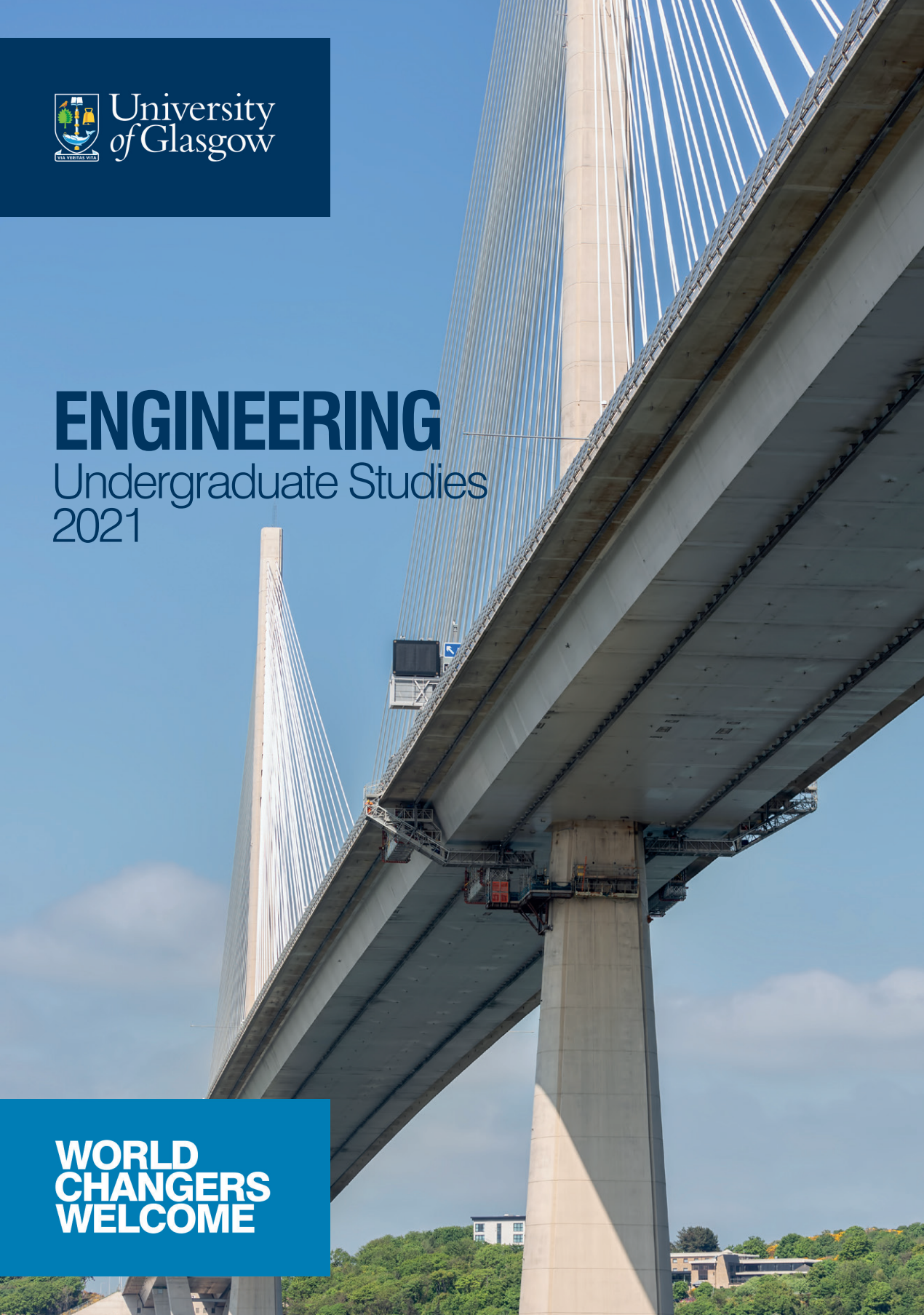
University of Glasgow

ENGINEERING

Undergraduate Studies 2021



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(NSS 2019)

IN THE TOP 5 OF THE RUSSELL GROUP FOR STUDENT SATISFACTION
(NSS 2019)

250+ CLUBS AND SOCIETIES

How to apply

For full-time study you must apply through the Universities & Colleges Admissions Service (UCAS). See **ucas.com**.

James Watt School of Engineering

We have been delivering world-class engineering education and research for more than 150 years and are the oldest School of Engineering in the UK.

We offer an exciting range of undergraduate degree programmes that include not only the core engineering disciplines (Aeronautics, Civil, Electronics & Electrical and Mechanical Engineering) but also unique specialist degree programmes, such as Biomedical Engineering, Product Design Engineering, Electronics with Music and Civil Engineering with Architecture.

Our engineering societies

The James Watt School of Engineering is home to a number of lively societies.

