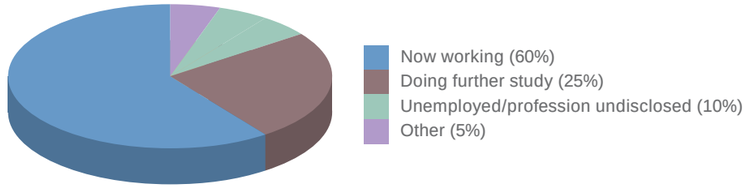
Our undergraduate and postgraduate students benefit from their interaction with world- class researchers. As a discipline Electronics and Electrical Engineering at Glasgow has consistently ranked highly within the top ten UK universities according to independent surveys such as the Guardian University Guide. In addition our students report high levels of satisfaction with 92% of students currently reporting overall satisfaction with this programme.*

In September 2001, UESTC was selected as one of the 39 elite research-intensive universities in China to gain special funding under Project 985.'

What are my career prospects?

Electronics and Electrical Engineering graduates from the University of Glasgow are highly sought after by employers across the world. Our success rate speaks for itself – 6 months after graduating 85% of our graduates were in work and/or undertaking further study and 90% of those in employment were in professional or managerial jobs.*

This is what students are doing
6 months after finishing the course



Graduates may choose from a broad range of employment options: for example, constructing nanoscale electronic circuits for future medical devices or hand-held computing equipment; planning wide area telecommunications networks using wireless, fibre optic and satellite links; or designing the electronics and electrical systems for energy harvesting or comfortable human transportation.

The Electronics and Electrical Engineering Discipline at Glasgow has very strong links to UK, EU and international industry including companies such as: AMD; Philips; Siemens; BAE systems; Jaguar Land Rover and QinetiQ.

Recent Electronics and Electrical Engineering graduates from the University of Glasgow have been employed by many leading organisations including:

- ARM
- Atkins, Graduate Engineer
- Cambridge Silicon Radio
- QinetiQ, Communications Engineer
- Amor Group, Support Analyst
- BAE Systems, Graduate Engineer
- Covidien, Biomedical Engineer
- European Organization for Nuclear Research (CERN), Electronics Engineering Fellow
- UK Power Networks, Electrical Engineer
- Jaguar Land Rover, Graduate Engineer
- HUAWEI

Many students continue to further study for an MSc in Britain or abroad (for example, a recent graduate who is Chinese became a graduate student at Columbia University, New York City, before taking up a post with Apple in California). Others are working towards their PhDs in Glasgow, elsewhere in Britain, and worldwide.

Source: *Unistats, November 2013.

Accreditation:

All current University of Glasgow single and joint honours degrees with Electronics are accredited by The Institution of Engineering and Technology (which was previously known as the Institution of Electrical Engineers). It is our intention and expectation that the Joint Educational Programme BEng in Electronics & Electrical Engineering be similarly accredited. Note that for any newly named degree, accreditation is only confirmed after the professional body has performed a formal visit and review of the first group of graduating students' projects and honours courses. Assuming success, the degree is then accredited for all graduating students, including this first group.

BEng (Honours) Electronics and Electrical Engineering (Joint Educational Programme in Partnership with UESTC)

www.glasgow.ac.uk/undergraduate/degrees/electronicsuestc

This Joint Educational Programme aims to integrate a rigorous foundation in mathematics and electronic engineering with a stream of independent project work that runs throughout all four years. In the first year, you will spend most of your time learning the underlying mathematics, physics and engineering skills, as well as an introduction to the applications of analogue and digital electronics. The curriculum in the second year concentrates on the fundamentals of electronic engineering with applications to modern embedded microelectronic systems and is supported by an electronic design project. In the third year, you will mature as an Electronics & Electrical Engineer, studying the full range of subjects from electronic devices to power engineering – with a challenging team design project to bring these topics together. The fourth year includes the major individual project, which you can select from a wide range of options, with themes that include Control, Digital Communication, Digital Signal Processing, and VLSI Design.

This degree programme is broadly based to prepare you for a wide range of professional careers. As a graduate engineer you will be able to deal with anything from mechatronics to microelectronics, and communication systems to digital systems.

