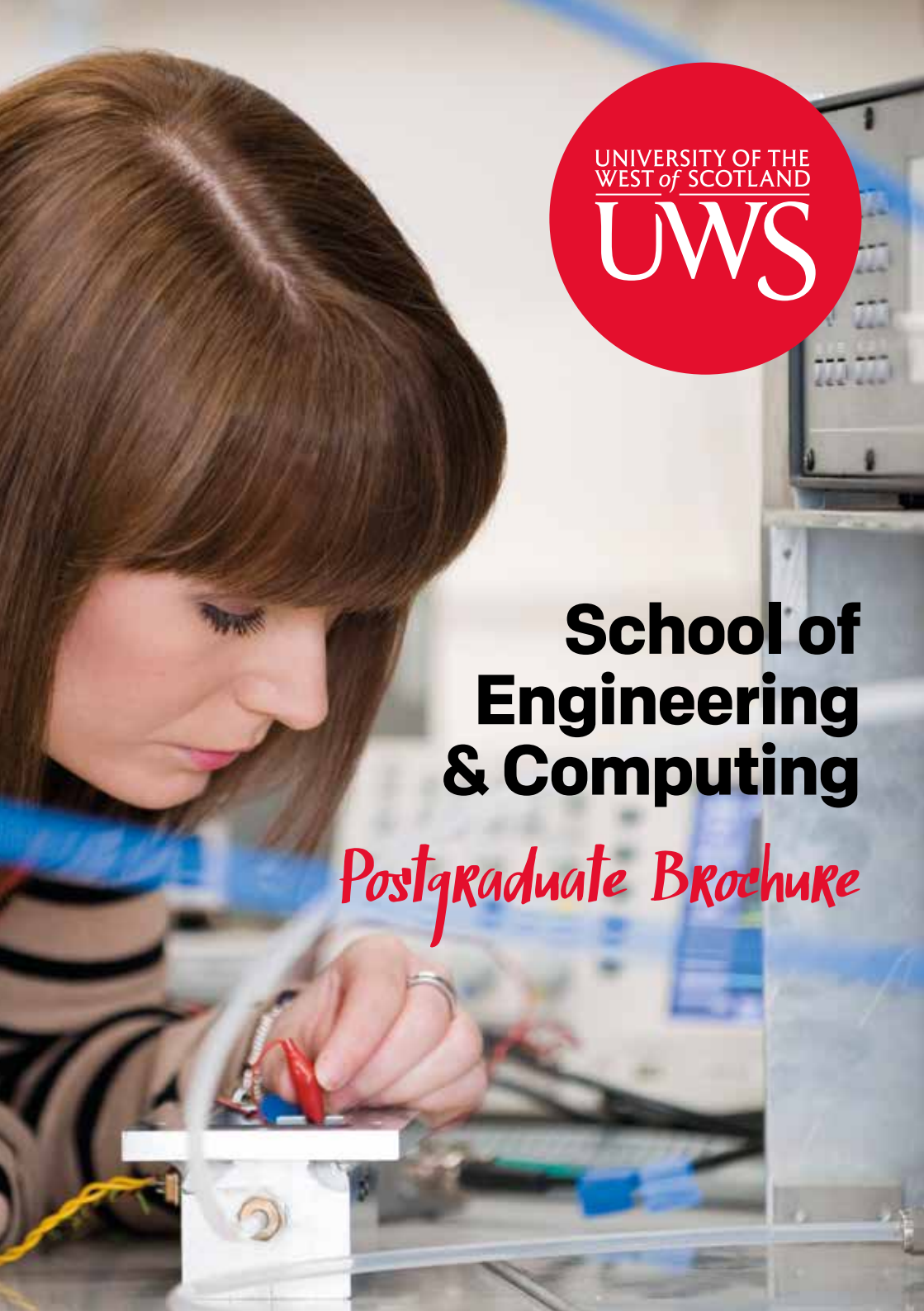


UNIVERSITY OF THE WEST of SCOTLAND

UWS

School of Engineering & Computing

Postgraduate Brochure

Contents

Introduction

University of the West of Scotland has a rich and proud heritage dating back to 1897, the School of Engineering and Computing is one of the six academic Schools, with over 2300 students and 160 academic and support staff. We enjoy an enviable reputation in applied research; many of our research projects are sponsored by industry and businesses. The School has a successful track record of international collaboration and has graduates in over 100 countries, many of whom are in key leadership and managerial positions. We are delighted to welcome international students onto our beautiful and friendly campuses in Scotland and to develop mutually benefiting partnerships with universities throughout the world. This booklet gives an introduction to a set of specially-selected Master's programmes available within the School. More details of all our partnerships, programmes and research opportunities can be found in our prospectus and on our website at **www.uws.ac.uk**

Professor Ian Allison
Dean of School

Dr David Ndzi
Assistant Dean
(International)

Dr James Thompson
Assistant Dean
(Education)

Why study at UWS and in the school

- Although the institution is celebrating its 120th year in 2017, it is a modern university ranked in the top 600 universities in the world.
- Our courses are practical in nature ensuring that you will acquire the knowledge and skill set required by industry
- We work very closely with industry and our programmes and students benefit from this as contents are influenced by industry and students also have opportunities to work on industry relevant projects.
- Our students benefit from the close support they receive from staff throughout their studies. This is reflected in the School's National Student Survey (NSS) scores with 100% satisfaction in a number of subject areas.
- We are an ambitious international School with an aim to provide our students with an international experience. For example we provide opportunities for our students to spend time at our partner institutions in Europe or China for either academic or cultural exchanges.
- Our research is internationally leading on a number of multi-national projects e.g. the development of 5G systems. This informs our teaching and provides opportunities for students on taught programmes to be involved in research projects.
- Studying at UWS is cost effective, especially for international students. The cost of accommodation is lower than at most universities.
- At UWS main campus (Paisley), you are just 6 minutes from Glasgow International Airport by car and 10 minutes from Glasgow City Centre by train, making travel and shopping very easy.

