# WE ARE THE UNIVERSITY OF STRATHCLYDE

YOUR GUIDE TO USEFUL LEARNING
POSTGRADUATE PROSPECTUS 2019 ENTRY

# WE ARE THE PLACE OF USEFUL LEARNING

**You're welcome to explore our campus at your leisure or book a place on one of our 'Visit Strathclyde' days which take place throughout the year.**

It is a great opportunity to come and sample what life at Strathclyde is really all about. Visit our website to find out more.

Find out about life at Strathclyde:

📷  @unistrathclyde

🐦  @UniStrathclyde

📘  @UniversityofStrathclyde

# CONTENTS

Take a look through our prospectus and visit **www.strath.ac.uk** for more information

The University of Strathclyde is rated a **QS 5-star** institution

"From one-of-a-kind hotels to exceptional shopping at smart boutiques, Scotland's second city is a welcome destination for any aesthete"

Architectural Digest 2017

Glasgow is one of Europe's most vibrant and diverse destinations, and is recognised as a world-class city in which to live, work, study, invest, meet and visit

Also known as the 'Dear Green Place', Glasgow boasts an impressive number of parks with more than 90 located in and around the city

Excellent transport links – and only one hour's flight from London

# THE PLACE OF USEFUL LEARNING

A leading international technological university, Strathclyde received a five-star rating in a QS audit of universities' key performance areas

**Located in the heart of Glasgow, Scotland's largest city, the University of Strathclyde offers a fantastic experience, where you will enjoy flexible, innovative learning and excellent facilities.**

For more than 200 years, Strathclyde has been meeting the needs of students and society through education, research, innovation and enterprise. This historic tradition is at the heart of our sector-leading approach to education today – equipping students with the skills and opportunities to change the world.

Responding to global challenges, we lead national and international partnerships in research, working alongside other leading academics and global business partners to deliver useful learning and knowledge exchange for our technological age.

With an international reputation for delivering academic excellence with impact, choosing Strathclyde has never been easier.



We are a QS five-star rated university. In all the areas of assessment – teaching, employability, research, internationalisation, facilities, innovation, inclusiveness, and specialist – we scored highly, achieving five stars in each.

Winning eight awards in seven years, we've been recognised across a range of categories in the Times Higher Education and Times Higher Education Leadership and Management Awards. These include the coveted University of the Year and Business School of the Year.

# WE LOVE GLASGOW, SCOTLAND

There's never been a more exciting time to study in Glasgow and every year thousands of students choose to study at Strathclyde

**Our campus sits in the heart of Glasgow's bustling city centre, renowned for its culture, style and friendly locals.**

As Scotland's biggest city, it offers world-class architecture, vibrant nightlife, a diverse culinary scene, internationally-acclaimed museums and galleries, and an amazing city-centre shopping experience.

The world's top travel guides have consistently named Glasgow as a must-visit destination – and we couldn't agree more!

**Discover Glasgow and beyond**

With Glasgow only a short journey from the beautiful landscape of the Trossachs and the Highlands, our students are perfectly positioned to explore everything Scotland has to offer.

From hillwalking, football, rugby, golf, snow sports, mountain biking and water sports to climbing and paintballing, our students get active while experiencing Scotland's magnificent landscapes.

There are more than 30,000 freshwater lochs and 282 'Munros' (mountains in Scotland over 3,000-feet high) to explore as well as extensive hiking and mountain bike trails. We also have our own winter sports season with five ski centres across the Highlands and a year-round indoor ski centre located right here in Glasgow.

For those who want to discover Scotland's past, you can visit the country's many historic castles and monuments and explore the thriving arts scene of Scotland's cultural powerhouse, Glasgow.

# RESEARCH, TEACHING & LEARNING

We work hard to tackle global problems – our research
has a tangible impact in countries around the world

**Research is of central importance in everything we do. It informs our teaching and helps us to make a difference to business, industry and society as a whole.**

One of the UK's top 20 universities for research intensity, according to the Times Higher Education's analysis of REF2014, we are transforming the way academics, business, industry and the public sector work in partnership. We are in the UK top five for industry research income (Times Higher Education World University Ranking 2018).

Each of our four faculties – Engineering, Science, Strathclyde Business School and Humanities & Social Sciences – works closely with business, industry, government and policy-makers, supporting our enviable track record of making technologies and innovation applicable for the benefit of society.

Our world-class researchers are working with international partners to find solutions to challenges in areas of global importance and to support sustainable development goals –

from providing access to reliable electrical power in The Gambia to improving health, water supplies and sanitation in Malawi.

At Strathclyde, we are committed to developing researchers who are both highly skilled and employable. To support you on your research journey, our Researcher Development Programme provides professional and personal development training and opportunities, through a tailored suite of courses, events, workshops and resources.

# WHY STRATHCLYDE

Putting students at the
heart of everything we do

**Our postgraduate courses are held in high regard by employers and provide an excellent platform for research. You'll join our thriving international community of 22,000 students from more than 100 countries.**

With over 200 taught programmes, there is a wide range of postgraduate study options to choose from here at Strathclyde. Many of our courses can be studied part-time or by distance learning, where you can carry out most of your studies off-campus using our virtual learning environment, MyPlace.

Our campus offers excellent facilities including state of-the-art teaching labs and social space specifically for our postgraduate students.

We are transforming our campus, investing £650 million over the course of the current decade to create a first-class working and learning environment for you, our students. Developments include our new £31 million Strathclyde Sport building, opened in summer 2018, and a new £60 million Learning & Teaching Hub, due for completion in 2020.

- Number one in the UK for Physics research, based on the Research Excellence Framework (REF) 2014 Grade Point Average scores, according to the Times Higher Education
- Strathclyde's Advanced Forming Research Centre, a partnership with industry including Rolls-Royce and Boeing, is setting new standards in manufacturing and design
- We are the anchor University for the National Manufacturing Institute for Scotland
- Strathclyde is the only UK higher education institution involved in all four of the UK's Quantum Technology Hubs
- We have launched the world's first maritime safety research centre
- Strathclyde academics were part of a team which detected gravitational waves 100 years after Einstein's prediction
- Strathclyde is a member of three of the UK's seven Catapult Centres, which are transforming the UK's capability for innovation
- Researchers in Management Science have been working with partners across Europe to enhance cities' capacity to resist, absorb and recover from the hazardous effects of climate change
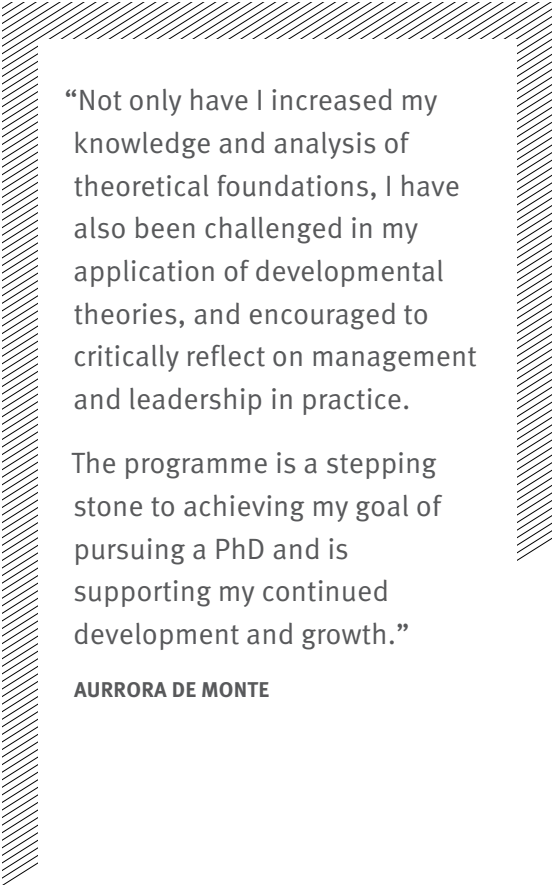
## We are Bold

Balancing life, practice and education, Child and Youth Care Studies student Aurrora De Monte chose the course at Strathclyde because studying part-time by distance learning allowed her to continue to teach in a child and youth care programme in Canada and maintain practice as a direct-service practitioner.

This international course is the only Masters-level programme in this field delivered entirely online. It has enabled Aurrora to encounter different scenarios and settings, while gaining an understanding of the theory, policy and practice of child and youth care worldwide.

Developed within the Centre for Excellence for Looked After Children in Scotland (CELCIS), this programme has an engaging curriculum that covers globalised childhoods, international policy contexts, the United Nations Conventions on the Rights of the Child, bringing up children and research methods.

To find out more about distance learning and Aurrora's story visit the website.

"Not only have I increased my knowledge and analysis of theoretical foundations, I have also been challenged in my application of developmental theories, and encouraged to critically reflect on management and leadership in practice.

The programme is a stepping stone to achieving my goal of pursuing a PhD and is supporting my continued development and growth."
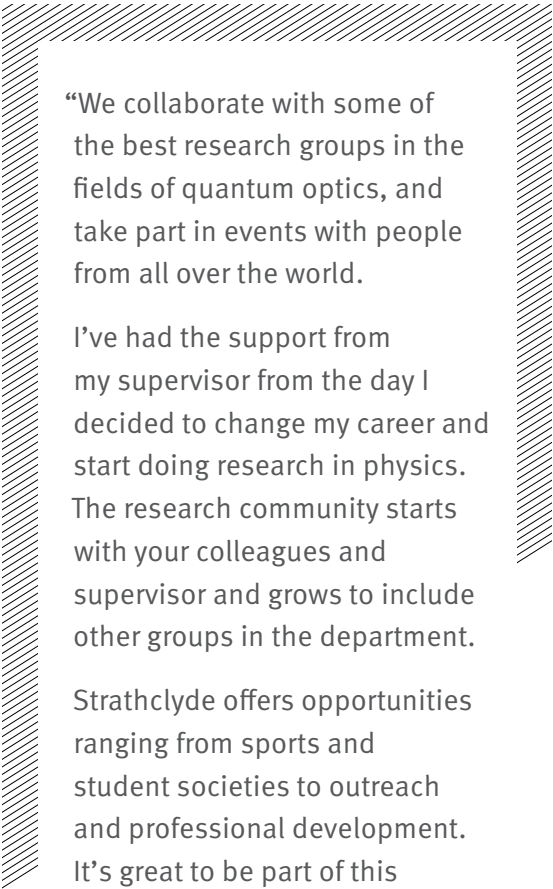
**AURRORA DE MONTE**

## We are Collaborative

Changing her career and moving to Scotland, Physics PhD student Araceli Venegas-Gomez fell in love with Glasgow and the University's city-centre location.

Part of a team who are carrying out cutting-edge research, Araceli's programme focuses on the dynamics in many-body quantum systems with long-range interactions. By controlling the dynamics in cold atoms for quantum simulation, Araceli and her colleagues can study the magnetic properties at the atomic level, which are directly linked to matter at a macroscopic scale.

Strathclyde is at the international forefront of modern physics, making major contributions to fundamental science and having an exceptional impact on industry. Based on the REF2014 GPA Scores, Times Higher Education ranked Strathclyde as number one in the UK for physics research.

Search Physics at Strathclyde to find out more about Araceli's story.

"We collaborate with some of the best research groups in the fields of quantum optics, and take part in events with people from all over the world.

I've had the support from my supervisor from the day I decided to change my career and start doing research in physics. The research community starts with your colleagues and supervisor and grows to include other groups in the department.

Strathclyde offers opportunities ranging from sports and student societies to outreach and professional development. It's great to be part of this impressive network. "

**ARACELI VENEGAS-GOMEZ**

## We are Innovative

After graduating with a Bachelors degree in Mathematics, Christina Christofi wanted to increase her employability and gain some practical experience in industry.

Christina looked for a course that would provide not only excellent career opportunities, but also the practical skills, knowledge and the experience she needed to succeed. She chose the MSc Data Analytics programme as it offers essential skills from three departments – Management Science, Mathematics and Statistics and Computer and Information Sciences.

The course offered Christina the opportunity to work on industrial projects for clients from different industries including Scottish Water, ThinkAnalyics, Equator, and at the same time experience how the concepts taught in her classes are applied in industry.

Find out more about Christina and why Strathclyde by searching Data Analytics.

"The programme enabled me to explore topics such as Big Data, Risk Management and Machine Learning. Having classes in all three departments helped me realise where I would like to focus, what I enjoy and how I would like my career as a data analyst to develop.