Glasgow University Engineering Society
Throughout the year this society hosts a variety of events from social meetups to industry and career building events. All students are encouraged to attend these as they provide unique opportunities: whether it be a fun night out with fellow engineers of all disciplines, or a chance to talk to practicing engineers in a familiar and comfortable environment. The society provides a chance for our students to relax during the busy semesters alongside fellow students.

The Female Engineering Society (FemEng)
FemEng is a network formed within the Glasgow University Engineering Society, with the sole aim of bringing the women in the James Watt School of Engineering together. In connection with pre-existing organisations such as Interconnect (Equate), WES and Athena Swan, FemEng has established strong links with industry and academics alike. The society holds events which are tailored to suit the women that attend them, FemEng helps to encourage the minority. Cocktail nights, bake-offs, talks from inspirational women and the opportunity to engage in overseas projects are just some examples of what to expect from being a part of this rapidly growing society.

Engineers without Borders (EWB)
EWB UK is an international development organisation that removes barriers to development through engineering. EWB programmes provide opportunities for young people to learn about engineering's role in poverty alleviation. By taking part in our activities, our members are making a difference to people's lives around the world. GUEWB is one of the charity's branches in universities throughout the UK.

UGRacing
Each year the James Watt School of Engineering participates in the highly renowned, ten-month long "Formula Student" programme. Run by the Institute of Mechanical Engineering (IMechE), this is an exciting and unique chance for students from across our engineering disciplines to join forces to construct a single-seat racing car.

The design and build culminates in a race at the world-famous Silverstone track, against more than 300 teams from across the globe. The competition nurtures students' management, marketing and technical skills as well as offering specialised engineering and motorsport industry experience. The school recognises the substantial value of this activity and provides considerable technical and financial support for it.

Industrial Scholarship Scheme

Taking advantage of our strong links with industry, the James Watt School of Engineering has launched an exclusive new scholarship scheme.

The University of Glasgow Engineering Scholarship Scheme offers top performing students the opportunity to gain significant paid work experience and an annual bursary of £1,600 whilst undertaking their degree. This gives our students a fantastic start to a future career before graduating. Amey, Leonardo and Mott Macdonald are some of the big industry names currently signed up to this rapidly expanding scheme.

The scholarship is open to University of Glasgow James Watt School of Engineering undergraduates who attain a GPA of 15 or more at the end of their second year. For more information, see **glasgow.ac.uk/schools/ engineering/scholarshipscheme** or contact: **eng-guess@glasgow.ac.uk**.

RANKED 1ST IN SCOTLAND FOR CIVIL ENGINEERING (COMPLETE UNIVERSITY GUIDE 2021)

RANKED 2ND IN SCOTLAND FOR MECHANICAL ENGINEERING (COMPLETE UNIVERSITY GUIDE 2021)

RANKED 2ND IN SCOTLAND FOR ELECTRICAL & ELECTRONIC ENGINEERING (COMPLETE UNIVERSITY GUIDE 2021)

RANKED 1ST IN SCOTLAND FOR AERONAUTICAL & MANUFACTURING ENGINEERING (COMPLETE UNIVERSITY GUIDE 2021)

AERONAUTICAL ENGINEERING

Aeronautical engineering is about how aircraft are designed, constructed and powered, how they are used and how they are controlled for safe operation.

92% BEng STUDENTS SATISFIED* | STUDY ABROAD | PROFESSIONALLY ACCREDITED

BEng (H415): Four years
MEng (H410): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether you are on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

In your first year, you will take courses in aeronautical engineering, mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Years 2 and 3

In year 2 you will study fluid mechanics, dynamics, aeronautical engineering, thermodynamics and mathematics. In year 3 you will learn about the design of aircraft. You will begin to analyse and understand aircraft behaviour, aircraft performance and propulsion systems, and perform detailed analysis of aircraft structural components.

Years 4 and 5

In year 4 you will begin to deal with some of the advanced concepts in aeronautics, including the study of composite materials, aeroelasticity, high-speed aerodynamics, fluid dynamics, flight dynamics and control theory.

BEng students undertake an individual project to solve a problem in aeronautical engineering. MEng students undertake an interdisciplinary team project.

In year 5 MEng students learn about aircraft handling qualities, aircraft operations, and advanced structural analysis techniques.

Half of this year is devoted to project work, which can be carried out in industry, within the university or via a placement abroad. A range of optional courses is available in years 4 and 5 to allow you to develop and follow your interests.

Partnership and industry links

There are contributions to aircraft design classes by engineers from the industrial sector and, whenever possible, visits to industrial sites. The school also sponsors student teams for national (IMechE) and international (AIAA) competitions.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

The MEng programme allows you to take your project in Europe. We also have partner universities in the USA and Australia, where some students undertake their third year of study.

Accreditation

Accredited by the Royal Aeronautical Society and the Institution of Mechanical Engineers.

Career prospects

Our graduates have been employed by organisations such as Williams F1, Nuclear Decommissioning Authority, the RAF, Fluid Gravity Engineer, Rolls-Royce plc and the Met Office.