Industry-Standard Facilities

Our recently upgraded facilities will ensure you're equipped to deal with the requirements of industry:

- Investment in new laboratories for engineering and physics will further enhance our reputation for applied interdisciplinary research
- Paisley Campus – fully equipped manufacturing workshop; materials testing and analysis facilities; metrology laboratory; rapid prototyping centre; assembly and welding laboratories; and significant investment in facilities for thin film technologies, micro-scale sensors and nuclear physics research
- Lanarkshire Campus – £2.1 million engineering centre with particular focus on the design and engineering disciplines opened in 2008
- Both Lanarkshire and Paisley campuses have modern, dedicated IT facilities utilising a range of industrial applications software such as PRO/Engineer, Ansys, Fluent, AutoCAD, Witness and MS Project

Research and Industrial Collaboration in Engineering

At UWS, our programmes are underpinned by applied research, recognised both nationally and internationally, ensuring our students benefit from current academic expertise and graduate with sector-relevant knowledge.

Collaborative external links and research active staff play an important role in our ongoing success and allow significant investment in the latest facilities, including thin film technology, product design and prototyping, machining and testing laboratories.

The University is recognised for its work across many engineering areas, including digital engineering and design; nanotechnology; concrete technology; historic built environment; and civil, chemical and mechanical engineering. In physics, there are successful research groups in experimental nuclear physics, thin film electronic and photonic materials and micro-scale sensors.

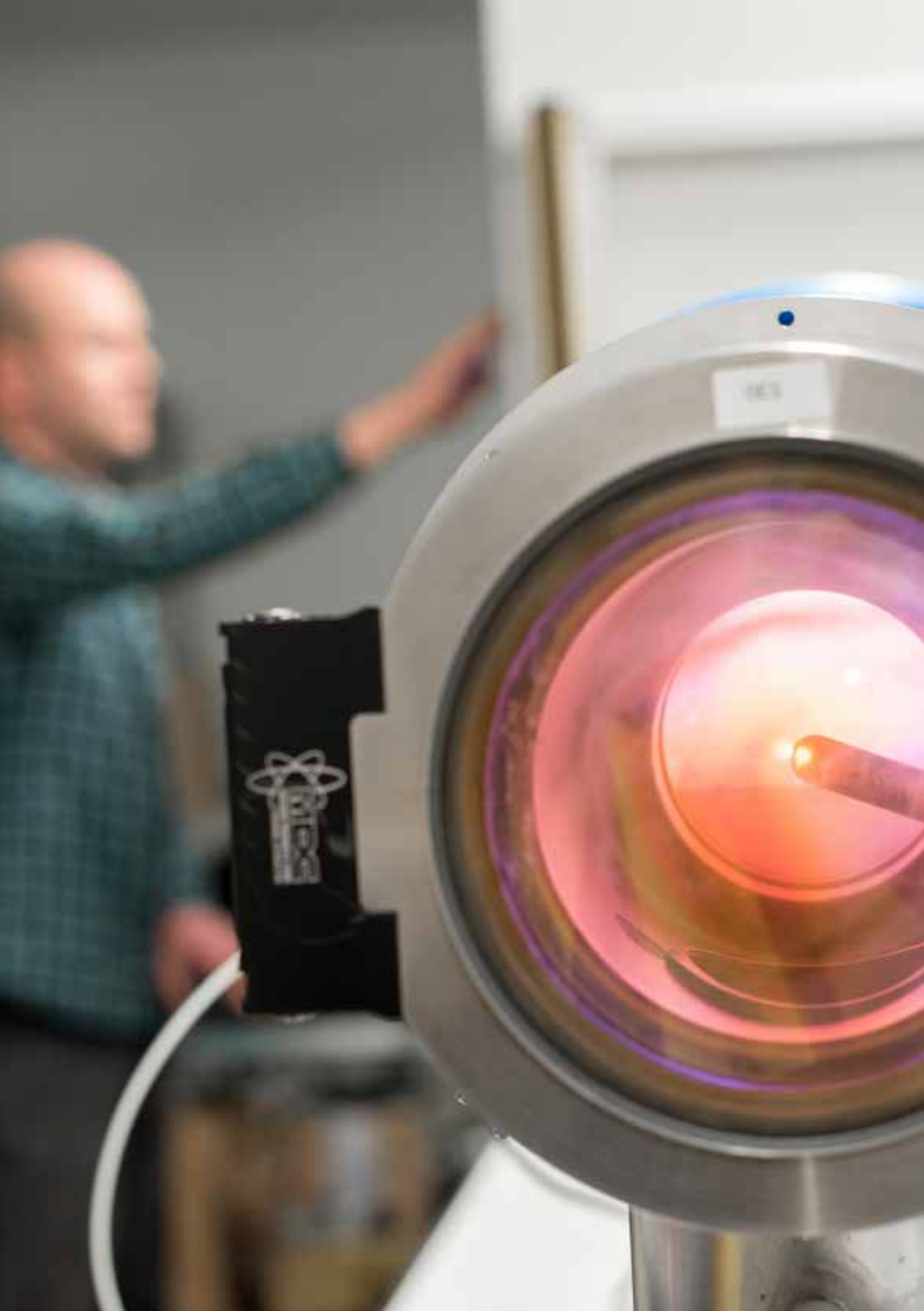
We have a number of specialist units providing industrial research and development facilities, as well as continuing professional development and training centres. These include the new Institute of Thin Films, Sensors and Imaging (TFSI), the Construction Innovation and Built Environment Resilience (CIBER) group and the Institute for Engineering and Energy Technology (IEET) and Nuclear Physics.