I discovered a new aspect of myself – one that enjoys practical tasks including coding and computer science in general. Before this programme, I would never have imagined myself working in technology – a career that now seems ideal and a prospect I'm excited about."

**CHRISTINA CHRISTOFI**

## We are Ambitious

Steve Allen, a PhD student in the Department of Civil and Environmental Engineering is part of a team that will examine the extent of micro-plastic pollution in the Arctic.

Working under the guidance of Strathclyde Professor Vernon Phoenix, and a research team at the University of Toulouse, Steve will analyse ice samples to determine their micro-plastic content.

The samples are being collected by 'La Voie Du Pôle' expedition, a three-man team led by explorer Sébastien Roubinet, which is attempting to be the first yacht to sail across the Arctic Ocean. In the tradition of early explorers, scientific enquiry forms a large part of the expedition and the team will gather ice samples as they traverse the pole providing unique measurement opportunities.

Interested in cryoconite – dust which is believed to be hastening the speed of the melting of the ice cap, mercury and micro-plastic – Steve is working to understand the extent of the pollution.

Follow Steve's story on our website.

"Recent research is showing large amounts of plastics in the pack ice around the Arctic plateau and as a next step in understanding the extent of this pollution, the crew of La Voie Du Pôle expedition will be taking samples along their route.

This will provide us with a wealth of knowledge on how micro-plastics move and help forecast future problems."
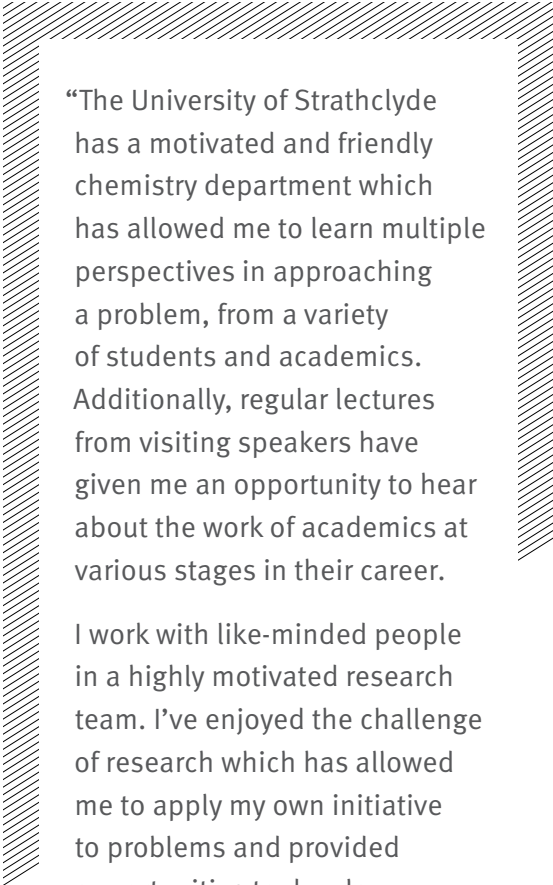
**STEVE ALLEN**

## We are People-Oriented

Working as part of a research team, PhD student Liam McLean is carrying out research which directly impacts the chemical industries. Attracted to Strathclyde's diverse outlook on research and the strong partnerships with industry, Liam is now part of one of the largest research schools in the UK with interest and expertise across analytical, biological, physical and synthesis research areas.

Strathclyde's ongoing research exchange partnership with GlaxoSmithKline (GSK), one of the world's leading research-based pharmaceutical and healthcare companies, enabled Liam to complete a funded three-month placement at the company's research site. The secondment gave him a different perspective on research and first-hand experience of the needs of industry, which he could then apply in his studies at Strathclyde.

To find out more about Liam's story, visit our website.

"The University of Strathclyde has a motivated and friendly chemistry department which has allowed me to learn multiple perspectives in approaching a problem, from a variety of students and academics. Additionally, regular lectures from visiting speakers have given me an opportunity to hear about the work of academics at various stages in their career.

I work with like-minded people in a highly motivated research team. I've enjoyed the challenge of research which has allowed me to apply my own initiative to problems and provided opportunities to develop practical skills within the lab as well as oral and written communication skills."

**LIAM McLEAN**

# CAREERS & INDUSTRY

Start your career with the
University of Strathclyde

**Renowned for our strong links with business, industry and the public sector, we are transforming the lives of our students, producing graduates who are ready for the workplace.**

Our degrees are tailored to industry needs and equip you with the skills to succeed and make a difference to society and the world. Many of our degree programmes are fully accredited by the relevant professional institutions, making Strathclyde the ideal location to study.

From day one until graduation and beyond, you can benefit from the resources of our Careers Service. We provide 1:1 careers information advice and guidance sessions to help you achieve your career goals, as well as provide opportunities for you to network with relevant employers and industry professionals.

- Access to company scholarships and close interaction with business and industry help to give our graduates a head start in their careers.
- Globally connected, working with partners to pioneer research and inform public policy.
- One of the founding partners of Glasgow City Innovation District.

- Home to the Confucius Institute for Scotland's schools.
- Awarded five stars for employability in the 2017-2020 QS Stars audit and evaluation.
- We work closely with the Weir Group on a range of projects, including the design of new and improved products for global markets.
- Strathclyde graduates join a global community of more than 156,000.

# YOUR #STRATHLIFE

Joining university, meeting new people, living on campus
and continuing with your studies is exciting

**Whether you're living on or off campus
we want you to have the best experience
while studying at Strathclyde.**

From scholarships and funding opportunities
and a state-of-the-art library, to one of Scotland's
most dynamic student unions, and guaranteed
accommodation for international students,
we have everything you need for a high-quality
student experience.

### Home from Home
The application process for our student
accommodation ensures that we match you
up with people we think you'll get along with.

Your rent includes wi-fi in shared areas, data
points in each study bedroom, heating, lighting,
a cleaning service for communal areas and
personal possessions insurance.

Accommodation in the Campus Village is a short
walk from the main University buildings, library,
computer labs, sports facilities and the Students'
Union. The Village is set in landscaped gardens,
has an open study area, Santander bank,
Todd's Bar, laundrettes and is situated close
to the shops, restaurants, cafes, bars and
other entertainment in the city centre and
Merchant City.

### Sports, clubs and societies
Our Strathclyde Sport building, opened in summer
2018, offers state-of-the art facilities including
a 25-metre swimming pool, fitness suite with
capacity for over 180, sports halls, squash courts,
dance studio and treatment rooms.

We have over 170 clubs and societies including
competitive and non-competitive sports clubs.
Our Strathclyde Postgraduate Society hosts
weekly social events and is a great way to network
with other students and be part of our welcoming
postgraduate community. In the Students' Union,
you can drop into The Scene for a great menu and
a comfortable place to eat, try one of the theme
nights in the Barony Bar, or have a game of pool,
a bite to eat and a drink in the Yard.

Find out what living in our campus
community is like using #strathliving.

"

The learning atmosphere and the quality of the engineering faculty were significant reasons in my decision to choose Strathclyde. The advanced core classes and the opportunity to choose options contributed to my improved skills as an engineer.

I'm currently working as a consultant engineer in the power and renewable sector. The skills I gained at Strathclyde have benefited me in my working life.

I would recommend Strathclyde for postgraduate study. It has a renowned reputation and you have the opportunity to meet and study with people from different nationalities and cultures.

**KORAWIN SRINIRATSAI, FROM THAILAND**
**MSc ADVANCED MECHANICAL ENGINEERING WITH AEROSPACE**

"

# FACULTY OF ENGINEERING

We are internationally renowned for our research, teaching quality and strong links with industry

**We provide high-quality advanced training, with an unrivalled portfolio of more then 40 innovative, industrially-focused postgraduate taught courses, and leading research programmes.**

We are one of the largest, best equipped engineering faculties in the UK and the largest in Scotland. Multimillion-pound investment in our facilities gives students access to state-of-the-art equipment and work space in which to study. We offer a number of University-wide, Faculty and departmental funded scholarships.

Multimillion-pound investments by the research councils, government and industry, including Rolls-Royce and British Energy, are testament to the quality and relevance of the Faculty's growing research portfolio. Our interdisciplinary research themes bring together expertise in Advanced Materials and Manufacture, Aerospace and Marine Technologies, Energy, Sustainability and the Environment, and Health Engineering.

These integrated themes are underpinned by core strengths in areas such as telecommunication technologies, control systems, signal and image processing, non-destructive testing and enabling engineering.

Our close connections with industry ensure that our degrees remain relevant to the needs of employers and provide students with opportunities to work in cross-disciplinary teams, solving real engineering problems.

Through our collaborative links with overseas partners, we have a growing international community of students, researchers and staff from around 100 countries.

## Contact
Engineering Faculty Office
**t:** +44 (0)141 548 2749
**e:** eng-enquiries@strath.ac.uk

# Sustainable Engineering Programme
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Cross-disciplinary programme with input from industry
- Satisfy key requirements to attain Chartered Engineer status
- Develop sought-after understanding of sustainable approaches and practices

### Course Structure
- Instructional classes (including a Sustainability class taken by all students)
- Group project (on a topic related to environmental, social, or economic sustainability)
- Individual project

### Step One: Select Your Specialist Theme
- Advanced Construction Technology and Building Information Management
- Architecture and Ecology (Glasgow/Arizona)
- Offshore Renewable Energy
- Renewable Energy Systems and the Environment

### Step Two: Select Generic Classes
- Design Management
- Financial Engineering
- Project Management
- Risk Management
- Environmental Impact Assessment

You will take at least two generic classes which meet employers' requirements for comprehensive engineering skills and satisfy key requirements to attain Chartered Engineer status.

### Step Three: Select Specialist Modules
You also take a number of classes relevant to your selected specialist theme (see opposite) – three for the Postgraduate Certificate, up to five for the Postgraduate Diploma/MSc.

Successful completion of six instructional classes leads to the award of a Postgraduate Certificate.

### Step Four: Complete a Group Project
You work within a group of students from different specialist themes to produce sustainable solutions for real-life industry problems. Site visits, field trips and regular progress reports to industry partners are an integral part of the process.

You will develop valued skills in team-working, problem-solving, report writing and presentation.

Successful completion of eight instructional classes and a group project leads to the award of a Postgraduate Diploma.

### Step Five: Complete an Individual Project
MSc students study a selected topic in depth and submit a thesis. Substantial industry input in the form of project ideas brings together engineering graduates and business representatives.

Successful completion of eight instructional modules, a group project and an individual project leads to the award of an MSc.

### Course Duration
**MSc:** 12 months full-time; 24 months part-time (minimum)
**PgCert/PgDip:** 9 months full-time; 18 months part-time

### Entry Requirements
First degree or other qualification equivalent to an Honours degree in a relevant engineering, technology or science discipline. Entry may be possible with other qualifications provided there is evidence of relevant experience and of the capacity for postgraduate study.

## Specialist Theme Classes and Contacts
### Advanced Construction Technology and Building Information Management
- Building Information Management
- ICT Integrated in AEC
- Construction Management
- Construction Technology
- Procurement and Tendering
- Facilities Management
- Contract Administration and Practice
- The Construction Industry Client

### Architecture and Ecology
- Ecology, Sustainability and the Built Environment
- Arcology
- Architectural and Construction History
- Energy Resources and Policy

### Contact
**t:** +44 (0)141 548 3069
**e:** contact-architecture@strath.ac.uk

### Offshore Renewable Energy
- Energy Resources and Policy
- Electrical Power Systems
- Renewable Marine Energy Systems
- Finite Element Analysis of Floating Structures
- Physical Testing of Offshore Renewable Energy Devices

### Contact
**t:** +44 (0)141 548 4094
**e:** naome-pg@strath.ac.uk

### Renewable Energy Systems and the Environment
- Energy Resources and Policy
- Energy Systems Analysis
- Electrical Power Systems
- Energy Modelling and Monitoring

### Contact
**t:** +44 (0)141 548 2846
**e:** mae-pg@strath.ac.uk

"The course is well structured covering a wide range of topics relevant to the field of engineering, as well as practical subjects such as project management, environmental risk assessment and design management.