Why choose Glasgow?

You'll take part in practical laboratories, including running a jet engine test, and a flight-testing course in a Jetstream aircraft during year 5 of the MEng.

w glasgow.ac.uk/ug/aeronauticalengineering e eng-teachingoffice@glasgow.ac.uk

** Discover Uni (discoveruni.gov.uk), January 2020*

AEROSPACE SYSTEMS

Aerospace systems focuses on the design and use of onboard systems found on most aircraft and spacecraft, and how these systems may be used to improve the operation and performance of aerospace vehicles.

95% OF AERONAUTICAL & AEROSPACE ENGINEERING STUDENTS IN WORK WERE IN PROFESSIONAL/ MANAGERIAL JOBS* | STUDY ABROAD | PROFESSIONALLY ACCREDITED

BEng (H402): Four years
MEng (H401): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

In your first year, you will take a wide-ranging curriculum which includes courses in aerospace engineering, mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Years 2 and 3

You will concentrate on aerospace dynamics, aeronautical engineering, electronics and systems, electrical circuits and mathematics. There will be a focus on developing key software programming skills.

Years 4 and 5

In year 4 you will study topics including flight simulation, aerospace vehicle guidance and control, radio and radar, dynamics, aircraft handling qualities and aircraft operations.

BEng students undertake an individual project to solve a problem in aerospace systems. MEng students undertake an interdisciplinary team project.

MEng students in year 5 learn about aircraft handling qualities, aircraft operations, and advanced control concepts. Half of this year is devoted to project work, which can be carried out in industry, within the University or via a placement abroad. A range of optional courses is available in years 4 and 5 to allow you to develop and follow your interests..

Partnership and industry links

As well as in our industry-sponsored UAV lab, many MEng projects are carried out in industry, and the school also arranges, whenever possible, visits to industrial sites. The school also sponsors student teams for national (IMechE) and international (AIAA) competitions.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

The MEng degree programme allows you to take your fifth-year project in Europe. We also have partner universities in the USA and Australia, where some students take their third year of study.

Accreditation

Accredited by the Royal Aeronautical Society and the Institution of Mechanical Engineers.

Career prospects

The development of new aircraft and the increase in the complexity of aircraft systems fuel the demand for aerospace systems engineers, with opportunities in the fields of software and hardware design, simulation and expert systems. Past graduates have gained employment with companies such as QinetiQ, Logica, BAE Systems, Thales and Unisys.

Why choose Glasgow?

You'll take part in practical laboratories, including running a jet engine test, and a flight-testing course in a Jetstream aircraft during year 5 of the MEng.

w glasgow.ac.uk/ug/aerospacesystems e eng-teachingoffice@glasgow.ac.uk

** Discover Uni (discoveruni.gov.uk), January 2020*

BIOMEDICAL ENGINEERING

Biomedical engineering is about finding engineering solutions to medical problems. As a rapidly expanding industry, biomedical engineering meets the demands of healthcare through the development of technology.

90% OF BIOENGINEERING, MEDICAL & BIOMEDICAL ENGINEERING STUDENTS IN WORK WERE IN PROFESSIONAL/ MANAGERIAL JOBS*

STUDY ABROAD

PROFESSIONALLY ACCREDITED

BEng (J750): Four years
MEng (J751): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

In your first year, you will take courses in biomedical engineering, mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Year 2

You will study further engineering and biomedical subjects including engineering mathematics, mechanics, biomaterials, biomedical engineering skills, electronic engineering, engineering design and engineering in biological systems from the cell to the whole body.

Year 3

You will study more advanced engineering and biomedical subjects including biological fluid mechanics, biomechanics, modelling, instrumentation and control, statistics, medical imaging and human biological sciences.

Years 4 and 5

In year 4 of the BEng programme you will complete a project which takes up one third of the year. Year 4 MEng students undertake a multidisciplinary design project. All year 4 students continue to take courses in engineering, biomedical and life sciences and medicine, as well as a range of options including cell and tissue engineering, ultrasound technology, control, materials and mechanics.

As an MEng student, in your fifth year you will work on a detailed research-based project in industry, at a hospital or at another university. Thereafter, you will choose courses in subjects such as energy in biological systems, advanced imaging and therapy, scaffolds and tissues, computational modelling, dynamics, and materials.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

You will be able to apply to spend the third year of your studies abroad at an accredited partner university. We also have extensive links to international academic, industrial and clinical partners, which allow our MEng students to undertake their six-month project overseas.

Accreditation

Accredited by the Institute of Engineering & Technology, the Institution of Mechanical Engineers, and the Institute of Physics & Engineering in Medicine.

Career prospects

Our graduates are well represented in manufacturing companies and the NHS and in a wide range of industries in this country and abroad. Biomedical Engineering can be an excellent preliminary degree for graduate entry into Medicine. The degree also provides graduates with strong transferable skills.

Why choose Glasgow?