The newest of these is TFSI, formed in December 2014, with eight academic staff. It currently has 24 doctoral and post- doctoral researchers, whose work includes precision thin film linear variable filters for multispectral imaging and broadband gas sensing, low cost thin film transducers for ultrasonic imaging & non-destructive testing, erosion & corrosion protective coatings, high laser damage optical coating, non- dispersive infrared & photoacoustic gas sensors and energy harvesting.

One TFSI project, with Stanford University, is for upgrades to Advanced Laser Interferometry Gravitational wave Observatory (LIGO) in the US and related work using multilayer Diamond- Like Carbon (DLC) is being assessed for the Virgo interferometer in Italy. Related work is assessing the use of DLC for coating steels to prevent corrosion and for preventing hospital acquired infections. Another project, in collaboration with cell biologists, has led to an internationally acclaimed breakthrough in the use of nano-kicking to promote osteogenesis (bone formation) from mesenchymal stem cells and has demonstrated manipulation bacterial biofilms along with cancer and endothelial cell types.

We are also leading research set to aid the UK's flood response and in turn reduce the impact of flooding, a consequence of climate change.

Our Institute of Thin Films, Sensors and Imaging, bringing together world-leading expertise from industry and academia, is working at the forefront of thin film deposition technologies and applications.



Research and Industrial Collaboration in Computing

Our postgraduate programmes are suitable for graduates with significant computing knowledge, preferably equivalent to an honours degree in computing science.

We are one of the leading players in computing and modern IT-driven business systems. With extensive expertise in research and development, working in collaboration with universities, international companies and smaller local businesses, we can offer a diverse range of career-focused, cutting edge postgraduate programmes.

We have a longstanding tradition and proven track record in the provision of services to industry, including knowledge and technology transfer in the form of training, consultancy and contract research.

We have links with 70+ companies for input to our industrial advisory boards; have partnerships with IBM, Qualcomm, NASA, CERN, Rolls Royce, QinetiQ and BAE Systems and work with colleagues in universities across the world.

Cutting-edge facilities
As you would expect, we offer access to high-quality computing and state-of-the-art software systems as well as tried and tested in demand technologies such as Oracle, CIW, Adobe, CISCO, SAP and Microsoft.

Research and collaboration
World-leading and internationally excellent research as part of our computer science and informatics submission.

We have a proven track record in knowledge and technology transfer in the form of applied research, training and consultancy.

Our research was rated as world-leading and internationally excellent in the Research Excellence Framework 2014 and our research expertise informs teaching; meaning that you'll be taught by academic staff who are at the forefront of their profession.

- our Institute of Creative Technologies and Applied Computing was launched in 2013 and aims to establish itself as a centre of excellence, advancing research related to creative technologies and applied computing, creating a dynamic research environment
- we have secured a growing number of partnerships with small to medium sized enterprises which is currently being extended to include multinational companies
- we have a successful track record in attracting external income from providers within and outwith the UK and are a lead partner in an EU network of excellence in computer games and the coordinator for a new EU network in Web 2.0

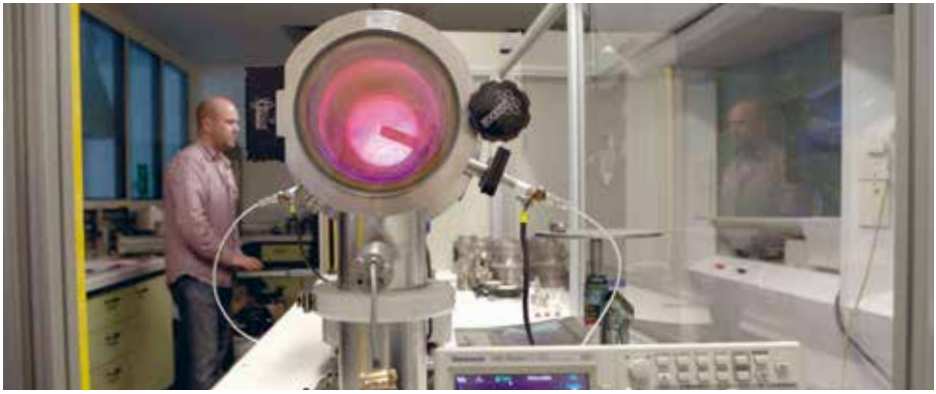
Engineering Masters Degrees

The School offers the following engineering Master degrees:

- **MSc Advanced Thin Film Technologies**
- **MSc Chemical Engineering**
- **MSc Civil Engineering**
- **MSc Construction Management with Digital Engineering**
- **MSc Engineering Management**
- **MSc Mechanical Engineering**

MSc Advanced Thin Film Technologies

INTAKE | Full-time (September: 12 months)/ Part-time (2 years)



Thin film technologies are key enablers in a wide range of global research, development, manufacturing, industrial and high technology applications and products.

This unique programme is ideal for engineering or science graduates (especially those with a Physics background) planning a career in research, development, production and/or business involving thin film technologies and for the continuing personal development of current industry professionals.