Electronics and Electrical Engineering touches all aspects of contemporary life, having spawned the electricity power generation and transmission industries, the computer revolution, global telecommunications, and the modern entertainment industries. It is also key to the systems needed for health care, future energy efficiency, and to regulate renewable power sources such as wind, wave and solar. Electronic and Electrical Engineers are crucial to systems which sense, transmit and process information, and to the generation, control and application of power.

This degree programme equips graduates for this wide range of opportunities in industry, by concentrating on the following aims:

- to develop in students a comprehensive understanding of the fundamental principles on which electronic and electrical circuits and systems are based (including a thorough grounding in relevant mathematics in the early years of the degree)
- to build experience in the analysis and solution of practical engineering problems, and the design and test of novel electronic and electrical circuits and systems
- to provide experience of engineering practice including the use of standard tools and software
- to provide opportunities for the student to study specialist topics in electronics, chosen by students in their Honours year
- to inculcate the skills and creativity required to perform both team and individual projects successfully
- to build some appreciation of the non-technical aspects of the environment in which engineers are employed, ranging from communication skills to economic, management and ethical issues

The majority of these aims will be accomplished through lecture courses and associated laboratories, supported by a strand of creative project work that develops throughout the degree. Distinctive features of the degree include: a 3rd year project where small teams of students design and test a complex autonomous electronic system from scratch, working to an engineering design brief; and an extended project in 4th year which may be in industry where students rise to the challenge of working in an unfamiliar environment on a substantial and novel engineering problem.

An outline of the courses that you will study in each year of the programme is given below. In addition to these courses, all students enrolled in the Joint Educational Programme will study the various non-technical courses (including English) and training courses that are required by UESTC.

In year 1 you will study:

Calculus I
Calculus II
Linear Algebra and Space Analytic Geometry I
Engineering Graphics
Physics I
Analogue Electronics
Microelectronic Systems
Introductory Programming
Physical Experiment I

In year 2 you will study:

Numerical Analysis & Matlab
Electronic Technology Application Exp. I
Fundamentals of Circuit Analysis
Fundamentals of Analog Circuits
Physical Experiment II
Electronic Design Project and Skills
Embedded Processors
Physics II
Probability Theory and Mathematical Statistics
Fundamentals of Electronic Technology Exp. I
Fundamentals of Electronic Technology Exp. II
Power Electronics
Application and Design of Digital Logic
Frontiers of Electronic and Information Technology

In year 3 you will study:

Dynamics And Control
Signals and Systems
Electronic Devices
Electromagnetic Field and Microwave Technology
Electronic Circuit Design
Electronic System Design
Electromechanical Drive Technology
Power Engineering
Real Time Computing Systems
Team Design Project and Skills
Engineering Professional Studies Option
Electronic Technology Application Exp. II
Comprehensive Exp. of Modern Electronic Tech.

In year 4 you will study:

Individual Project
A choice of three courses from:
Control
Digital Signal Processing
VLSI Design
Digital Communication

Throughout all years you will study:

Foreknowledge of Electronic & Information Technology Lecture

Please note: The curriculum outlined may be subject to change as deemed necessary.

How to Apply

For more information on how to apply please contact the Admissions Office at UESTC:
Admission Office of UESTC
Qingshuihe Campus: No.2006, Xiyuan Ave.,
West Hi-Tech Zone Chengdu,
Sichuan 611731
P. R. China
Tel: +86-28-61831137, 61831139 E-mail: yzb@uestc.edu.cn

入学申请
更多入学申请信息请垂询电子科技大学招生办公室：
四川省成都市高新西区西源大道2006号 电子科技大学清水河校区 邮编611731
电话：+86-28-61831137，61831139
邮箱地址：yzb@uestc.edu.cn

For general enquiries about the Joint Educational Programme, please contact:
Tel: +86-28-61831770, 61831762, 61830101 Email: glasgow@uestc.edu.cn

International students are also welcome to apply for this programme and can find further information at:
www.oice.uestc.edu.cn/en

For general enquiries about studying at the University of Glasgow as a student from China, please contact:
Andrew.Zhao@glasgow.ac.uk