I've learned how to work effectively within a group as well as individually – key skills which employers look for. "

**JAMES SWEENY**
MSc RENEWABLE ENERGY SYSTEMS AND THE ENVIRONMENT GRADUATE

# Department of Architecture

MRes, MPhil, PhD

### Contact for Research Degrees
**t:** +44 (0)141 548 3097
**e:** contact-architecture@strath.ac.uk

### TAUGHT COURSES
Advanced Architectural Design
Architectural Design (International)
Architectural Design for the Conservation of Built Heritage
Urban Design
Sustainable Engineering: Advanced Construction Technology and Building Information Management (part of Sustainable Engineering Programme, see pg 22-23)
Sustainable Engineering: Architecture and Ecology (part of Sustainable Engineering Programme, see pg 22-23)

### Contact for Taught Courses
**t:** +44 (0)141 548 4219
**e:** contact-architecture@strath.ac.uk

### Research Profile
Our vision is to be 'a leading-edge centre for research in architecture and urban design; one in which design and creativity and technology and innovation are central to the transformation of individuals, practices, communities, cities and nations'.

This vision reflects the diverse multidisciplinary basis of architecture and urbanism, with an emphasis on social engagement with real-world problems.

In keeping with the University's strategic aims, we have developed strong links with industry, numerous European and international connections, and a capability to undertake trans-disciplinary research that integrates sustainable design, engineering and technology and cultural enquiry from local, regional, and global perspectives.

### Key Areas of Research
Our research groups continue to evolve, reflecting emerging issues in architectural design, cultural enquiry, sustainability and urbanism; investigating how design innovation and technology can conserve the environment and transform communities and cities around the world.

The Department's research activity addresses social and environmental challenges while promoting energy and resource efficiencies within the built environment.

### Sustainability and the Built Environment
- Architectural Design and Conservation – our research focuses on the challenges of conserving built heritage while allowing changes to adapt historic buildings to contemporary uses
- Construction Law – is related to the legalities of the construction process including dispute resolution, regulatory enforcement and corporate corruption
- Innovative Construction Technologies and BIM advanced methodologies for adopting information and communication technologies to address the issues of the architecture engineering and construction industry and the implementation of BIM level 2 and level 3
- Sustainable Design and Technology research activity responds to social, environmental and economic challenges associated with buildings and cities, in both developed and developing countries

### Urbanism and Global Cities
- Architecture and Urbanism of the Global South – we focus on the urban transformations of cities in the Global South, instigating critical questions about the quality of urban life, health, liveability, identity and multiculturalism and developing frameworks and models for regenerating and retrofitting cities
- Cultural and Historical Studies – we research the politico-economic, cultural and social history of architecture and cities, exploring how and why buildings and cities are produced and used, how they are represented and the meanings we attach to them
- Urban Design – the Urban Design Studies Unit (USDU) pursues an evidence-based understanding of how cities work and develop in time as a matter of sustainable urban planning, combining physical and socio-economic aspects; we actively engage with public and private sectors, the Government and non-governmental organisations (NGOs) in Scotland and beyond

### Built Environment Education and Pedagogy
A cross-cutting theme brings together work by architecture staff to explore learning practices in architecture, building construction and urbanism.

### Entry Requirements for Research Degrees
First- or upper second-class Honours degree, or equivalent overseas qualification, in any discipline.

# Advanced Architectural Design
MArch/PgDip (ARB and RIBA Part 2 Course)

## Why study this programme at Strathclyde?

- Diploma is final stage to Part 2 professional qualification
- Option to convert Diploma into MArch
- ARB/RIBA Part 2 exemption
- Develop critical, formal and technical architectural skills
- Benefit from our fully-networked design studios

### Course Structure
The course reviews current theoretical approaches to architectural and urban design, assessing and exemplifying their relevance in existing and proposed contexts. You will:

- undertake a comprehensive architectural and/or urban design project
- demonstrate awareness of management procedures relevant to design practice
- carry out research and critical analysis of a topic to produce a dissertation
- carry out a detailed examination and resolution of an issue or issues of particular architectural and/or urban significance

The course comprises studio design work, lectures, a dissertation, special projects and workshops. Taught classes are under the broad topics of Culture and the City, Society, Environment and Technology and include cultural studies, an international workshop, professional studies, sustainability, environmental assessment, culture and behaviour, the history and theory of urbanism and conservation and building information modelling. Studies are predominantly project-based and demand a high level of design ability.

### Course Duration
**MArch:** 24 months full-time
**PgDip:** 21 months full-time

Students entering Year 2 of the programme:

**MArch:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
First- or second-class Honours degree in architecture from a UK or EU university.

An academic portfolio will be required, containing all relevant design work from your previous course of study.

# Architectural Design (International)
MArch/PgDip (RIBA Part 2 Course)

## Why study this programme at Strathclyde?

- Develop skills in advanced design, analysis and critique
- Meets RIBA Part 2 educational criteria
- Two-year course for international students
- Develop projects related to your own interests in contemporary architecture

### Course Structure
This two-year course is for international students. It runs parallel to the MArch/PgDip in Advanced Architectural Design and shares the same curriculum.

The first year is divided equally between the design studio and a set of taught classes including Cultural Studies and an elective option. The studio projects are designed to develop the ability to deliver a considerable degree of architectural resolution and technical competence. In Cultural Studies, students develop academic and intellectual rigour in an area of personal study into a dissertation, which can be the foundation for further work in the second year.

Year 2 is centred on a series of design workshops, studios and taught classes designed to engage with a particular architectural, environmental and cultural theme set for the year. This requires students to take a stance on contemporary architectural issues and through this medium pursue an agenda that reflects their own interests and creative ambitions. Taught classes are under the broad topics of Culture and the City, Society, Environment and Technology and include cultural studies, an international workshop, professional studies, sustainability, environmental assessment, culture and behaviour, the history and theory of urbanism and conservation, and building information modelling.

### Course Duration
**MArch:** 24 months full-time
**PgDip:** 21 months full-time

### Entry Requirements
First- or second-class Honours degree in architecture, or overseas equivalent.

An academic portfolio will be required, containing all relevant design work from the applicant's previous course of study.

# Architectural Design for the Conservation of Built Heritage

MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Fully recognised by the Institute of Historic Building Conservation (HBC)
- Design-orientated and research-based course
- Gain skills and knowledge to produce an architectural conservation and design project
- Benefit from teaching by leading experts

### Course Structure

**Compulsory Classes**

- Theory of Conservation
- Architectural and Construction History
- Legilsation and Regulations
- Survey, Preliminary Studies and Investigations in Architectural Heritage
- Materials and Decay
- Conservation Design Project
- Structural Repairs and Strengthening
- Conservation Materials Technology
- Dissertation Project (MSc students only)

**Optional Classes**

- Urban History
- Urban Theory
- Real Estate Development
- Urban Design Policy and Practice
- Sustainability
- Construction Project Management

### Course Duration

**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 18 months part-time
**PgCert:** 5 months full-time; 9 months part-time

### Entry Requirements

First- or second-class Honours degree (or equivalent) in architecture, structural or civil engineering. Consideration will also be given to candidates with other relevant professional qualifications in a discipline related to the built environment and/or professional experience.

Evidence of motivation will be sought and, from studio-based first qualification holders, a portfolio of project work may be required.

# Urban Design

MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- The course confers Royal Town Planning Institute Specialist accreditation
- Innovative and unique course based on the cutting-edge research of the Urban Design Studies Unit
- Experience a practical learning environment
- Address urban resilience through live commissions

### Course Structure

**Compulsory Classes**

- Studio (Analysis, Strategy, Framework and Coding, Masterplanning and Place Design)
- Urban Design History
- Development Process
- Urban Design Policy & Practice
- Urban Theory
- Sustainability
- Dissertation Project (MSc students only)

**Optional Classes**

- Urban Landscape Design
- Cultural and Behavioural Factors in Architecture and Urbanism
- Urban Design Representation
- Modelling and Understanding Cities

### Course Duration

**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 18 months part-time
**PgCert:** 5 months full-time; 9 months part-time (duration will depend on classes selected)

### Entry Requirements

An Honours degree, or equivalent, in a discipline related to the built environment and the city (eg architecture, planning, engineering, and other built environment disciplines).

Candidates with alternative professional experience may also be considered.

# Department of Biomedical Engineering

The Department of Biomedical Engineering provides high-quality research and postgraduate training in bioengineering that gives our graduates the skills and knowledge to provide unique and innovative technological solutions to modern-day health problems. As a training centre for prosthetics and orthotics, we also provide courses specifically tailored for advanced training for professionals and those interested in this area.

External research is supported by funding from the research councils, the Scottish Government, charities, and commerce and industry within the UK, EU and internationally in countries such as the US and Japan.

## Biomedical Engineering

Bioengineering takes a multidisciplinary approach to solving problems in medicine and biology, based on the application of advances in science, engineering and technology. A major focus is to improve the quality of life of people with medical conditions that restrict independent living and integration within the community. The Department is a key centre for the development of research projects in biomedical engineering and in the development and testing of medical devices.

## Research Groups
### Rehabilitation Engineering

Rehabilitation Engineering applies scientific and engineering principles to research related to the musculo-skeletal system. The main areas of research within the group are Biomechanics and Medical Robotics, Prosthetics and Orthotics, and Motor Control and Neuroprosthetics.

### Medical Diagnostic Devices and Instrumentation

Research activities range from minimally-invasive patient monitoring or rapid point of care (POC) diagnosis to the development of new innovative interventional technologies including heart valves, life support systems and implantable cardiovascular devices. The main areas of research are:

- Minimally-invasive Diagnostics
- Sensors for Cell and Tissue Engineering/ Implanted Devices
- POC Patient Monitors

### Cell, Tissue and Organ Engineering

Research within the group looks at cellular intractions, cell and tissue engineering and the development of artificial organs. The main areas of research are:

- Cellular Interactions with Material/Chemicals
- Cell/Tissue Engineering
- Hybrid Artificial Organs
- Modelling of Artificial Organs
- Microbial Decontamination and Sterilisation

### National Centre for Prosthetics and Orthotics

The National Centre for Prosthetics and Orthotics (NCPO) has a wide network of collaborative links with departments across the Faculty of Engineering and the Faculty of Humanities & Social Sciences, and also with clinical and research facilities across the UK and overseas. Our purpose-built facilities include fully-equipped workshops and clinic rooms.

Within the Department of Biomedical Engineering, NCPO has an active and expanding research portfolio of fundamental and applied research projects. Research activities are grouped under the following main themes:

- Clinical Activities
- Development and Evaluation of Clinical Techniques
- Evaluation of Prosthetic and Orthotic Interventions
- Development and Evaluation of Outcome Measures
- Quality of Life Products
- Clinical Evaluation Tools
- Components
- Technologies
- Clinical Simulation for Prescription
- Shape Capture

# Scholarship Programmes

## International Excellence Awards

The Department offers four prestigious competitive scholarships for full-time international applicants to the MSc and MRes in Biomedical Engineering. Recipients will benefit from an award of up to £4,000. Successful recipients will be notified at the beginning of term.

### The China-Scotland Friendship Award

The Department will offer this award worth £4,000 to a Chinese applicant of outstanding ability applying for the MSc in Biomedical Engineering. The successful recipient will be notified at the beginning of term.

### Biomedical Engineering Malaysia Award

The Department will offer this award worth £4,000 to a Malaysian applicant of outstanding ability applying for the MSc in Biomedical Engineering. The successful recipient will be notified at the beginning of term.

### Biomedical Engineering Award for India

These awards are open to well-qualified applicants from India joining the one-year full-time MSc in Biomedical Engineering. The value of each award is £6,000 which will be deducted from the fee on registration. Applicants should apply by email (see below) by the end of May, including a short paragraph on why they should receive an award. Applicants will be advised of the outcome in June.

### Contact for Scholarship Information

**e:** biomedeng-pg-admissions@strath.ac.uk

# Biofluid Mechanics
MRes

## Why study this programme at Strathclyde?

- Learn to apply engineering, mathematical and physical principles of fluids to problems in biology and medicine
- Opportunity to focus on multidisciplinary research throughout the course
- Benefit from visiting speakers from industry

## Course Structure

**Compulsory Classes**
- Professional Studies in Biomedical Engineering
- Research Methodology
- Project

**Optional Classes** (minimum of two)
- Biofluid Mechanics
- Industrial Software
- Medical Science for Engineering
- Haemodynamics for Engineers
- Numerical Modelling in Biomedical Engineering
- Cardiovascular Devices
- The Medical Device Regulatory Process
- Entrepreneurship and Commercialisation in Biomedical Engineering
- Introduction to Biomechanics
- Finite Element Methods for Boundary Value Problems and Approximation
- Mathematical Biology and Marine Population Modelling
- Design Management
- Risk Management

**Research Project**
Students also undertake a research/development project, chosen from a pool of relevant industrial or clinical projects, and submit a thesis.