The programme provides you with up-to-date coverage of evolving thin film technologies and latest developments in the field. It will enable you to develop the multi-disciplinary skills needed for professional development within this rapidly expanding area and forms the basis for future professional chartered engineer and/or physicist status.

The core topics you will cover include thin film materials science, metrology and characterisation, theoretical modelling, physical and chemical-based thin film deposition methods including deposition system engineering and control, plasma processing, thin film devices and applications, and research and project management. You will also undertake an individual project as part of your MSc based on a topic of your choice.

Teaching and assessment
Teaching is delivered through a combination of lectures, tutorials and practical laboratory classes.

Assessment is principally by coursework, laboratory reports and examinations. Students will also be expected to present their work to staff and industrial visitors.

Career Prospects
Graduates are equipped for a career in research, development, manufacturing and/or business, with global opportunities for employment. Most organisations that implement thin film based technologies employ fully trained, qualified technologists, consultants and technical marketing specialists throughout their lifecycle, with a consequent high global demand for such personnel across a wide range of applications, products and markets.

Entry
A second-class upper honours degree in engineering or science-based degree such as physics, chemistry, electronics or related technology, or equivalent professional experience and/or qualifications. Candidates who do not meet these requirements but have degrees in science or engineering and two years relevant professional or industrial experience, will be considered.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Civil Engineering

INTAKES | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

The civil engineering sector is evolving with projects that challenge the knowledge and skills of civil engineers whether it is constructing high rise buildings or building underground railway networks.

This technical programme will provide you with the advanced knowledge that will allow you to work on challenging projects in areas that include design, construction, water resource management and sustainability. It also provides the knowledge and skills required for responsible positions within consulting and contracting organisations. It is also for engineers who require additional learning to obtain chartered engineer (CEng) status.

The uniqueness of this programme is the industrial input to the overall delivery of the modules, in particular, the Scheme Design and Project Design.

The modules that you will study include: Advanced Structural Analysis, Applied Finite Element Analysis, Advanced Geotechnical Engineering, Advanced Materials for Sustainable Construction, Civil Engineering Scheme Design, Engineering Project Management and Civil Engineering Project Design. You will also undertake an individual project as part of your MSc based on a topic of your interest.

Teaching and assessment
Teaching is through a combination of lectures, tutorials, practical classes, laboratories, case studies, design problems, site visits, specialist guest lectures as well as integrated project work.

Assessment is principally by coursework, design problems and examinations. You will also be expected to present your work to external industrialists as part of the learning and assessment process.

Career Prospects
On completing this programme, you would have developed the skills to interface with engineers and functional users and to take a civil engineering project from initial conception to delivery.

You can expect to find roles in both public and private sectors within civil engineering in areas such as transportation, construction, design, planning, sustainability and project management.

Entry
A second-class Honours degree or equivalent qualification, in civil engineering or related area or an equivalent professional qualification or lower qualifications with appropriate professional or industrial work experience.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

STUDENT TESTIMONIAL

"The MSc Programme has helped me to decide which area of Civil Engineering I would like to pursue. Due to the advanced study and level of independence provided on the course, it helped shape my interests more in certain areas on my own accord. The focus on technical design throughout coursework allowed me to develop and refine which areas I am strongest, which will certainly benefit me in the future. In addition, group work throughout was a benefit to my personality/confidence as it was good preparation for working in a design team in a professional environment. Furthermore, the MSc definitely enhanced my employability as I have since found a graduate position as a result."

David Hodgson

(MSC STUDENT 2016-17)

MSc Chemical Engineering

INTAKES | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

Chemical engineering prepares prospective graduates for a wide range of roles in many industries that include pharmaceuticals, food and drinks, fine chemicals, clean energy, environmental waste management, oil and gas, petrochemicals, cosmetics, materials, agrochemicals, nuclear industry, and the traditional chemical industries. Also the skills gained could be used in other fields such as finance, insurance and government regulatory bodies such as those dealing with environment, health and safety.

This programme will advance your knowledge in the fields of chemical and process engineering and upgrade your technical abilities to enable you to perform in modern chemical and process industries. The contents will enable you to develop interpersonal and transferable skills at a level that a Chemical/Process Engineer would be expected to have to function in an advanced engineering business environment as senior engineer or manager. The programme is ideal for any chemical engineer holding a Bachelor degree that requires further learning to qualify for Chartered Engineer registration.

The modules that you will study include Process Design and Safety, Multiphase and Biochemical Reactors Design, Advanced Fluid Mechanics and CFD, Advanced Heat Transfer, Renewable Energy and Energy Storage Systems and Separation Processes.

You will also undertake an individual project as part of your MSc based on a topic related to your future interests among the offerings made.

Teaching and assessment
Teaching is through a combination of lectures, tutorials, practical laboratories, case studies, specialist guest lectures, as well as student centred activities.

Assessment is principally by coursework assignments, design problems and examinations.

Career Prospects
As a graduate you will be able to apply for professional employment positions in industries that include pharmaceuticals, food and drink, oil and gas, petrochemicals and fine chemicals. Our Chemical Engineering graduates have found employment with companies such as GlaxoSmithKline, Sellafield Ltd, Doosan Babcock and Atkins Global.

Entry
A second-class Honours degree or equivalent in chemical engineering or a closely related area. Applicants with other qualifications with appropriate professional or industrial experience will also be considered.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Engineering Management

INTAKES | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

This programme is designed for business professionals and graduates from diverse backgrounds who aspire to responsible positions within industry. It aims to develop your business process, management and enterprise systems knowledge and empower you to work alongside other creative thinkers to turn big ideas into reality. The course has a business process improvement and enterprise systems focus, covering advanced techniques for project, operations and enterprise systems management.