You'll take part in practical activities including visits to local hospitals. You will benefit from our strong links with industry and the NHS, with engineers and clinicians contributing to lectures, projects and case studies, as well as offering work placements.

w glasgow.ac.uk/ug/biomedicalengineering e eng-teachingoffice@glasgow.ac.uk

** Discover Uni (discoveruni.gov.uk), January 2020*

CIVIL ENGINEERING

Civil engineers design and build major structures and provide the skills and expertise to design, build and maintain the country's infrastructure.

95% STUDENTS SATISFIED*

STUDY ABROAD

PROFESSIONALLY ACCREDITED

BEng (H202): Four years
MEng (H200): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

Our Civil Engineering degree is focused around problem-based learning and our students enjoy tackling design projects in all years of the programme.

You will study the same courses in the first three years whether you are on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

In your first year, you will take a wide-ranging curriculum which includes courses in civil engineering, mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Years 2 and 3

You will take a range of courses within structural engineering, water engineering, transportation, geotechnical engineering and construction management. Courses cover both fundamental principles and practical applications. We place considerable emphasis on practical work, in the form of laboratory classes, physical and computational modelling exercises, project work, surveying fieldwork, design projects and site visits.

Years 4 and 5

In fourth year, MEng students study a greater range of advanced analytical topics than BEng students. Year 5 of the MEng programme contains a mix of advanced courses and major design project work, some at overseas institutions or involving practising engineers, which are intended to develop professional-level skills.

Partnership and industry links

We have excellent links with industry, with practising engineers contributing to projects, lectures and case studies. Many engineering employers offer Glasgow students well-paid summer placements and, in some cases, sponsorship.

Our international links

You may apply to study abroad in year 3. In addition, MEng students can work on their fifth-year project at overseas institutions.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Accreditation

MEng: fully satisfies the educational base for a Chartered Engineer.

BEng: fully satisfies the educational base for an Incorporated Engineer and partially satisfies the educational base for a Chartered Engineer.

Career prospects

Recent graduates have been employed by ARUP, civil engineer; Jacobs Engineering Ltd, civil engineer; Balfour Consultancy Ltd, structural engineer; BAM Nuttall, civil engineer; Laing O'Rourke, civil engineer; Scottish Southern Energy, civil engineer; WSP Group, civil engineer; Atkins Global, graduate civil engineer; and SEPA, trainee flood risk scientist.

Why choose Glasgow?

This programme's strengths lie in its synthesis of scientific enquiry, engineering design and creative problem solving to tackle the challenging and complex real-life problems encountered by professional civil engineers.

w glasgow.ac.uk/ug/civilengineering e eng-teachingoffice@glasgow.ac.uk

** Discover Uni (discoveruni.gov.uk), January 2020*

CIVIL ENGINEERING WITH ARCHITECTURE

Civil Engineering with Architecture will give you an understanding of the architect's role in construction and the interaction between architect and civil engineer.

100% MEng STUDENTS SATISFIED* | STUDY ABROAD | PROFESSIONALLY ACCREDITED

BEng (H2KC): Four years
MEng (H2K1): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

Our Civil Engineering degree is focused around problem-based learning and our students enjoy tackling design projects in all years of the programme.

You will study the same courses in the first three years whether you are on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

You will take a wide-ranging curriculum which includes courses in architecture, civil engineering, mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Years 2 and 3

You will take a range of courses within civil and structural engineering, and architecture. We place considerable emphasis on practical work, in the form of laboratory classes, physical and computational modelling exercises, project work, surveying fieldwork, design projects and site visits.

In year 3 you will take part in a multidisciplinary design project. Together with students of architecture and quantity surveying from other universities, you will work in small teams to solve real-life design problems, just as you would do in professional life.

Years 4 and 5

In fourth year, MEng students study a greater range of advanced analytical topics than BEng students. Year 5 of the MEng programme is largely devoted to engineering design project work, architectural studies and an individual project, which are intended to develop creative problem-solving skills.

Partnership and industry links

We have excellent links with industry, with practising engineers contributing to projects, lectures and case studies. Many engineering employers offer Glasgow students well-paid summer placements and, in some cases, sponsorship.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

You may apply to study abroad in year 3. In addition, MEng students can work on their fifth-year project at overseas institutions.

Accreditation

MEng: fully satisfies the educational base for a Chartered Engineer. BEng: fully satisfies the educational base for an Incorporated Engineer and partially satisfies the educational base for a Chartered Engineer.

Career prospects

Our recent graduates have been employed by companies such as WSP, Atkins Global and Mott MacDonald.

Why choose Glasgow?

This is a unique degree programme in collaboration with the Glasgow School of Art. The architectural component is entirely design-oriented, studio-based and directed towards the production of sketches, drawings and models and their compilation into a portfolio.

glasgow.ac.uk/ug/civilengineeringwitharchitecture **eng-teachingoffice@glasgow.ac.uk**

** Discover Uni (discoveruni.gov.uk), January 2020*

ELECTRONIC & SOFTWARE ENGINEERING

Electronic and software engineering combines the study of both hardware and software within modern computing and engineering. It will give you the knowledge required to lead teams that will design and build the computerised and embedded systems of the future.