## Course Duration
12 months full-time

## Entry Requirements
First- or second-class Honours degree, or overseas equivalent, in engineering, physical science, or mathematics.

# Biomedical Engineering

MRes

## Why study this programme at Strathclyde?

- Conversion course for graduates interested in developing a research career
- Benefit from our collaborative clinically-driven research output, training and knowledge transfer
- Undertake a research/development project

### Course Structure

**Compulsory Classes**
- Engineering Science OR Medical Science
- Professional Studies in Bioengineering
- Research Methodology

**Optional Classes** (minimum of two)
- Biomedical Electronics
- Biomedical Instrumentation
- Introduction to Biomechanics
- Clinical and Sports Biomechanics
- Tissue Mechanics
- Biomaterials and Biocompatibility
- Regenerative Medicine and Tissue Engineering
- Cardiovascular Devices
- Prosthetics and Orthotics
- Bio-signal Processing and Analysis
- Haemodynamics for Engineers
- Numerical Modelling in Biomedical Engineering
- Medical Robotics

**Research Project**
Students also undertake a research/development project, chosen from a pool of relevant industrial or clinical projects, and submit a thesis.

### Course Duration
12 months full-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in engineering, physical science, life science, medicine, or a profession allied to medicine.

# Biofluid Mechanics

MSc

## Why study this programme at Strathclyde?

- Gain hands-on experience of industrial software on real biofluid mechanics problems
- Benefit from an innovative teaching and learning environment
- First one-year course dedicated to biofluid mechanics

### Course Structure

**Compulsory Classes**
- Biofluid Mechanics
- Industrial Software
- Medical Science for Engineering
- Research Methodology
- Professional Studies in Biomedical Engineering

**Optional Classes** (two to four to be chosen)
- Haemodynamics for Engineers
- Numerical Modelling in Biomedical Engineeirng
- Cardiovascular Devices
- The Medical Device Regulatory Process
- Entrepreneurship and Commercialisation in Biomedical Engineering
- Introduction to Biomechanics
- Finite Element Methods for Boundary Value Problems and Approximation
- Mathematical Biology and Marine Population Modelling
- Design Management
- Risk Management

**Research Project**
Students also undertake a research/development project, chosen from a pool of relevant industrial or clinical projects, and submit a thesis.

### Course Duration
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in engineering, physical science, or mathematics.
**PgDip:** Normally a first degree, but other applicants will be considered.

# Biomedical Engineering
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Accredited by the Institute of Physics and Engineering in Medicine
- Conversion course to help you develop a career in research, industry or the NHS
- Contribute to solutions for clinically-relevant problems

### Course Structure
**Compulsory Classes**
- Engineering Science OR Medical Science
- Professional Studies in Bioengineering
- Anatomy and Physiology (for students taking Engineering Science but who do not have the prerequisite background in Anatomy and Physiology)
- Biomedical Electronics
- Biomedical Instrumentation
- Research Methodology
- Project

**Optional Classes** (four for PgDip; six for MSc)
- Clinical and Sports Biomechanics
- Tissue Mechanics
- Introduction to Biomechanics
- Bio-signal Processing and Analysis
- Biomaterials and Biocompatability
- Prosthetics and Orthotics
- Cardiovascular Devices
- Regenerative Medicine
- Haemodynamics for Engineers
- Numerical Modelling in Biomedical Engineering
- Medical Robotics

**Research Project**
Students also undertake a research/development project.

### Course Duration
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in engineering, physical science, life science, medicine, or a profession allied to medicine.
**PgDip:** Normally a first degree, but other applicants with other qualifications will be considered.

# Prosthetics and Orthotics
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Undertake a clinically-relevant project in the rehabilitation area of prosthetics and/or orthotics
- Develop your career as a health professional
- Experience laboratory demonstrations, practical exercises and clinical visits

### Course Structure
**Compulsory Classes**
- Engineering Science OR Medical Science
- Professional Studies in Biomedical Engineering
- Research Methodology
- Disability and Societal Effects

**Optional Classes**
- Introduction to Biomechanics
- Regenerative Medicine
- Tissue Mechanics
- Clinical and Sports Biomechanics
- Bio-signal Processing and Analysis
- Biomaterials and Biocompatibility
- Cardiovascular Devices
- Haemodynamics for Engineers
- Numerical Modelling in Biomedical Engineering
- Medical Robotics

**Research Project**
Students also undertake a research/development project.

### Course Duration
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in prosthetics and orthotics.

# Rehabilitation Studies in Prosthetics and/or Orthotics

MSc/PgDip/PgCert (part-time)

## Why study this programme at Strathclyde?

- Suitable for professionals working in prosthetics, orthotics, therapy, surgery or associated disciplines
- Study by distance learning at your own pace
- Use your healthcare-focused research skills to plan and deliver a work-based research project

### Course Structure
- Postgraduate Certificate – three Optional and Restricted classes
- Postgraduate Diploma – six from the list of Optional and Restricted classes
- MSc – classes in Research Methodology and Data Analysis, research project and dissertation

### Optional Classes
- Clinical Governance
- Orthotic Studies*
- Prosthetic Studies*
- Introductory Biomechanics
- Lower Limb Prosthetic Biomechanics
- Lower Limb Orthotic Biomechanics
- Clinical Gait Analysis

* not available to Prosthetists or Orthotists

### Restricted Classes (for professional Prosthetists/Orthotists)
- Advanced Prosthetic Science
- Advanced Orthotic Science

### Course Duration
**MSc:** 36 months part-time
**PgDip:** 24 months part-time
**PgCert:** 12 months part-time

### Entry Requirements
Second-class Honours degree or acceptable academic or professional qualification.

The content of some courses may require a basic knowledge of trigonometry and the ability to handle simple algebraic equations.

"The MSc in Prosthetics & Orthotics combines knowledge of the engineering and medical sciences with advances in technology and practice to generate applications and solutions to clinically-relevant problems.

It's one of the few programmes in the world that offers a specific degree in prosthetics and orthotics and our graduates have progressed to managerial or specialist clinical roles. Others become educators of new practitioners in their home country."

**DR TONY McGARRY, SENIOR TEACHING FELLOW**
DEPARTMENT OF BIOMEDICAL ENGINEERING

# Department of Chemical and Process Engineering

**TAUGHT COURSES**
**Full-time Courses**
Advanced Chemical and Process Engineering
Oil and Gas Innovation

**Part-time Distance Learning**
Process Technology and Management

## Research Profile
Research in the Department of Chemical and Process Engineering spans both science and engineering. It applies advances in science and mathematics to develop solutions to challenges faced by industry and society, such as manufacturing medicines, delivering clean water and providing renewable energy. We have strong links with industry partners and other engineering and science departments.

## Research Areas
**Process Development and Monitoring**
We develop, design, and optimise processes using new technologies (eg microwave-assisted synthesis, manufacturing with light, and sonocrystallisation). We have a leadership role in the CMAC future manufacturing research hub based at Strathclyde. We also develop novel methods to monitor processes to improve their control, product quality, and operating efficiency. Active areas of interest include:

- Continuous crystallisation for pharmaceuticals
- Purification and separation through crystallisation
- Bio-fuel production and upgrading
- In-line process monitoring using innovative spectrometry
- Flame imaging diagnostics

**Nanostructured Materials**
We design, develop and manufacture nanostructured materials that can be used to address problems of global significance. Key areas of research include the development of novel materials (eg polymer composites, carbon aerogels and metal organic frameworks) and processes related to carbon capture, energy generation and storage, water treatment and drug delivery. Research areas include:

- Porous material manufacture, scale-up and applications
- Polymer membranes for gas and liquid separations
- Electrochemical nanomaterials and corrosion engineering
- Metal recovery and waste remediation
- Flow of particulates, suspensions and active particles

**Multi-scale Simulation and Theory**
We develop, apply and analyse models for the properties of materials and behaviour of processes in order to aid in the design and optimisation of industrial processes. These models, which can cover a wide range of time and length scales, from molecular to colloidal to process scales and beyond, offer a deeper understanding of systems to allow their design and control. Areas of special interest include:

- Solution dynamics and thermodynamics
- Prediction and control of porous material properties
- Design of nanoparticle drug delivery and diagnostics
- Surface adsorption and crystallisation
- Foam improved oil recovery and foam fractionation
- Turbulence and hypersonics

## Research Environment
Our research students come from all over the world to participate in an active research programme. A number of studentships are available for well-qualified applicants. The Department oversees the operations of ARCHIE-WeSt, the University's regional supercomputer centre for research computing. It also has access to the Advanced Materials Research Laboratory and facilities of CMAC. In addition, departmental research and experimental facilities include:

- Differential Scanning Calorimetry, Intelligent Gravimetric Analysis, Thermogravimetric Analysis and Brunauer, Emmett and Teller Instrument systems
- Electrochemical deposition and etching systems for nanofabrication
- High resolution optical microscopes with image analysis and digital cameras
- Hollow fibre and membrane gas testing equipment
- Rheometer and high pressure viscometer
- UV-Vis Spectrophotometers
- High-performance gas and liquid chromatograph
- Static and dynamic light scattering instruments
- High-power laser systems
- High-temperature furnaces

# Advanced Chemical and Process Engineering

MSc/PgDip/PgCert (full-time)

## Why study this programme at Strathclyde?

- Develop your career in the oil, gas, process and chemical industries
- Meets accreditation requirements for the Institute of Chemical Engineers
- Gain experience of best industry practice

### Course Structure

- Process Design Principles
- Advanced Process Design
- Petroleum Engineering
- Emerging Technologies
- Clean Combustion technologies
- Safety Management Practices
- Programming and Optimisation
- Molecular and Interfacial science
- Fuel Cells
- Modern Methods of Process Measurement
- Molecular Simulation in Chemical Engineering

### Multidisciplinary Skills Classes

- Project Management
- Risk Management
- Environmental Assessment
- Financial Engineering

### Group Project

You will work in a group to solve real industrial problems. Researching industrial data and providing regular progress reports will be integral part of the process. You will develop teamworking, problem-solving, report-writing and communication skills.

### Research Project

All students undertake an individual research project working with our high-quality researchers on cutting-edge chemical engineering challenges.

### Course Duration

**MSc:** 12 months full-time; **PgDip:** 9 months full-time
**PgCert:** 6 months full-time

### Entry Requirements

An Honours degree, or overseas equivalent, in a relevant engineering, technology or science discipline. Entry may be possible with other qualifications provided there is evidence of relevant experience and the ability to study at an advanced level.

"I chose my course because I wanted to study an area related to my background in chemical engineering in order to expand my knowledge.

I enjoyed being involved in real research for my individual project and being able to take advantage of the laboratory facilities and equipment to use in my investigations."

XAVIER ORTEGA PARDO
MSc ADVANCED CHEMICAL and PROCESS ENGINEERING

# Oil and Gas Innovation
MSc/PgCert (full-time)

## Why study this programme at Strathclyde?

- Develop technical knowledge and experience of the oil and gas industries
- Gain an understanding of the framework of the oil and gas sector and its supply chain
- Undertake an industry-relevant oil and gas-related project

### Course Structure
The classes Business Essentials for Innovators and Product Development will be delivered partially via a Virtual Learning Environment.The compulsory project can be carried out at an employer's site.

### Compulsory Classes
- Petroleum Engineering
- Product Development
- Business Essentials for Innovators
- Emerging Technologies
- Project Scoping
- Oil and Gas Project

### Research Project
All students take part in a research project to explore a practical problem related to the oil and gas sector. The project may be carried out at an employer's site.

### Course Duration
**MSc:** 12 months full-time
**PgCert:** 6 months full-time

### Entry Requirements
Upper second-class Honours degree, or overseas equivalent, in a relevant engineering, technology or science discipline. Entry may be possible with other qualifications provided there is evidence of relevant experience and the ability to study at an advanced level.