The programme offers you the opportunity to learn the tools of advanced global business change, operations and project management to meet the demands of large business improvement projects. It is particularly suited to graduates who want to pursue a career in the engineering and manufacturing sector.

You will be equipped for the next step in your career in manufacturing and service operations. This programme will equip you with some of the initial education and training on enterprise resource planning and/ or analytical thinking and decision making. Most business organisations that implement enterprise resource planning solutions require qualified staff and consultants throughout their lifecycle.

The core topics you will study include Continuous Improvement, Advanced Operations Management, Statistics for Engineering Management and optional modules that include Total Productive Maintenance, Project Management and, Enterprise Resource Planning. You will also undertake an individual project as part of your MSc based on a topic of your choice.

Teaching and assessment
Teaching is through a combination of lectures, tutorials and computer laboratory sessions.

Assessment is principally by coursework and examinations.

Career Prospects
There is high demand for Engineering Management graduates from engineering organisations, manufacturing sector, customer and consulting organisations across all sectors of engineering throughout the world.

Entry
A second-class Honours degree in engineering, technology, science, business or a related discipline or an equivalent vocational or professional qualifications and experience. Applicants with lower qualifications who have work experience may be considered.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Construction Management with Digital Engineering

INTAKES | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

The requirement for improved processes and adaptation to changing demands and regulations for safety, maintenance or sustainability reasons in the construction industry has made it necessary for digital information of construction projects to be available. An increasing number of authorities are making this a strict requirement for all construction projects. This programme has been designed to address this need.

The vocational nature of this programme makes it ideally suited to graduates looking to acquire specialist knowledge within the field of contemporary construction management and digital technologies, and individuals seeking long-term professional advancement. It is designed to equip you with the skills needed to move towards a digitally integrated built environment. You will be exposed to Digital Engineering and Building Information Modelling (BIM). You will particularly focus on developing BIM and Big Data Analytics and its applications for both delivery and asset management.

The modules that you will study include: Digital Engineering, Project Scheme Design, Project Management, Construction Business Economics, Contract Management and Law, Strategic Management in Construction and, Built Asset and Facilities Management. You will also undertake an individual project as part of your MSc based on a topic of your choice.

Teaching and assessment
Teaching is through a combination of lectures, tutorials, practical classes, case studies, design problems, as well as integrated project work.

Assessment is principally by coursework, design problems and examinations. Students will also be expected to present design work to internal staff and external industrialists as part of the learning and assessment process.

Career Prospects
Upon completion, you could pursue a career in architectural and engineering design, project management, construction management, real estate, asset/ facilities management, general business management, investment appraisal and in the public sector.

Entry
A second-class Honours degree or equivalent qualification in a relevant Science, Engineering, Built Environment, Social Science and Management (e.g. Business Management) discipline or an equivalent vocational or professional qualifications and experience.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Mechanical Engineering

INTAKES | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

This programme is for engineering graduates aspiring to responsible positions within aerospace, automotive and general mechanical engineering companies. It is also ideal for engineers holding a BEng degree that require a further learning element to qualify for Chartered Engineer registration.

It is designed to deepen and widen your knowledge and understanding of mechanical engineering specialist topics by offering you a wide range of core modules that will enable you to develop appropriate interpersonal and transferable skills. These will allow you to function in an advanced engineering environment as senior engineers and managers.

The modules that you will study include: Advanced Structural Integrity, Computational Fluid Mechanics, Advanced Finite Element Methods and Analysis, Advanced Engineering Materials, Advanced Heat Transfer, Composites Design and Analysis and, Project Management and Research Methods. You will also undertake an individual project as part of your MSc based on a topic of your interest either in the University, in the research group or, where possible, in a company.

Teaching and assessment
Teaching is through a combination of lectures, tutorials, practical classes, laboratories, case studies and specialist guest lectures. Assessment is principally by coursework assignments, laboratory investigations and examinations. You will also be expected to present your work to external industrialists as part of the learning and assessment process.

Career Prospects
As a graduate, you will have developed expertise to apply for roles in design and development in the automotive, aerospace, offshore, oil and gas and all main stream mechanical engineering industry sectors. Some graduates from this programme have obtained professional employment with companies such as Rolls Royce, Howdens, Doosan Babcock, Babcock International, Spirit AeroSystems, BAE Systems and Thales Optronics.

Entry
A second-class Honours degree or equivalent qualification in mechanical engineering or related area or an equivalent professional qualification or lower qualifications with appropriate professional or industrial work experience.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

Computing Masters Degrees

The School offers the following computing Master degrees:

- MSc Advanced Computer Systems Development
- MSc Advanced Computing: Big Data
- MSc Advanced Computing: e-Health
- MSc Advanced Computing: Internet of Things
- MSc Information and Network Security
- MSc Information Technology
- MSc Mobile Web Development
- MSc Smart Networks

MSc Advanced Computer Systems Development

INTAKE Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

This programme has been designed for graduates who wish to upgrade and enhance their software development and system integration skills with new technologies and trends.

The programme has been designed with industry in mind and integrates the latest developments in computer systems analysis, design, implementation, integration and management on different devices. It has a strong focus on hand-on skills required by industry.

This MSc is recognised by the British Computer Society (BCS) as partially meeting the educational requirement for chartered IT professional recognition.