100% MEng STUDENTS SATISFIED* | STUDY ABROAD

BSc (Hons) (GH66): Four years
BEng (GHP6): Four years
MEng (HG66): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether you are on the BEng, BSc or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

You will study core courses in electronics & electrical engineering, mathematics and computing science. In engineering, you will develop key skills in design, simulation and testing analogue and digital circuits in the laboratory. In computing science you will develop computer problem-solving skills applicable in any programming language.

Years 2 and 3

You will gain a thorough grounding in the hardware and software aspects of computer systems, including expertise in programming and software engineering using Java, detailed knowledge of operating systems and networking, a solid foundation in databases and experience with electronic design software. This will be combined with a working knowledge of electrical circuit theory, analogue and digital electronic system design and digital communications.

Years 4 and 5

You will have a wide choice of technical options in fourth year, choosing half your specialist topics from electronics & electrical engineering (including VLSI design and robotics) and half from computing science (including artificial intelligence, software engineering processes and network communications). You will study professional aspects including economics, project organisation, environmental issues and safety.

If you are a BEng or BSc student, you will undertake a substantial individual project under one-to-one supervision.

MEng students can take part in an integrated system design project, working in multidisciplinary teams. In fifth year a six-month project, normally undertaken abroad, is followed by further advanced technical subjects.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

You will have the opportunity to study abroad at one of our partner universities as part of your degree. This won't add any extra time to your studies.

Accreditation

Accreditation has been sought for this programme. Please check our website for updates.

Career prospects

Previous graduates have found employment in a wide range of industries, such as software houses, electronics companies and commercial institutions, including Agilent, ARM, BMW, Ion Torrents, Thales and Wolfson Microelectronics, among many others.

Why choose Glasgow?

Between years 3 and 4 you will undertake a work placement in industry, either in the UK or overseas.

glasgow.ac.uk/ug/electronicsoftwareengineering **eng-teachingoffice@glasgow.ac.uk**

** Discover Uni (discoveruni.gov.uk), January 2020*

ELECTRONICS & ELECTRICAL ENGINEERING

This degree programme covers a wide range of topics relating to electronics & electrical engineering within modern life. It will enable you, as a graduate engineer, to be employed in a large number of industries, from power engineering to nanoelectronics, radar and telecommunication systems to the design of digital technology.

95% OF ELECTRICAL & ELECTRONIC ENGINEERING STUDENTS IN WORK WERE IN PROFESSIONAL/ MANAGERIAL JOBS*

STUDY ABROAD

PROFESSIONALLY ACCREDITED

BEng (H600): Four years
MEng (H601): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

In your first year, you will take a wide-ranging curriculum, which includes courses in analogue & digital electronics, mathematics, dynamics, materials and thermodynamics. These courses are supported by project and laboratory work, which allow you to develop the much-needed skills and experience required for a career in engineering. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Years 2 and 3

The following two years will contain a core of compulsory subjects that are needed for electronics and electrical engineering, as well as optional subjects in business and management.

The core courses will give you a firm grounding in the knowledge and skills required of any professional electronics or electrical engineer, whether your career takes you to work with hydroelectric projects or wind farms, designing high-tech gadgets and co mmunications devices or creating new electronic components at the nano-scale. These courses are augmented with practical construction and project work in each year, working both alone and in teams.

Years 4 and 5

You will have a wide choice of technical options in fourth year. You will also gain expertise in professional subjects including economics, project organisation, environmental issues and safety.

BEng students will complete a substantial individual project under the one-to-one supervision of a member of academic staff. MEng students take part in an integrated system design project, learning the skills of project management and working in multidisciplinary teams. Half of the fifth year is devoted to individual project work, normally carried out in industry, and often via a placement abroad.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

As an MEng student you will complete a six-month research and development project in year 5, in an international company or research lab. If you have chosen to study a European language you may be assigned to a host organisation in Europe.

Accreditation

Our BEng and MEng degrees are accredited by the Institution of Engineering and Technology.

Career prospects

Our recent graduates have been employed by McLaren, Cadence, Leonardo, Cirrus Logic, Nordic Semiconductors, Analog Devices, Clyde Space, SP Energy Networks, Jaguar Land Rover, Royal Bank of Scotland, among many other organisations.

Why choose Glasgow?

You will undertake a team design project in which the complete design process of an item of electronic equipment is carried out, from the initial specification to the completed product.

w glasgow.ac.uk/ug/electronics e eng-teachingoffice@glasgow.ac.uk

** Discover Uni (discoveruni.gov.uk), January 2020*

ELECTRONICS WITH MUSIC

This exciting degree brings together the world of music with a thorough study of modern electronics. This fusion of arts and engineering produces graduates that are fully qualified electronics engineers with particular skills in music technology.