# Process Technology and Management
MSc/PgDip/PgCert (part-time distance learning)

## Why study this programme at Strathclyde?

- Accredited by the Institution of Chemical Engineers
- A project and work-based approach is supported by online tutorials in which students and tutors participate
- Opportunity to choose classes to meet your own learning objectives

### Course Structure
**Year 1**
**Semester 1**
- Process Design Principles
- Process Analysis in Chemical Engineering

**Semester 2**
- Understanding Financial Information
- Project Management
- Advanced Process Design

**Year 2**
**Semester 1** (three to be chosen)
- Safety Management Practices
- Programming and Optimisation
- Emerging Technologies
- Petrochemical Engineering
- Molecular Simulation in Chemical Engineering
- Modern Process Measurements

**Semester 2**
- Managing People
- Business and Technology Strategy
- Industrial and Environment Engineering

**Year 3**
**Individual Project**
You explore an advanced technical issue and a business case within your industrial workplace.

### Course Duration
**MSc:** 36 months part-time
**PgDip:** 24 months part-time
**PgCert:** 12 months part-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in chemical engineering or a relevant engineering, technology or science discipline. Entry may be possible with other qualifications provided there is evidence of relevant experience and the ability to study at an advanced level.

# Department of Civil and Environmental Engineering

**RESEARCH DEGREES**
MPhil, PhD
MRes Climate Change Adaptation
MRes Geoenvironmental Engineering
MRes Integrated Pollution Prevention and Control

**Contact for Research Degrees**
**t:** +44 (0)141 548 2827
**e:** contact-civeng@strath.ac.uk

**TAUGHT COURSES**
Civil Engineering with Optional Specialist Streams
Civil Engineering with Industrial Placement
Environmental Engineering
Environmental Entrepreneurship
Environmental Health Sciences
Hydrogeology
Sustainability and Environmental Studies

**Contact for Taught Courses**
**t:** +44 (0)141 548 3200
**e:** civeng-pgt@strath.ac.uk

**Distance Learning/Continuing Professional Development**
**Distance Learning:** MSc courses in Environmental Engineering, Hydrogeology, Sustainability and Environmental Studies are available through part-time, online distance learning over 36 months, offering students a flexible learning mode of study
**Continuing Professional Development:** UK-based students can take individual classes for Continuing Professional Development. Those who complete single modules successfully may have the opportunity to progress towards a Postgraduate Certificate, Postgraduate Diploma or MSc. UK-based students have up to five years to complete an MSc via this route.

**Contact for Flexible Learning**
**t:** +44 (0)141 548 3251
**e:** civeng-flexstudy@strath.ac.uk

**Placements**
As part of the class Independent Study in Collaboration with Industry, all MRes and MSc students can apply to work with industry projects.

The Department of Civil and Environmental Engineering has a unique combination of multidisciplinary expertise, reflected in its portfolio of Masters courses, dynamic PhD programmes and internationally-renowned research. The Department combines the strengths of civil engineering, environmental health, sustainability and environmental studies, providing the highest quality professional training, linking the built environment with the natural environment.

The Department holds an Athena SWAN silver award – the only civil engineering department in Scotland to hold a silver award. The award recognises its "advancement of gender equality: representation, progression and success for all".

The Department's research groups support a wide range of international research collaborations including recent activity in China, Malawi, Kenya, Swaziland, Thailand, India, Pakistan, Brazil, the USA and Canada. In addition, research is underpinned by strong links with industry including high-profile visiting professors, an active industrial advisory board, seminar series with speakers from industry, and directly contributing industrially relevant projects.

**Research Areas**
Our researchers work across three main interdisciplinary centres:

**Centre for Ground Engineering & Energy Geosciences**
The centre specialises in multidisciplinary research at the boundaries between biology, earth sciences and engineering. The Centre has a current research portfolio in excess of £4 million and leads a number of major multi-partner EPSRC and European Commission research projects. Our researchers have expertise in a range of disciplines, including:

- ground barrier technologies
- experimental geomechanics
- geotechnical engineering
- geophysics
- site investigation
- structural geology
- hydrogeology
- constitutive and numerical modelling of geomaterials

# Civil and Environmental Engineering Research Areas continued

# Scholarship Programmes

**Centre for Water, Environment, Sustainability and Public Health**
The centre undertakes fundamental and applied research to provide novel solutions to some of the most pressing environmental challenges, working both locally and internationally. Our expertise includes:

- water
- public and environmental health
- soil contamination, restoration and remediation
- environmental assessment
- waste, energy and circular economy
- international development

**Centre for Intelligent Infrastructure**
The Centre is committed to transforming traditional structural engineering through cross-disciplinary research, recognising and transposing the recent radical innovations in material science, communication and sensor technology.

We use techniques from chemistry, computer science, electronic engineering, physics, biochemistry and management science to solve societal problems surrounding the safety and resilience of structures that support energy generation, waste storage, transport and urban infrastructure.

We combine fundamental research with industrial engagement, working across sectors such as construction, transportation, oil and gas, heritage buildings, renewables and nuclear, in collaboration with UK and EU government agencies and national laboratories. Our research outputs include industrial patents and a spin-out company. Our expertise includes:

- intelligent infrastructure and artificial intelligence
- sensors and automation
- sustainable construction materials
- safety, resilience and economic assessment
- computational modelling

## Research Scholarships
**PhD Studentships**
Each year, the Department has a limited number of fully-funded PhD scholarships available to first-class applicants. Prospective students who hold (or expect to hold) the equivalent of a first-class Honours degree or an MSc with Distinction are encouraged to make an informal expression of interest between November and January.

**MRes (Masters by Research) Studentships**
In partnership with industry, the Department provides a limited number of scholarships for selected MRes projects. These scholarships cover UK/EU fees plus a small stipend payment and are awarded on the basis of candidate merit and relevance of the research to the partner's core business areas. Available projects will be advertised on our website in August.

## Scholarships for Taught Courses
**MSc Scholarships**
Holders of a first-class Honours degree or equivalent overseas qualification) are eligible to apply.

- Engineering Excellence Scholarships – (self-funded, international (non-EU) fee-paying students with excellent academic qualifications may be eligible for a Faculty of Engineering Excellence Scholarship towards their tuition fees
- Santander Scholarship
- University of Strathclyde International Scholarship
- Commonwealth Scholarship Commission Scholarships for MSc Hydrogeology via Distance Learning – a full scholarship is available to cover all costs associated with study, including tuition fees; candidates must apply through the Commonwealth Scholarship Commission (cscuk.dfid.gov.uk/apply/distance-learning)

**Postgraduate Funding: Student Awards Agency for Scotland**
Scottish and EU postgraduate applicants can apply to the Student Awards Agency for Scotland (www.saas.gov.uk) for a tuition fee loan.

**RUK Scholarship**
£3,000 for a high-calibre student from England, Wales or Northern Ireland (RUK) who wishes to pursue their MSc studies in Scotland.

## Contact for Scholarship Information
**t:** +44 (0)141 548 3200
**e:** civeng-pgt@strath.ac.uk

# MRes Programmes in Civil and Environmental Engineering

## Why study this programme at Strathclyde?

- Tailor your studies to suit your research interests and/or career objectives
- Opportunity to choose classes from any of the department's postgraduate taught courses
- Undertake a supervised thesis project

### MRes Climate Change Adaptation

The programme is aimed at engineering graduates and employees of public and private-sector companies who wish to upgrade their skills to tackle the complex issues relating to climate change, the circular economy and the design of engineering options for sustainable development.

Compulsory Classes

- Air Pollution, Climate Change & Human Health
- Research Protocols for Science & Engineering
- Environmental Impact Assessment
- Circular Economy and Transformations Towards Sustainability

### MRes Geoenvironmental Engineering

The programme is unique in Scotland and the UK for being taught by a group of professionally-qualified civil engineers, chemists, microbiologists and geoscientists.

Compulsory Classes

- Contaminated Land
- Hydrogeology
- Research Protocols for Science and Engineering
- Site Investigation and Risk Assessment

### MRes Integrated Pollution Prevention and Control

The programme provides multidisciplinary skills which are not typically provided by undergraduate courses. Participants gain the hands-on experience essential for experimental analysis in our purpose-built laboratory facilities.

Compulsory Classes

- Environmental Chemistry
- Environmental Pollution Management
- Research Protocols for Science and Engineering
- Waste Management and Landfill Design

### Course Duration

12 months full-time; 24 months part-time

### MRes Entry Requirements

First- or upper second-class Honours degree, or overseas equivalent, in an engineering, life science, earth science or any other relevant discipline.

# Civil Engineering with Optional Specialist Streams

MSc

## Why study this programme at Strathclyde?

- Gain specialist skills to lead future developments
- Choose to follow a specialist named stream
- Benefit from our purpose-built laboratory facilities
- Carry out an industrial project or take part in the work of the Carbon Clinic

### Course Structure

Participants can graduate with an MSc in Civil Engineering or choose to follow one of four specialist streams which incorporate Civil Engineering and Project Management with Structural Engineering/Geotechnical Engineering/ Geoenvironmental Engineering/Water Engineering.

### Compulsory Classes

All students take the compulsory classes Group Design Project and Qualitative and Quantitative Research Methods. Those on the specialist streams (see below) also take the class Project Management, plus three compulsory classes, two optional classes from List A and three from List A or B.

### MSc in Civil Engineering

Six classes from List A and three classes from List A or B

### MSc in Civil Engineering with Structural Engineering and Project Management

- Advanced Structural Analysis and Design
- Pre-stressed Concrete, Composite Materials and Structural Stability
- Ground Improvement and Reinforcement

### MSc in Civil Engineering with Geotechnical Engineering and Project Management

- Ground Improvement and Reinforcement
- Rock Mechanics, Tunnelling and Groundwater
- Slopes and Walls

### MSc in Civil Engineering with Geoenvironmental Engineering and Project Management

- Site Investigation and Risk Assessment
- Contaminated Land
- Waste Management and Landfill Design

### MSc in Civil Engineering with Water Engineering and Project Management

- Water and Wastewater Treatment Design
- Urban Water Supply and Drainage Systems
- Water and Environment Management

## Optional Classes
List A (10 credits unless indicated otherwise)
- Ground Improvement and Reinforcement
- Site Investigation and Risk Assessment
- Advanced Structural Analysis and Design
- Pre-stressed Concrete, Composite Materials and Structural Stability
- Waste Management and Landfill Design
- Slopes and Walls
- Rock Mechanics, Tunnelling and Groundwater
- Hydrogeology
- Renewable Energy Marine Systems
- Contaminated Land
- Water and Wastewater Treatment Design
- Urban Water Supply and Drainage Systems
- Water and Environment Management
- ICT Integrated in AEC
- Project Management
- Building Information Management
- Structural Health Monitoring
- Advanced Materials Science for Structures

List B (10 credits)
- Global Water Policy
- City Systems and Infrastructure
- Financial Engineering
- Environmental Impact Assessment
- Principles of Environmental Microbiology
- Fundamentals of Environmental Forensics
- Science, Technology and Innovation Policy
- Environmental Pollution Management
- Air Pollution, Climate Change and Human Health
- Geographical Information Systems
- Design Management
- Pollution and Rehabilitation of Degraded Ecosystems
- Risk Management
- Public Health Studies
- Circular Economy and Transformations Towards Sustainability
- Information Management
- Independent Study in Collaboration with Industry

Within the Independent Study with Industry class you carry out an industrial project or take part in the Carbon Clinic – an innovative collaborative project between the Carbon Trust and the University.

## Course Duration
12 months full-time; 24 - 36 months part-time

## Entry Requirements
First- or upper second-class Honours degree, or equivalent overseas qualification, in any civil engineering discipline. Applicants with a degree in environmental engineering, earth sciences, maths, physics and mechanical engineering may also be considered.

# Civil Engineering with Industrial Placement (18 months)
MSc

## Why study this programme at Strathclyde?

- Undertake an industrial placement or an industry-linked project during July and August
- Gain specialist skills and practical experience
- Choose to follow a specialist named stream
- Integrate your knowledge in a major design project

## Course Structure
Students can choose to follow one of the specialist named streams, following the curriculum listed opposite, and also incorporating the industrial placement.

**Year 1**
- Semester 1, January to May: taught classes
- June to September: industrial placement
- Semester 2, October to December: taught classes

**Year 2**
- Semester 3, January to June: dissertation

**Compulsory Classes**
- Group Design Project
- Research Protocols for Science and Engineering
- Industrial Placement

**Optional Classes**
- Six modules from List A and three modules from List A or List B (see opposite)

**Industrial/Industry-linked Placement**
You'll complete an industry-linked project or industrial placement in the period from June to August. The Department will support you in making applications for industry internships, and will provide project topics with industry partners for industry-linked projects. Industry-linked projects generally involve a short secondment to industry as part of the project.