Your core modules include Ethics for the IT Professional, Managing Projects and Security, Research Design and Methods and Service-Oriented Development. These provide the underpinning knowledge which enables you to identify the needs of a client, analyse those needs and plan and develop a working solution. You will then go on to specialise by selecting modules from advanced topics of your choice from a wide list of options. You will undertake an individual Master project which allows you to carry out a substantive work based on a topic of your interest either in the University or, where possible, in a company.

Teaching and assessment
Teaching is through a mixture of lectures, tutorials and laboratory sessions. In addition to timetabled events, you will receive additional support through staff directed sessions and student supported services as well as a through the Virtual Learning Environment.

You will be assessed using a variety of methods which include examination, coursework and dissertation that ensure that you have gained the core skills, including working in a team.

Career Prospects
You are able to learn software development and system integration skills using different technologies that include UML, Service Oriented Architecture (SOA), Oracle, IBM Websphere, MS BizTalk, Java Multi-Platform and Android SDK, etc. The course enables you to analyse a clients' needs and provide IT solutions for small or large and complex systems on different devices.

You will be able to apply for a job as a software engineer, software architect, software development manager, database developer, database administrator, website manager, software quality assurance analyst, IT consultant and/or academic researcher.

Entry
A second-class honours degree in Computing, IT or relevant subject, or equivalent professional experience and/or qualifications.

For international applicants: English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

STUDENT TESTIMONIAL

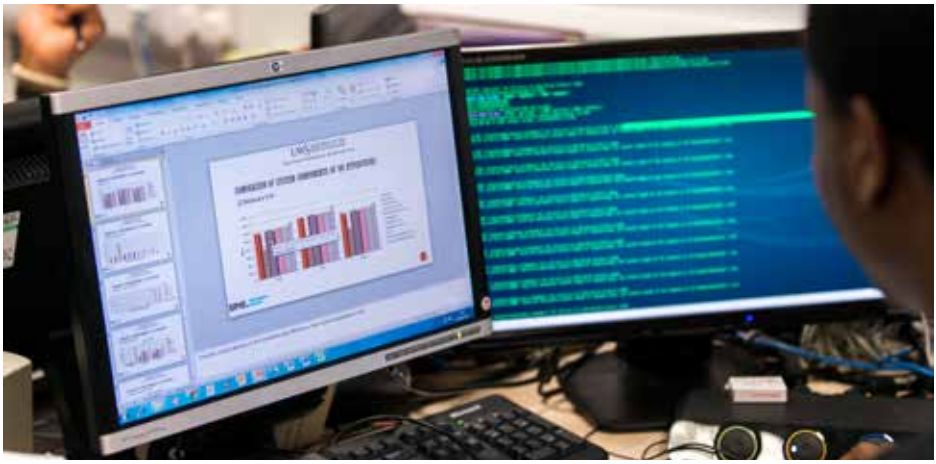
"I currently work as a Software Quality Assurance Analyst and aim to progress to Software Project Management in future. ACSD was the perfect programme choice for me – I wanted to have a degree in a Computing field to develop a strong understanding and knowledge of software systems but did not want to opt for programmes with mandatory Programming courses. The courses in this programme cover a wide range of topics, like software architectures, enterprise systems, databases, mobile technologies, project management etc., which provide various career path choices."

Ayesha Ahmed

(INTERNATIONAL GRADUATE IN 2016)

MSc Advanced Computing: Big Data

INTAKE | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)



Data is the driving force in organisations and business decisions. The widespread use of digital technology has resulted in large volumes of data being generated daily. An organisation's ability to contextualise the data and identify trends allows it to respond promptly and capitalise on opportunities or plan for disruptive trends to its business model. This has resulted in a growing demand for data analyst roles within organisations.

This practically oriented course is designed to provide a comprehensive understanding of data and to develop your practical skills by providing hands-on experience of big data technologies. You will be taught by experienced staff who are leading major international projects in this area. You will learn how to analyse, plan, develop, evaluate, deploy, and manage big data systems/ services for organisations and businesses across mobile and fixed devices.

The modules that you will study include: Advanced Data Science, Data Mining and Visualisation, Object Oriented Analysis & Design, Research Design and Methods, Emerging Topics in Smart Networks, Mobile Networks and Smartphone Application and Intelligent Systems. You will undertake an individual project as part of your MSc on a topic of your choice based on your interest either in the University or, where possible, in a company.

Teaching and assessment
Teaching is through a mixture of lectures and hands-on practical laboratory sessions in purpose-built lab with a cloud platform and advanced wireless/mobile/IoT networking testbed.

You will be assessed using a variety of methods which include examination, coursework, practical reports and dissertation.

Career Prospects
As a graduate from this programme you could expect to find roles as a data analyst, technical developer or project manager in a wide range of industries that include media, retail, financial sector and manufacturing.

Entry
A second-class honours degree in a computing or engineering subject, or equivalent professional experience and/or qualifications.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Advanced Computing: e-Health

INTAKE Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

Smart technology is seen as the main solution to reduce the cost of healthcare in developed countries and to widen access to healthcare in the developing world. In addition, smart assistive technology is envisaged to be the key solution to the ageing population.

In this unique programme you will learn the skills necessary to harness the power of sensors, mobile and wireless networks to provide solutions within the healthcare sector. You will focus on planning, analysing, developing, evaluating, deploying and managing e-Health systems/services for a small localised organisation to a large geographically distributed organisation. The wide range of options available to you will enable you to enhance your skills and knowledge in an area of your choice from data mining and visualisation to mobile network and smartphone applications development for healthcare.

Modules you will study include: Introduction to e-Health, Mobile networks and smartphone applications, Data mining and visualisation, Ethics for IT professionals, Object-oriented analysis and design and, e-Health and healthcare systems. You will also undertake an individual project (dissertation) as part of your MSc based on a topic of your interest either in the University, in the research group or, where possible, in a company.