95% OF ELECTRICAL & ELECTRONIC ENGINEERING STUDENTS IN WORK WERE IN PROFESSIONAL/ MANAGERIAL JOBS*

STUDY ABROAD

PROFESSIONALLY ACCREDITED

BEng (H6W3): Four years
MEng (H6WJ): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether you are on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers. Approximately two-thirds of these programmes are engineering-based, except year 5 of the MEng programme.

Year 1

You will take courses in mathematics and key engineering fundamentals including computing and analogue and digital electronics. These courses are supported by individual and group project and laboratory work. The music component includes Listening in culture, plus either Listening through analysis or Performance (subject to audition at the start of the year).

Year 2

This involves core engineering subjects of analogue and digital electronics, electrical circuits and computer systems. These courses are reinforced by a design project and mathematics. The music topics cover composing with recorded sound and studio techniques and one other music option.

Year 3

The third year delves deeper into such engineering topics as systems design, communication systems, control, real-time systems, electromagnetic compatibility and mathematics, while the music element encompasses such topics as sound for narrative film and interactive audiovisual media, plus further music options. Most courses are supported by laboratory and project work.

Years 4 and 5

On the MEng programme your choice of fourth-year technical options is the same as that of the BEng degree but instead of an individual project you will carry out practical team projects with other engineers. These projects will prepare you for a six-month placement, normally in industry and often abroad. On your return, you will complete your degree with further advanced technical options. In year 4, you will also take two courses in music, alongside your engineering options.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

As an MEng student you will complete a six-month research and development project in an international company or research lab. If you have chosen to study a European language you may choose a host organisation in Europe.

Accreditation

Our BEng and MEng degrees are accredited by the Institution of Engineering and Technology.

Career prospects

Graduates are fully qualified electronics and electrical engineers with particular skills in music technology. This prestigious degree will enable you to seek employment in both the recording and broadcasting industries as well as in the wider electronics industry as a whole.

Why choose Glasgow?

Glasgow is a UNESCO city of music, where you can study performance, composition and technology alongside a range of other music options.

w glasgow.ac.uk/ug/electronicswithmusic e eng-teachingoffice@glasgow.ac.uk

** Discover Uni (discoveruni.gov.uk), January 2020*

MECHANICAL DESIGN ENGINEERING

This degree programme is firmly rooted in the mainstream mechanical engineering discipline but places greater emphasis on the interplay between design and manufacturing, which is explored through individual and group projects.

95% OF MECHANICAL ENGINEERING STUDENTS IN WORK WERE IN PROFESSIONAL/ MANAGERIAL JOBS*

STUDY ABROAD

PROFESSIONALLY ACCREDITED

BEng (HH37): Four years
MEng (HHJ7): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

You will take a wide-ranging curriculum which includes courses in mechanical design and manufacturing, mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Year 2

You will study further basic engineering subjects including applicable mathematics, applied mechanics, fluid mechanics, microelectronics, engineering computing, materials, power electronics, thermodynamics, and design and manufacture.

Year 3

You will study more advanced engineering subjects such as engineering design, dynamics and control, mechanics of solids, heat transfer, design and manufacture, materials and manufacture, mathematical modelling and simulation, and mechanics of materials and structures.

Years 4 and 5

In year 4 of the BEng programme, students undertake an individual and a group design project. A range of subjects is offered, including robotics, advanced materials, vibration, microelectronics, mechanics of solids and thermal engineering.

Year 4 MEng students undertake further design projects including a multidisciplinary project. Year 5 of the MEng programme includes the final-year industrial project, and provides additional management skills and in-depth options of engineering subjects including mechanics of solids, dynamics and desalination technology.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Partnership and industry links

The degree programme has very close links with industry, with practising engineers contributing to courses, as well as vacation and year-out employment opportunities for students.

Our international links

You can apply to spend one year of your studies abroad at an accredited partner university. In year 5 MEng students can work on their project at overseas institutions.

Accreditation

Our BEng and MEng degrees are accredited by the Institution of Mechanical Engineers and the Institution of Engineering Designers.

Career prospects

Recent graduates have been employed by Babcock, Chevron, Wood Group, Spooner, Green Co. Mineral Water, Scottish Power Renewables, Jee Ltd, Oyl Manufacturing, BAE Systems, Rolls-Royce and Score Europe.

Why choose Glasgow?

You will complete an extensive design project, which will allow you to integrate the various design skills and understand the business and social context within which design takes place.

glasgow.ac.uk/ug/mechanicaldesignengineering **eng-teachingoffice@glasgow.ac.uk**

** Discover Uni (discoveruni.gov.uk), January 2020*

MECHANICAL ENGINEERING

This degree programme provides a thorough grounding in mechanical engineering principles and their applications, together with the skills needed to solve real mechanical engineering problems.