## Start Date
January

## Course Duration
18 months full-time

## Entry Requirements
First- or upper second-class Honours degree (or equivalent overseas qualification) in any civil engineering discipline. Applicants with a degree in environmental engineering, earth sciences, maths, physics or mechanical engineering may also be considered.

# Environmental Engineering

MSc

## Why study this programme at Strathclyde?

- Develop a perception of environmental problems and the ability to work towards finding solutions
- Study challenging real-world issues
- Carry out an industrial project or take part in the Carbon Clinic which supports small companies to reduce their carbon footprint

### Course Structure

**Compulsory Classes**
- Environmental Geochemistry
- Principles of Environmental Microbiology
- Qualitative and Quantitative Research Methods
- Site Investigation and Risk Assessment
- Waste Management and Landfill Design
- Dissertation (MSc student only)

**Optional Classes** (seven to be chosen)
- Air Pollution, Climate Change and Human Health
- Contaminated Land
- City Systems and Infrastructure
- Environmental Economics
- Environmental Impact Assessment
- Environmental Pollution Management
- Fundamentals of Environmental Forensics
- Geographical Information Systems
- Global Water Policy
- Hydrogeology
- Pollution and Rehabilitation of Degraded Ecosystems
- Water and Environmental Management
- Water and Wastewater Treatment Design
- Circular Economy & Transformations Towards Sustainability
- City Systems and Infrastructure
- Public Health Studies
- Work, Wellbeing and New Technology
- Water Suppy and Drainage
- Project Management
- Financial Engineering
- Independent Study in Collaboration with Industry

### Course Duration
12 months full-time; 24 - 36 months part-time (on-campus study); 36 months part-time (distance learning); 60 months (Professional Development route)

### Entry Requirements
First- or upper second-class Honours degree, or equivalent overseas qualification, in engineering, earth sciences, environmental management, or a background in the chemical, physical, biological or mathematical sciences.

"I was looking for a course that would enable me to deepen my understanding of environmental engineering principles. The diverse range of classes at Strathclyde offered me the best option to make choices tailored to my career aspirations.

I'm currently working with an environmental, engineering and water utility consultancy firm to establish national pilot schemes for the first-ever zero-energy water pumps in Uganda."

**DENIS ARINABO, FROM UGANDA**
MSc ENVIRONMENTAL ENGINEERING GRADUATE

# Environmental Entrepreneurship

MSc

## Why study this programme at Strathclyde?

- Suitable programme for graduates of any background
- Develop skills to contribute to environmental improvement and the circular economy
- Learn how to identify business opportunities
- Carry out a four-month project for a client

### Course Structure
**Compulsory Classes**
- Client-Based Environmental Entrepreneurship in Practice
- Qualitative and Quantitative Research Methods
- Entrepreneurship, Innovation and Commercialisation
- New Venture Creation

**Optional Classes** (seven to be chosen, examples include)
- Air Pollution, Climate Change and Human Health
- Contaminated Land
- Environmental Impact Assessment
- Environmental Pollution Management
- Global Water Policy
- Pollution and Rehabilitation of Degraded Ecosystems
- Science, Technology and Innovation Policy
- Waste Management and Landfill Design
- Energy Resources and Policy
- Environmental Economics
- Energy Economics
- Principles of Economic Appraisal
- International Environmental Law
- Sustainable Product Design and Manufacturing
- Water and Environmental Management
- Creativity and Opportunity Development
- Entrepreneurial Leadership and Resource Management
- Geographical Information Systems
- Public Health
- Circular Economy and Transformations Towards Sustainability
- Independent Study in Collaboration with Industry

MSc students undertake a dissertation from June to August.

### Course Duration
12 months full-time; 24 - 36 months part-time; 60 months (Professional Development route)

### Entry Requirements
First- or upper second-class Honours degree, or equivalent overseas qualification, in any discipline (engineering, sciences, arts, law, business, education, languages, social sciences). No previous technical knowledge is required.

# Environmental Health Sciences

MSc

## Why study this programme at Strathclyde?

- Develop expertise in assessing and managing risk factors that affect human health
- Lectures and tutorials are complemented by project work, student-led seminars and fieldwork
- Benefit from our purpose-built laboratory facilities

### Course Structure
**Compulsory Classes**
- Air Pollution, Climate Change and Human Health
- Food Inspection and Control
- Environmental Pollution Management
- Occupational Health and Toxicology
- Public Health Studies
- Qualitative and Quantitative Research Methods
- Waste Management and Landfill Design
- Water and Environmental Management

**Optional Modules** (four to be chosen)
- City Systems and Infrastructure
- Contaminated Land
- Environmental Impact Assessment
- Geographic Information Systems
- Circular Economy and Transformations Towards Sustainability
- Infection and Vector Control
- Pollution and Rehabilitation of Degraded Ecosystems
- Principles of Environmental Microbiology
- Independent Study in Collaboration with Industry

MSc students undertake a dissertation from June to August.

### Course Duration
12 months full-time; 24 - 36 months part-time; 60 months (Professional Development route); 36 months part-time (distance learning)

### Entry Requirements
First- or upper second-class Honours degree, or equivalent overseas qualification, in a relevant life science or engineering discipline.

# Hydrogeology
MSc

## Why study this programme at Strathclyde?

- Develop sought-after fieldwork skills
- Gain practical experience on a week-long field camp in Scotland
- Undertake a work placement in industry
- Opportunity to complete a dissertation project overseas

### Course Structure
**Compulsory Classes**
- Aquifer Mechanics
- Contaminated Land
- Global Water Policy
- Groundwater Flow Modelling
- Environmental Geochemistry
- Hydrogeology
- Qualitative and Quantitative Research Methods
- Site Investigation and Risk Assessment

**Optional Classes**
- Environmental Impact Assessment
- Fundamentals of Environmental Forensics
- Geographical Information Systems
- Waste Management and Landfill Design
- Water and Environmental Management
- Engineering Hydrology
- Principles of Environmental Microbiology
- Environmental Chemistry
- Vertically Integrated Project WASH
- Independent Study in Collaboration with Industry

MSc students undertake a dissertation from June to August.

### Field Camp
In the spring semester, a week-long field camp in Scotland allows students to gain practical experience in conducting pump tests, recovery tests and chemical sampling.

### Course Duration
12 months full-time; 24 - 36 months part-time (on-campus study); 36 months part-time (distance learning); 60 months (Professional Development route)

### Entry Requirements
First- or upper second-class Honours degree, or equivalent overseas qualification, in earth sciences, civil engineering, environmental engineering or related disciplines.

# Sustainability and Environmental Studies
MSc

## Why study this programme at Strathclyde?

- Carry out an industrial project or take part in the Carbon Clinic which supports small companies to reduce their carbon footprint
- Suitable for graduates of any background
- Examine strategies and policy options for achieving sustainable development

### Course Structure
**Compulsory Classes**
- Circular Economy and Transformations Towards Sustainability
- Qualitative and Quantitative Research Methods
- Environmental Impact Assessment

**Optional Classes** (nine to be chosen)
- City Systems and Infrastructure
- Contaminated Land
- Energy Economics
- Environmental Economics
- International Environmental Law
- Environmental Pollution Management
- Geographical Information Systems
- Global Water Policy
- Pollution and Rehabilitation of Degraded Ecosystems
- Principles of Economic Appraisal
- Principles of Environmental Microbiology
- Public Health Studies
- Science, Technology and Innovation Policy
- Waste Management and Landfill Design
- Water and Environmental Management
- Work, Wellbeing and New Technology
- Independent Study in Collaboration with Industry*
- Air Pollution, Climate Change & Human Health*
- Energy Resources and Policy*

* for students interested in climate change

MSc students undertake a dissertation from June to August.

### Course Duration
12 months full-time; 24 - 36 months part-time; 60 months (Professional Development route); 36 months part-time (distance learning)

### Entry Requirements
First- or upper second-class Honours degree, or equivalent overseas qualification, in any discipline (engineering, sciences, arts, law, business, education, languages, social sciences). No previous technical knowledge is required.

# Department of Design, Manufacture and Engineering Management

The Department of Design, Manufacture and Engineering Management (DMEM) conducts broad-based education and research of relevance to the needs of industry and commerce, as well as public sector policy.

Our research is centred on the vision of 'Delivering Total Engineering'. We investigate processes, systems and technology to support and enable engineering from concept to remanufacture.

We host the Advanced Forming Research Centre – a partnership between the University of Strathclyde and global industrial manufacturing companies, the Centre for Precision Manufacturing, the Design Research Group, the Robotics and Autonomous Systems Group (which includes SMesTech), the Sustainability and Remanufacturing Group and the Engineering Management Group (which is involved in the Strathclyde Institute for Operations Management, which brings together the leading experts in Operations Management from Strathclyde's Business School and the Engineering Faculty). We are also involved in the Advanced Manufacturing Industrial Doctorate Centre, Continuous Manufacturing and Crystallisation, the High Value Manufacturing Catapult, and the Weir Advanced Research Centre.

## Research Areas

**Creativity and Innovation** – our research investigates the creative design process and how this can be optimised to ensure innovative products are delivered that meet user requirements. We look at how the product and engineering design process can best be employed to ensure through-life information and knowledge management, optimised decision-making, systems integration, and successful collaborative and distributed design.

**Materials** – we use multi-scale modelling techniques to investigate materials behaviours at different length-scales and to predict the performance of materials during both manufacturing processes and service conditions. Material types include metal alloys, composites and ceramics for industrial applications in sectors such as aerospace, automotive, nuclear, and oil and gas. We have developed techniques to manipulate the compositions and grain-sizes of metals to improve their mechanical properties. We have equipment, tools and techniques for destructive and non-destructive testing of materials to determine inherent material characteristics with a view to optimising performance and manufacture.

**Operations** – our research is focused on supporting the development and sustained performance of engineering businesses through the optimisation of their engineering operations. This includes design, manufacture and end of life. We work in close partnership with engineering organisations, including food and drink, oil and gas, utilities, aerospace and automotive, who directly benefit from our research outputs through real and lasting impacts to their performance.

**Sustainability** – sustainability underpins all our research from the point of view of: longevity and optimisation of products and systems; continued business performance; reducing environmental impact of the processes; tools and technologies used to design and manufacture products and systems; reducing resources; through-life product support strategies. We focus on sustainable manufacturing practices and contribute to developing smart, efficient and sustainable factories of the future. The work in this area is focused around the activity of the Sustainability and Remanufacturing Group which supports the Scottish Institute for Remanufacture (SIR).

**Technology** – research spans various areas within DMEM, including manufacturing processes, precision engineering, micro- and nano-manufacturing, robotics and autonomous systems, and digital manufacturing. We also investigate the use of digital technologies to support manufacturing research such as digital factory and virtual manufacturing.

"I didn't so much choose Strathclyde for postgraduate research as Strathclyde chose me. I had envisioned a career in industry after completing my undergraduate degree here, but my dissertation supervisor let me know about a new reserach project and I was interested to get involved.

My PhD has provided the opportunity to work in an interdisciplinary team and present my research at international conferences. I'm keen to pursue an academic career in the future and continue with design research."

**CHRIS McTEAGUE**
POSTGRADUATE RESEARCH STUDENT

"Glasgow was recommended to me as a great place to study and it's a welcoming place. The courses offered at Strathclyde are designed to provide the opportunity to work on real-life projects. I've been able to work with amazing companies which has enabled me to increase my knowledge.

It's been a priviledge to meet people from around the world and to learn more about their cultures."

**ABDULLAH KHAN, FROM PAKISTAN**
MSc ADVANCED MANUFACTURE:
TECHNOLOGY & SYSTEMS

# Advanced Manufacturing: Forging and Forming
EngD

## Why study this programme at Strathclyde?

- Offered by the Advanced Manufacturing Industrial Doctorate Centre
- Undertake world-leading research in manufacturing techniques, working with global industry
- Gain industrial experience

### Course Structure
**Year 1**
**Compulsory Classes**
- Manufacturing Automation
- Micro- and Nano-Manufacturing
- Strategic Technology Management
- Advanced Material and Production Technology
- Advanced Forming Technology and Systems
- Research Methodology

**Optional Classes** (six to be chosen)
- Product Design Techniques
- Strategic Supply Chain Management
- CAED Systems
- Project Management
- Systems Integration
- Information Management
- Design of Experiments for Process Optimisation
- Sustainable Product Design and Manufacturing
- Fundamentals of Lean Six Sigma
- Systems Thinking and Modelling

**Years 2 - 4**
You develop a research thesis based on manufacturing challenges while based within the sponsoring company.