Teaching and assessment
Teaching is through a mixture of lectures and hands-on practical laboratory sessions in the smart networking labs with a cloud platform and advanced wireless/mobile/ IoT networking testbed for simulation and emulation of complex systems.

You will be assessed using a variety of methods which include examination, coursework, practical reports and dissertation.

Career Prospects
As a graduate from this programme you will be equipped to work in the health sector and a variety of other industries in roles as data analyst, cloud architect, wireless sensor network consultants or analysts and mobile app developers.

Entry
A second-class honours degree in networking, computer science, or a closely related discipline or equivalent professional experience and/or qualifications.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Advanced Computing: Internet of Things

INTAKE | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

This programme teaches advanced topics in the Internet-of-Things (IoT) to graduates who wish to play key roles in this emerging technology. IoT is envisaged to transform how we live and interact with our environment, how machines interact with other machines/humans and how services/ systems adapt to human needs as we age. It is designed to develop your practical skills by providing hands-on experience of IoT technologies within industry.

You will focus on analysing, planning, developing, deploying, evaluating, and managing IoT system applications in a wide range of industrial sectors. You will also be taught overarching themes of IoT, data acquisition using sensors and how to implement ethical practices within a professional environment. The latter is particularly important as the application of IoT in the health sector is seen as an effective way of delivering healthcare.

The modules that you will study include Mobile Networks and Smartphone Application, Emerging Topics in Smart Networks, Advanced Data Science, Data Mining and Visualisation, Object Oriented Analysis & Design and Ethics for IT professionals. You will undertake an individual project as part of your MSc on a topic of your choice.

Teaching and assessment
Teaching is through a mixture of lectures and hands-on practical laboratory sessions in purpose-built labs with a cloud platform and advanced wireless/mobile/IoT networking testbed.

You will be assessed using a variety of methods which include examination, coursework, practical reports and dissertation.

Career Prospects
Graduates will be able to fill roles such as technical developer, project manager in IoT, technical manager, etc. You will be able to work in the healthcare sector and in logistics industry, online retailers, etc. You will also be able take up roles as a consultant or developer in smart city/homes/factory projects.

Entry
A second-class honours degree in a computing or engineering subject, or equivalent professional experience and/or qualifications.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Information and Network Security

INTAKE Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

This highly-specialist programme is designed to teach advanced security aspects of information and networks to combat 21st century cyber threats. It focuses on developing your practical and hands-on skills underpinned by theoretical knowledge for you to pursue a career in the growing market of cybersecurity. It gives you the technical skills and state of the-art knowledge to secure digital resources and network infrastructure of organisations ranging from small to large enterprises. You will learn how to analyse, plan, develop, evaluate, deploy, and manage networks and services across multiple platforms.

Delivered by cybersecurity experts and researchers, the programme modules cover cyber-attack and defence, data and network security, next generation networking technologies, virtual network and cloud computing. Your learning also encompasses information security management policies, best practices and ethical issues for information technology professionals. You will undertake an individual project which allows you to carry out substantive work based on a topic of your interest either in the University or, where possible, in a company.

Teaching and assessment
Teaching is through a mixture of lectures, tutorials and hands-on laboratory sessions.

You will be assessed using a variety of methods which include examination, coursework and dissertation. These ensure that you have gained the core skills and hands-on experience, including working in a team, required by industry.

Career Prospects
The market size of global cybersecurity is growing rapidly. Upon graduating you can expect to find roles as system administrators and managers, network designers, cyber security consultant, cloud computing architect, Internet-of-Things security expert, data centre manager and data security analyst.

Entry
Bachelor Honours degree (2.2 or above) in Computer Science, Computing or Computer Networking (or closely related disciplines such as Telecommunications) or equivalent professional experience and/or qualifications.

For international applicants: English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Information Technology

INTAKE | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

This programme is accredited by the British Computer Society (for on-campus students only) and is designed primarily for students with a degree in a non-computing subject area who wish to develop much sought-after business-relevant IT knowledge and skills.

This programme will help you to become a modern IT professional who can design, deploy and utilise business-relevant IT-based systems and services. You will enhance considerably your understanding of modern IT-based business systems and learn how to address related development, acquisition and deployment issues in modern organisations.

The modules you will study include: Database Design, Business Computer Networks, Object-Oriented Analysis and Design, Ethics for the IT Professional. You will then specialise by selecting optional modules from an extensive list which allows you choose between technical specialisation (e.g. java based application development, web technology development, data and network security) and business-oriented specialisation (e.g. e-Business, mobile business, digital marketing and business systems analysis). You will also undertake an individual Masters project which allows you to carry out a substantive work based on a topic of your interest either in the University or, where possible, in a company.

Teaching and assessment
Teaching is through a mixture of lectures, tutorials and hands-on laboratory sessions.

You will be assessed using a variety of methods which include examination, coursework and dissertation. These ensure that you have gained the core skills and hands-on experience, including working in a team as required by industry.

Career Prospects
Upon completion, you can seek a job as an IT Consultant, IT Systems Developer, e-Business Specialist, Database Developer, Database Analyst and so forth. Our graduates enjoy careers at companies such as Agrekko, IBM, CAP-Gemini, Amazon, Atos, Adobe Systems, HP, Dell, NHS, Clydesdale Bank and SMEs.