94% BEng STUDENTS SATISFIED*

STUDY ABROAD

PROFESSIONALLY ACCREDITED

BEng (H300): Four years
MEng (H302): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

You will take a wide-ranging curriculum which includes courses in mechanical engineering, mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Year 2

You will study further basic engineering subjects including applicable mathematics, applied mechanics, fluid mechanics, microelectronics, engineering computing, materials, power electronics, thermodynamics, design and manufacture.

Year 3

You will visit a number of industries in the UK and study more advanced engineering subjects including dynamics and control; fluid power; engineering design; fluid mechanics; thermodynamics of engines; heat transfer; instrumentation and data systems; materials and manufacture; mathematical modelling and simulation; and mechanics of materials and structures.

Years 4 and 5

In year 4 you will study a range of compulsory and optional courses from a list which includes: advanced thermal engineering, control, lasers and electro-optic systems, materials engineering, mechanics of solids, robotics, vibration, renewable energy and design projects.

In year 5 individual project work forms a major component of the MEng programme, which has a strong industrial bias. Further courses are chosen from advanced control systems engineering, dynamics, desalination, energy from waste materials engineering, and mechanics of solids and structures. You will also undertake a management course.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

You can apply to spend one year of your academic studies abroad at an accredited partner university. In year 5 MEng students can work on their project at overseas institutions.

Accreditation

Our BEng and MEng degrees are accredited by the Institution of Mechanical Engineers.

Career prospects

Recent graduates have been employed by Babcock, Chevron, Wood Group, Spooner, Scottish Power Renewables, Jee Ltd, Oyl Manufacturing, BAE Systems and Rolls-Royce.

Why choose Glasgow?

You will benefit from our strong links with industry, with practising engineers contributing to lectures and providing employment opportunities.

glasgow.ac.uk/ug/mechanicalengineering **eng-teachingoffice@glasgow.ac.uk**

** Discover Uni (discoveruni.gov.uk), January 2020*

MECHANICAL ENGINEERING WITH AERONAUTICS

This degree programme bridges the divide between aeronautics and mechanical engineering and thus provides its graduates with the crossdisciplinary background needed to flourish in one of the most challenging engineering fields.

90% MEng STUDENTS SATISFIED*

STUDY ABROAD

PROFESSIONALLY ACCREDITED

BEng (H3H4): Four years
MEng (H3HK): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years on both the BEng and MEng degree programmes. Both embed creativity to develop world changing engineers.

Year 1

You will take a wide-ranging curriculum including courses in aeronautics, mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Year 2

You will study applicable mathematics, applied mechanics, design and manufacture, microelectronics, thermodynamics, engineering computing, aerodynamics, mathematics, materials and power electronics.

Year 3

You will visit a number of industries in the UK and study more advanced engineering subjects: aerodynamics and fluid mechanics, aircraft performance, dynamics and control, flight mechanics, materials and manufacture, mathematical modelling and simulation, mechanics of materials and structures, propulsion and turbomachinery, and heat transfer.

Years 4 and 5

In year 4 you will study a range of core mechanical engineering subjects and core aeronautics subjects, plus a choice of advanced options. You will also undertake a team aerospace design project.

Year 4 MEng students also undertake a multidisciplinary group project. In year 5 of the MEng programme an aerospace-focused individual project forms a major component of the programme, and in addition there are options from advanced engineering subjects.

Partnership and industry links

You will benefit from the close ties with industry developed by staff involved in the programme, with industrial case studies focused on the aerospace industries.

Entry requirements

Our programme webpages advertise the most up-to-date detail on our entry requirements for 2021-22 entry at glasgow.ac.uk/undergraduate.

Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

You can apply to spend one year of your academic studies abroad at an accredited partner university. In year 5 MEng students can work on their project at overseas institutions.

Accreditation

These degrees are accredited by the Institution of Mechanical Engineers and the Royal Aeronautical Society.

Career prospects

Graduates of this programme can expect to be much in demand in the aerospace industry with companies such as BAE Systems and Rolls-Royce, as well as in mainstream mechanical engineering.

Why choose Glasgow?

You will benefit from our strong links with the aerospace industries. MEng students take part in a flight-testing course in a Jetstream aircraft.

glasgow.ac.uk/ug/mechanicalengineeringwithaeronautics **eng-teachingoffice@glasgow.ac.uk**

** Discover Uni (discoveruni.gov.uk), January 2020*

MECHATRONICS

Mechatronics is a fusion of mechanical, electrical and control engineering. In order to compete successfully in a global market, modern manufacturing companies must have the ability to integrate electronics, control, software and mechanical engineering into a range of innovative products and systems. Graduates of this programme will have this interdisciplinary knowledge, skill and approach to engineering.

96% OF ENGINEERING STUDENTS IN WORK WERE IN PROFESSIONAL/ MANAGERIAL JOBS*

STUDY ABROAD

BEng (H730): Four years
MEng (H731): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether you are on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Year 1

You will take a wide-ranging curriculum which includes courses in mechanical engineering, mathematics, dynamics, digital and analogue electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Year 2

You will continue to study mathematics and fundamental engineering courses linking the mechanical and electrical domains which form the basis for the study of mechatronics.