### Entry Requirements
FIrst- or upper second-class Honours degree, or a Masters qualification in a science or engineering discipline.

### Funding
Funding support may be available to EU and UK students to cover university tuition fees and also provide an annual stipend of around £15,000, tax free, for four years.

### Contact
**t:** +44 (0)141 548 3771
**e:** dmem-pgr@strath.ac.uk

# Advanced Manufacture: Technology and Systems
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain the skills to develop a new career in the manufacturing industry sector
- Undertake an individual and group project
- Manage a project with an industrial client to address a practical problem

### Course Structure
**Compulsory Classes**
- Advanced Material and Production Technology
- Micro- and Nano-Manufacturing
- Advanced Forming Technology Systems
- Manufacturing Automation
- Strategic Technology Management
- Industrial Group Project
- Masters Project

**Optional Classes** (up to three to be chosen)
- Information Management
- Project Management
- Design of Experiments for Process Optimisation
- Sustainable Product Design and Manufacturing
- Fundamentals of Lean Six Sigma
- Systems Thinking and Modelling
- Strategic Supply Chain Management
- CAED Systems
- Systems Integration
- Mechatronic Systems Design Techniques

### Course Duration
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in a science or engineering discipline.
**PgDip:** Degree, or good HND plus relevant industrial experience, may be considered for entry to the Postgraduate Diploma. Depending on satisfactory progress, students may transfer from the Diploma to the Masters course.

Funding is available to cover tuition fees for eligible Scottish/EU students.

# Autonomous Robotic Intelligent Systems

MSc

## Why study this programme at Strathclyde?

- Learn about the technologies for autonomous control and machine learning, with applications spanning robotics, sensor networks and digital manufacturing
- Study the new emerging self-sustaining and intelligent devices for IOT and industry 4.0 environments

## Course Structure

This programme is delivered jointly with the Department of Electronic & Electrical Engineering.

### Compulsory Classes

- Autonomous Sensing, Learning and Reasoning
- Digital Manufacturing Concepts
- Manufacturing Automation
- Design for Industry 4 and Smart Products
- Mechatronic System Design Techniques
- Robotics and Control Systems
- Assignment and Professional Studies

### Optional Classes (minimum of one to be chosen)

- System Thinking and Modelling
- Micro and Nano-Manufacturing
- Advanced Forming Technology Systems
- Advanced Materials and Production Technology
- Advanced Microcontroller Applications
- Image and Video Processing
- Control Principles
- Advanced Digital Signal Processing Principles
- Embedded System Design
- Design Management
- Knowledge and Information Management for Engineers
- Strategic Technology Management
- Product Modelling and Visualisation
- Design Methods

You also undertake a three-month summer research project on a topic of your choice.

## Course Duration

12 months full-time

## Entry Requirements

First- or second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical, communications or design manufacture engineering, or a relevant science-related subject, from a recognised academic institution.

# Design Engineering/with Advanced Product Development/Sustainability

MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Choose to follow the Advanced Product Development or Sustainability stream
- Enhance your knowledge and practical design skills
- Graduates from a variety of technical disciplines will be able to address the demands for better products

## Course Structure

### Compulsory Classes

- Global Design
- Group Project
- Design Management
- Product Modelling and Visualisation
- Design Methods
- Masters Project

### Optional Classes

- People, Organisation and Technology
- Strategic Technology Management
- Supply Chain Operations
- Strategic Supply Chain Management
- Enterprise Resource Planning
- Management of Total Quality and Continuous Improvement
- Fundamentals of Lean Six Sigma
- Product Costing and Financial Management
- System Thinking and Modelling
- Design of Experiments for Process Optimisation
- Design Form and Aesthetics
- Human-Centred Design
- Sustainability*
- Sustainable Product Design and Manufacturing*
- Remanufacturing*
- Advanced Materials and Production Technology**
- Engineering Risk Management**
- Product Design Techniques**

* Sustainability stream
** Advanced Product Development stream

## Course Duration

**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

## Entry Requirements

**MSc:** First- or second-class Honours degree, or overseas equivalent, in a relevant engineering, technology or science discipline.
**PgDip:** Degree, or good HND plus industrial experience, may be considered for entry to the Postgraduate Diploma. Depending on satisfactory progress, students may transfer from the Diploma to the Masters course.

# Digital Manufacturing
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain insight into cyber-physical technologies and developing business models
- Prepare for a career within the global digital technologies-driven manufacturing sector.
- Apply your skills in a practical industry-linked project

### Course Structure
**Compulsory Classes**
- Digital Manufacturing Concepts
- Manufacturing Automation
- Design for Industry 4.0 and Smart Products
- Mechatronic Systems Design Techniques
- Knowledge Information Management for Engineers
- Group Project
- Individual Project (MSc students only)

**Optional Classes** (two to be chosen)
- Sustainable Product Design and Manufacturing
- Systems Thinking and Modelling
- Micro- and Nano- Manufacturing
- Advanced Materials and Production Technology
- Management of Innovation

### Course Duration
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First or upper second-class Honours degree, or overseas equivalent, in engineering, technology, or a business-related discipline.
**PgDip/PgCert:** Degree or good HND plus relevant industrial experience. Depending on satisfactory progress, students may transfer from the Diploma to the Masters course.

# Engineering Management for Process Excellence
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Combine process performance with strategic business analysis
- Focus on the use and application of techniques that enable production and operational effectiveness
- Contribute to organisational competitiveness

### Course Structure
**Compulsory Classes**
- Systems Supply Chain Operations
- Enterprise Resource Planning
- Management of Total Quality and Continuous Improvement
- Fundamentals of Lean Six Sigma
- Management of Innovation
- Project Management
- Performance Measurement and Management
- Group Project
- Individual Project (MSc students only)

**Optional Classes** (two to be chosen)
- People, Organisation and Technology
- Strategic Supply Chain Management
- Systems Thinking and Modelling
- Design of Experiments for Process Optimisation
- Spreadsheet Modelling and Demand Forecasting

### Course Duration
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in engineering, technology, science, business or a similar discipline.
**PgDip:** Degree, or good HND or equivalent; other qualifications with relevant industrial experience will be considered on an individual basis. Depending on satisfactory progress, students may transfer from the Diploma to the Masters course.

# Global Innovation Management
MSc (jointly awarded)

## Why study this programme at Strathclyde?

- Programme offered in English jointly with Strathclyde, and Hamburg University of Technology (Germany)
- Focus on challenges in innovation global enterprise
- Gain skills in technology management, research and development and product/service development

## Course Structure
The common first year at Strathclyde includes practical experience of working within globally-distributed teams and with an industrial client. The first semester of Year 2 is spent undertaking either in-depth study of innovation management in Germany. In the final semester all students undertake a thesis project, supervised by the second-year host institution.

### Compulsory Classes
- Management of Innovation
- Global Design
- Design Management
- Strategic Technology Management
- Supply Chain Operations
- Industrial Group Project

### Optional Classes (three to be chosen)
- People, Organisation and Technology
- Design Methods
- Mechatronic System Design Techniques
- Strategic Supply Chain Management
- Engineering Risk Management
- Enterprise Resource Planning
- Knowledge Engineering and Management for Engineers
- Management of Total Quality and Continuous Improvement
- Fundamentals of Lean Six Sigma
- Product Costing and Financial Management
- Sustainable Product Design and Manufacture
- Product Design Techniques
- Systems Thinking and Modelling
- Information Management

## Course Duration
24 months full-time

## Entry Requirements
Second-class Honours degree, or overseas equivalent, in an engineering, science or technology subject.

# Innovation and Marketing Management

MSc/PgDip

## Why study this programme at Strathclyde?

- Only course in Europe that integrates marketing and engineering in a single course
- Understand how technology and innovation open the way to new business opportunities
- Opportunity to work on a group project within industry

### Course Structure
The programme is offered jointly with the Department of Marketing.

### Compulsory Classes
- Brand Management and Product Strategy
- Strategic Marketing
- Innovation Management
- Financial Implications of Innovation

**Optional Classes** (two from each department to be chosen)
**Marketing**
- Marketing Research
- Export Marketing
- International Services Marketing
- B2B and Key Account Management

**Design, Manufacture & Engineering Management**
- Strategic Supply Chain Management
- Management of Total Quality and Continuous Improvement
- Design Methods
- Supply Chain Operations

### Marketing Works: Group Project
Students work in small groups as consultants to tackle a real-life problem for a local or national company.

### Dissertation: Individual Research Project
The research project allows students to pursue an area of specific interest, providing scope for original thought, research and presentation.

### Course Duration
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
First- or upper-second-class Honours degree, or overseas equivalent, in business, economics, engineering or science.

"It's not about the lectures but rather the whole experience – the trips, the entrepreneurship programmes that are open to all students, the project work, and the workshops – in addition to the programme itself"

**HINAR AWAD, FROM EGYPT**
MSc MECHATRONICS & AUTOMATION

48

# Mechatronics and Automation
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

■ Gain knowledge and skills to develop multidisciplinary products with an integrated approach
■ Benefit from the facilities of our digital design and manufacture studio and prototype workshops
■ Contribute to future mechatronic product development

### Course Structure
**Compulsory Classes**
■ Manufacturing Automation
■ Mechatronic Systems Design Techniques
■ Engineering Risk Management
■ Product Modelling and Visualisation
■ Project Management
■ Group Project
■ Masters Project

**Optional Classes**
■ Systems Thinking and Modelling
■ Design Methods
■ Control Principles
■ Robotics: Systems and Control

### Course Duration
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in a science or engineering discipline.
**PgDip:** Degree, or good HND plus relevant industrial experience, may be considered for entry to the Postgraduate Diploma. Depending on satisfactory progress, students may transfer from the Diploma to the Masters course.

# Product Design
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

■ Gain enhanced skills in creative product design
■ Learn about products aesthetics and human-centred design, digital modelling and rapid prototyping
■ Suitable for graduates from industrial/product design or innovation-related courses

### Course Structure
**Compulsory Classes**
■ Global Design
■ Design Methods
■ Design Management
■ Product Modelling and Visualisation
■ Management of Innovation
■ Design Form and Aesthetics
■ Human-Centred Design
■ Group Project
■ Masters Project

**Optional Classes** (one to be chosen)
■ Sustainability
■ Sustainable Product Design and Manufacturing
■ Remanufacturing
■ Advanced Material and Production Technology
■ Product Design Techniques
■ Engineering Risk Management
■ People, Organisation and Technology
■ Strategic Technology Management
■ Supply Chain Operations
■ Strategic Supply Management
■ Enterprise Resource Planning
■ Management of Total Quality and Continuous Improvement
■ Fundamentals of Lean Six Sigma
■ Product Costing and Financial Management
■ Systems Thinking and Modelling
■ Design for Experiments for Process Optimisation

### Course Duration
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in a relevant design or innovation discipline.
**PgDip:** Degree, or good HND plus relevant industrial experience, may be considered for entry to the Postgraduate Diploma.

# Supply Chain & Logistics Management/Procurement Management/Sustainability Management MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain an in-depth understanding of the strategic and operational issues relating to supply chain management
- Contribute towards making organisations competitive
- Accredited by the Chartered Institute for Procurement and Supply

### Course Structure
The programme is delivered in collaboration with the Department of Management Science.

**Compulsory Classes**
- Strategic Supply Chain Management
- Supply Chain Operations
- Enterprise Resource Planning
- Advanced Project Management
- Case Studies in Supply Chain Management
- People, Organisation and Technology
- Performance Measurement Management
- Masters Project

**Specialist Classes by Theme**
- Logistics Management – Management of Total Quality and Continuous Improvement, Lean and Green Logistics, Spreadsheet Modelling and Demand Forecasting
- Procurement Management – Strategic Procurement Management, Spreadsheet Modelling and Demand Forecasting, Organisation Buying Behaviour and Structures
- Sustainability Management – Sustainable Product Design and Manufacturing, Lean and Green Logistics, Remanufacturing

### Course Duration
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in engineering, technology or business-related discipline.
**PgDip:** Degree, or good HND plus relevant industrial experience, may be considered for entry to the Postgraduate Diploma. Depending on satisfactory progress, students may transfer from the Diploma to the Masters course.