Entry
An honours degree from any area other than IT or computing, or equivalent professional experience and/or qualifications.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

Student Testimonial
Video testimonial from a programme graduate is available at:
http://www.uws.ac.uk/part-time/information_technology/

MSc Mobile Web Development

INTAKE Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

This programme is designed to meet the demands of the increasing use of mobile devices to provide applications and services to users and enterprises.

It is a practically focused programme and you will spend a large proportion of class time in the computing laboratories engaging with the appropriate tools and acquiring practical knowledge. You will learn how to develop applications for mobile devices and software that adapts to various platforms on which they run, especially on Smartphones.

The core modules you will study include: Web Development, Interactive Design for Smart Devices, Object Orientated Analysis and Design, Computing for the Mobile Web, Security for the Mobile Web and Research Design and Methods.

Teaching and assessment
Teaching is through a mixture of lectures, tutorials and hands-on laboratory sessions. Active learning is promoted through practical assignments.

You will be assessed using a variety of methods which include examination, coursework and dissertation. These ensure that you have gained the core skills and hands-on experience, including working in a team as required by industry.

Career Prospects
As a graduate from this programme you will have excellent career opportunities as a mobile web developer in the media industry, finance and retail industry, in software/ technology companies that develop and maintain mobile application ecosystems or as an IT consultant offering your expertise to the broader market.

Entry
A second-class honours degree in a science, computing, engineering or technology subject, or a closely related discipline, or equivalent professional experience and/or qualifications.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

MSc Smart Networks

INTAKE | Full-time (September intake: 12 months; January intake: 18 months)/ Part-time (2 years)

This course is practically oriented and you will be taught in a purposely-built specialised smart networking laboratory. You will focus on current and future smart networked technologies that is driving current and future industries with applications from smart homes to self-driving cars. Our lecturers on this programme are leading a €6.8 million funded project (SELFNET) on 5G network development. You will benefit from their knowledge and expertise of developing systems planned for launch in 2020.

The modules that you will study include Virtual Networking and Cloud Computing, Mobile Networks and Smartphone Applications, Advanced Wireless Networking Technologies, Internet of Things (IoT) and Applications and Data and Network Security as well as Research Design and Methods. You will undertake an individual project which allows you to carry out a substantive work based on a topic of your interest either in the University, in the research group or, where possible, in a company. You will be equipped with the knowledge and skills to develop and manage machine-to-machine communications and control, taking into account network and data security.

Teaching and assessment
Teaching is through a mixture of lectures and hands-on practical laboratory sessions in purpose-built smart networking labs with a cloud platform and advanced wireless/ mobile/IoT networking testbed for simulation/ emulation of complex systems.

You will be assessed using a variety of methods which include examination, coursework, practical reports and dissertation.

Career Prospects
As a graduate from this programme you will be equipped to work in a variety of industries as a smart network specialist on applications ranging from smarter homes/offices/ cities, industrial automation to autonomous systems such as self-driving cars. You can also expect to find roles as cloud architect, wireless/mobile network consultants or analysts and mobile app developers.

Entry
A second-class honours degree in networking, computer science, or a closely related discipline or equivalent professional experience and/or qualifications.

English language proficiency at a minimum of IELTS band 6.0 or equivalent, with no component score below 5.5.

How to apply

Applying to UWS is easy. You will need to complete the application online at **www.uws.ac.uk/international-students/apply-to-uws/** When applying for a Masters programme, you will need to provide the following documents:

1. Qualification Certificate: you will need to provide scanned or photocopy of your Degree certificate or equivalent. This must come from the awarding body.
2. Full transcript of your Degree certificate or equivalent
3. English Language Proficiency scores: copy of Test certificate, GCSE, GCE Ordinary Level pass in English Language or equivalent.
4. Two reference letters of which one must be an academic reference. References must be supplied on company/institution headed paper and bear the company/institution stamp and they must be signed by the referees.
5. Personal Statement: This must clearly state why you chose UWS. Why you chose the particular programme. Information on the programme content and how this fits into your career plans. If this programme is available in your home country, why incur the extra cost to study in UK. If you have had a break from your studies, why are you returning now.
6. Passport: scan of your passport details. Whilst this is not absolutely necessary at the application stage, it will be required before a Confirmation of Acceptance for Studies (CAS) is issued for you to apply for a visa, if required.
7. Curriculum Vitae (CV) especially if you wish for your work experience to be considered as part of your application.
8. Proof of funding, especially if you are sponsored by an organisation or body.
9. Copies of all UK Visas, if held.
10. Research project proposal if you are applying for PhD. Note that we use your proposal to identify your potential supervision team based on your area of interest.

PAISLEY CAMPUS
Paisley
PA1 2BE
Scotland, UK
+44 (0)141 848 3000

LANARKSHIRE CAMPUS
Almada Street
Hamilton
ML3 0JB
Scotland, UK
+44 (0)1698 283 100

NEW LANARKSHIRE CAMPUS
(Opening September 2018)
Hamilton Int. Technology Park
Stephenson Place
Hamilton
G72 0LH
Scotland, UK

AYR CAMPUS
University Avenue
Ayr
KA8 0SX
Scotland, UK
+44 (0)1292 886 000

DUMFRIES CAMPUS
Dudgeon House
Dumfries
DG1 4ZN
Scotland, UK
+44 (0)1387 345 800

LONDON CAMPUS
235 Southwark Bridge Road
London
SE1 6NP
England, UK
+44 (0)141 848 3030

APPLICANT ENQUIRY TEAM
0800 027 1000
Outwith UK: +44 (0)141 849 4101
email: ask@uws.ac.uk

UNIVERSITY OF THE WEST *of* SCOTLAND
UWS