Year 3

You will develop knowledge and skills in electronic system design, real-time programming and control systems. This is combined with study of mechanical instrumentation and data systems to develop the interdisciplinary skills necessary to undertake a mechatronic group design project. The mechanical courses include mechanics of materials and structures and dynamics and control.

Years 4 and 5

In years 4 and 5 you will take a range of courses in engineering including courses in control, robotics and mechatronic systems. In addition you will take courses in professional practice including developing business plans, understanding professional and legal requirements, and management.

In your final year you will undertake a major individual project which, for the MEng degree, may be in industry or on an industry-supported topic. The final year is completed by a range of in-depth technical courses including control, dynamics, auto vehicles and fault detection.

Entry requirements

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Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Special Glasgow feature

In fourth year you will take part in a multidisciplinary integrated system design project, working in teams alongside students of other engineering disciplines.

Our international links

You will be able to apply to spend one year of your academic studies abroad at an accredited partner university. MEng students will also be able to work on their final-year project at overseas institutions.

Accreditation

Accreditation is being sought for this programme. Please check our website for updates.

Career prospects

Graduates will have the interdisciplinary approach necessary to integrate electronics, control, software and mechanical engineering.

Why choose Glasgow?

Many engineering employers offer well-paid summer placements and, in some cases, sponsorship.

glasgow.ac.uk/ug/mechatronics **eng-teachingoffice@glasgow.ac.uk**

** Discover Uni (discoveruni.gov.uk), January 2020*

PRODUCT DESIGN ENGINEERING

Product Design Engineering is jointly delivered by the University and The Glasgow School of Art and integrates engineering with design.

92% MEng STUDENTS SATISFIED* | STUDY ABROAD | PROFESSIONALLY ACCREDITED

BEng (H3W2): Four years
MEng (H3WG): Five years

BEng students who perform well may transfer to the MEng programme on completion of years 1, 2 and 3.

You will study the same courses in the first three years whether on the BEng or MEng degree programme. Both embed creativity to develop world changing engineers.

Years 1 and 2

You will take a wide-ranging curriculum which includes courses in product design engineering (delivered by The Glasgow School of Art), mathematics, dynamics, electronics, materials, statics, thermodynamics and engineering skills. These courses are supported by individual and group project work and laboratory work. This interdisciplinary approach, favoured by industry, also makes it easy to switch to most other engineering disciplines at the end of year 1 should you wish to do so.

Year 3

The third year develops and integrates the application of theory through structured projects, with an increased amount of studio time at The Glasgow School of Art. You will study more advanced engineering subjects at the University: materials and manufacture, dynamics, control and fluid power, heat transfer, mathematical modelling and simulation, and mechanics of materials and structures.

Years 4 and 5

In the final year of the BEng, you will propose your own programme of individual product development and prototyping, leading to concept and detailed design proposals. You will also study advanced subjects in engineering, management, manufacture and design. These include advanced materials, mechanics of solids, microelectronics and design studies.

In year 4 of the MEng degree you will follow a similar programme to the BEng, and undertake a group design project, with mechanical engineering and mechanical design engineering students. Studio activities will continue and you will study advanced subjects in design and technology engineering, management and design.

In year 5 you will work on your own programme of product development and prototyping, leading to concept and detailed design proposals. You will also study advanced manufacture, human factors, robotics and mechanics of solids.

glasgow.ac.uk/ug/productdesignengineering
eng-teachingoffice@glasgow.ac.uk

** Discover Uni (discoveruni.gov.uk), January 2020*

Entry requirements

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Due to the impact that the COVID-19 pandemic has had on grades certified in 2020, we are currently assessing the flexibility that we can offer in the consideration of academic entry requirements. We will publish any changes on our webpages.

Our international links

As part of the MEng programme there is the possibility that you may spend the fourth year in Trondheim, Norway. We are establishing links with universities to provide similar possibilities at other levels of study for MEng and BEng students**.**

Accreditation

These degrees are accredited by the Institution of Mechanical Engineers and the Institution of Engineering Designers.

Career prospects

PDE students have excellent career prospects, with recent graduates employed by Apple, Bosch, Dell, Dyson, GlaxoSmithKline, Logitech, Jaguar Land Rover and TomTom. Our PDE graduates have established leading design engineering consultancies, including Speck Design, 4c Design, FilamentPD and Fearsome.

Why choose Glasgow?

You will work closely with industry throughout the programme, which may lead to internship and employment opportunities. You will have the opportunity to go on fieldtrips to industrial centres of excellence.

CONNECT WITH US

For information on upcoming Open Days, please see:
glasgow.ac.uk/visitus

@UofGlasgow

Discover our world changers at
glasgow.ac.uk/worldchangers

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