# Systems Engineering Management EngD/MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain skills to manage technical systems and the people responsible for their development
- Learn to apply a systems-thinking approach to address complex management situations
- Understand the role of technology in business strategy

### Course Structure
**Compulsory Classes**
- Systems Architectures and Design
- People, Organisation and Technology
- Engineering Risk Management
- Systems Thinking and Modelling
- Design Management
- Individual Project (EngD/MSc students only)

**Optional Classes** (two to be chosen)
- Design Methods
- Product Modelling and Visualisation
- Strategic Technology Management
- Sustainable Product Design and Manufacture
- Product Costing and Financial Management
- Strategic Supply Chain Management
- Business Simulation Methods
- Knowledge and Information Management for Engineers

### Course Duration
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First- or upper second-class Honours degree, or overseas equivalent, in any discipline.
**PgDip:** Degree, or good HND plus relevant industrial experience.

# Department of Electronic and Electrical Engineering

**RESEARCH DEGREES**
MPhil, PhD, EngD

**TAUGHT COURSES**
5G Advanced Communications
Advanced Electrical Power Engineering
Autonomous Robotic Intelligent Systems
Communications, Control and Digital Signal Processing
Electrical Power Engineering with Business
Electronic and Electrical Engineering
Renewable Energy in the Marine Environment
Smart Grids
Wind Energy Systems

**Contact for Research Degrees and Taught Courses**
**t:** +44 (0)141 548 2170
**e:** eee-pgadmissions@strath.ac.uk

We combine research excellence with global industry engagement and first-class teaching to deliver an outstanding student experience.

From creating future low carbon smart grids and next generation wireless communications, to designing enhanced surveillance and defence systems, our research delivers industrial, economic and societal impact.

Our activities are driven by two broad-based research institutes, supported by 60 academic staff and more than 290 researchers:

- Institute for Energy and Environment
- Institute for Sensors, Signals and Communications

These Institutes work closely with key UK and global industry, business and government partners, and are home to several world-class research and experimental facilities. These include two EPSRC Centres for Doctoral Training in Wind & Marine Energy Systems and Future Power Networks & Smart Grids, the Power Networks Demonstration Centre (PNDC), the Advanced Nuclear Research Centre, Hyperspectral Imaging Centre, Whitespace Wireless Communications Centre and FIRST, a key UK laboratory for non-destructive testing and evaluation.

The Institutes' activities also underpin our taught programmes and knowledge exchange initiatives.

Our Graduate School offers specialist research and taught MSc programmes. These are enhanced by an extensive scholarship scheme providing bursaries, internships and industry engagement, ensuring you gain an education relevant for today's job market and in the future.

## Research Activities
### Institute for Energy and Environment
We are among Europe's leading and largest electrical power systems and energy technology university research groups. Our fundamental, strategic and applied research portfolio addresses the key technical, policy and economic aspects of energy systems. This is underpinned by four core areas of expertise:

- **Advanced Electrical Systems** – specialises in research, development and demonstration activities on all aspects of power systems, spanning energy, aerospace and the marine sectors. Expertise includes protection and automation, power system analysis and renewables integration, active network management, demand side management, intelligent systems and data analytics, energy markets and economics, and sensing and condition monitoring applications. Particular emphasis is placed on future power networks and smart grids, encompassing renewable generation, energy storage and flexible demand.
- **High-Voltage Technologies** – has international expertise in the fields of electrical plant, high-voltage materials and components, pulsed-power technologies, discharges from gases and fluids, and non-thermal plasma. It houses the world-class Robertson Trust Laboratory for Electronic Sterilisation Technologies (ROLEST), established to develop electrical technology to meet disinfection and sterilisation requirements in the healthcare and biomedical sectors.
- **Wind Energy and Control** – is an international leader in all aspects of wind energy, advanced control theory and its application. Research activities focus on renewable energy technologies to tackle climate change and create sustainable clean energy systems These include dynamic turbine analysis, modelling and simulation, systems engineering methods, non-linear control system design and their optimisation, along with resource assessment and condition monitoring.
- **Power Electronics, Drives and Energy Conversion** – is renowned for its research, development and experimental expertise in all aspects of power conversion. This ranges from individual power modules, through to specialised hard- and software control platforms and the design, testing and real-time simulation of power electronic systems. Research is supported by world-class simulation and design facilities, and three specialist power electronics laboratories.

# Electronic & Electrical Engineering Research Areas continued

**Institute for Sensors, Signals and Communications**
From fundamental theory to practical applications, our research supports the advancement of technologies and systems in sectors including healthcare, defence, telecommunications, and oil and gas. Our expertise is focused in four core research centres:

- **Centre for Signal and Image Processing** – is renowned for its research on the creation of new algorithms, architectures and applications. It provides a platform for the development of tools, techniques and systems used for the acquisition, analysis and extraction of information. Research work spans biomedical signal and image processing, robotics, MIMO systems, RF signals and systems, wireless communication technologies, and video analytics and surveillance.
- **Centre for Intelligent Dynamic Communications** – brings together internationally-respected groups in advanced communications technology and digital signal processing (DSP). It has three core areas of expertise: broadband networks, mobile communications and DSP-enabled communications. Their activities focus on optical sub-systems and devices, FPGA systems, security for future networks, routing protocols, wireless network regulation and legislation, infrastructure protection, IIOT, 5G Advanced Systems, Dynamic spectrum access and TV White Space Radio.
- **Centre for Microsystems and Photonics** – has extensive expertise in photonics sensor technology, microsystems and lab-on-a-chip. Research generates sensor solutions driven by industrial optical metrology requirements and bio-medical optics, while the lab-on-a-chip activities support biological, medical and pharmaceutical science. Research opportunities in MEMS design, characterisation and manufacture, optical sensors technology, fibre lasers, and microfluidic devices for biological and healthcare applications are available.
- **Centre for Ultrasonic Engineering** – is internationally renowned for its expertise in the design and implementation of ultrasonic transducers and transducer systems. Its multidisciplinary research combines work on engineering, materials, simulation and biology to deliver innovative transducer systems. It addresses markets in non-destructive evaluation, robotics and automation, bioacoustics, industrial process ultrasound, biomedical applications and transduction.

# Scholarship Programmes

**Research Scholarships**
Each year, the Department and University have a number of fully-funded research opportunities available to first-class applicants. Search 'postgraduate research opportunities' at www.strath.ac.uk.

**MSc Scholarships**
Applicants of outstanding academic calibre are eligible to apply for a range of scholarships offered by the Department, Faculty of Engineering and the University.

**For International Applicants**
- Commonwealth Shared Scholarship Scheme
- University of Strathclyde International Scholarships
- Palestinian Scholarship Scheme
- Scotland's Saltire Scholarships
- Santander Scholarships
- Faculty of Engineering Excellence Scholarships
- Beit Scholarship Strathclyde
- Fulbright – Strathclyde Award
- Commonwealth Scholarship

**For Scottish/EU Applicants**
- Postgraduate Funding: Tuition fee loans available from the Student Awards Agency for Scotland (saas.gov.uk)

**Contact for Scholarships Information**
**t:** +44 (0)141 548 2170
**e:** eee-pgadmissions@strath.ac.uk

# 5G Advanced Communications

MSc

## Why study this programme at Strathclyde?

- Develop expertise in the software, hardware, systems integration and management aspects of 5G systems
- Understand 5G mobile and wireless systems, with applications in autonomous and cyber-physical systems, IoT, spectrum management and big data
- Funded places for Scottish/EU applicants

### Course Structure
**Compulsory Classes**
- Digital Signal Processing Principles
- Information Transmission and Security
- 5G Communications Networks
- Assignment and Professional Studies

**Optional Classes** (minimum of two to be chosen)
- Software Engineering
- Advanced Digital Signal Processing
- Image and Video Processing
- Embedded Sortware Design

You also undertake a three-month summer research project on a topic of your choice. Opportunities exist to conduct this through the Department's competitive MSc industrial internships. BT, Selex ES, Xilinx, Texas Instruments, MathWorks, NXP/Qualcomm, Cisco and Vodafone are just some of the industry partners working with Strathclyde. You will have the opportunity to engage with them throughout your study.

The course is fully accredited by the UK professional body, the Institution of Engineering and Technology.

### Course Duration
12 months full-time

### Entry Requirements
First- or second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical or communications engineering, or a related physical sciences subject.

# Advanced Electrical Power Engineering

MSc

## Why study this programme at Strathclyde?

- Industry-defined electrical power programme
- Gain expertise in electrical energy and power systems – from fundamental technologies, application and user requirements, to the business and regulatory landscape within which power and utility companies work
- Professionally accredited two-year degree

### Course Structure
**Compulsory Classes**
- Advanced Power System Analysis and Protection
- HVT and EMC
- Power Electronics for Energy and Drive Control
- Power System Economics, Markets and Asset Management
- Wind Energy and Distributed Energy Resources
- Assignment and Professional Studies

**Optional Classes**
- Digital Signal Processing Principles
- Information Transmission and Security
- Communications Networks
- Control Principles
- Control Techniques
- Software Engineering

In Year 1, you complete a selection of taught classes and a mini practical project, to develop research and professional engineering skills.

Year 2 combines a major research project within the electrical power and energy disciplines, with a selection of advanced classes designed to broaden your understanding of the topic chosen.

The course is fully accredited by the UK professional body, the Institution of Engineering and Technology.

### Course Duration
24 months full-time

### Entry Requirements
First- or upper second-class UK Honours degree, or equivalent overseas qualification, in electronic or electrical engineering.

# Autonomous Robotic Intelligent Systems

MSc

## Why study this programme at Strathclyde?

- Learn about the technologies for autonomous control and machine learning, with applications spanning robotics, sensor networks and digital manufacturing
- Study the new emerging self-sustaining and intelligent devices for IOT and industry 4.0 environments

### Course Structure
This course is delivered jointly with the Department of Design, Manufacture & Engineering Management.

#### Compulsory Classes
- Autonomous Sensing, Learning and Reasoning
- Digital Manufacturing Concepts
- Manufacturing Automation
- Design for Industry 4 and Smart Products
- Mechatronic System Design Techniques
- Robotics and Control Systems
- Assignment and Professional Studies

#### Optional Classes (minimum of one to be chosen)
- Advanced Forming Technology Systems
- Advanced Materials and Production Technology
- Advanced Microcontroller Applications
- System Thinking and Modelling
- Micro and Nano-Manufacturing
- Image and Video Processing
- Control Principles
- Advanced Digital Signal Processing
- Embedded System Design
- Design Management
- Knowledge and Information Management for Engineers
- Strategic Technology Management
- Design Methods

You also undertake a three-month summer research project on a topic of your choice.

The course is fully accredited by the UK professional body, the Institution of Engineering and Technology.

### Course Duration
12 months full-time

### Entry Requirements
First- or second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical, communications or design manufacture engineering, or a relevant science-related subject.

# Communications, Control and Digital Signal Processing

MSc

## Why study this programme at Strathclyde?

- Gain understanding of all aspects of communications, control technology, and signal processing
- Enhance your job prospects by developing a unique skill set in disciplines that form the basis of modern information engineering

### Course Structure
#### Compulsory Classes
- Digital Signal Processing Principles
- Information Transmission and Security
- Control Principles
- Assignment and Professional Studies

#### Optional Classes (minimum of two to be chosen)
- Communications Networks
- Advanced Digital Signal Processing Principles
- Embedded Systems Design
- Image and Video Processing
- Control Techniques

You also undertake a three-month summer research project on a topic of your choice. Opportunities exist to conduct this through the Department's competitive MSc industrial internships.

The course is fully accredited by the UK professional body, the Institution of Engineering and Technology.

### Course Duration
12 months full-time

### Entry Requirements
First- or second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical or communications engineering.

# Electrical Power Engineering with Business

MSc

## Why study this programme at Strathclyde?

- Develop the design, planning and operational expertise needed for careers in the global electricity and renewable energy sectors
- Engage with our industry partners on real-world energy challenges

### Course Structure

**Compulsory Classes**

- Advanced Power System Analysis and Protection
- HVT and EMC
- Power Electronics for Energy and Drive Control
- Assignment and Professional Studies

**Optional Classes** (minimum of two to be chosen)

- Power System Economics, Markets and Asset Management
- Wind Energy and Distributed Energy Resources
- Wind Turbine Control
- Software Engineering
- Business Information Systems
- Project Management

You also undertake a three-month summer research project on a topic of your choice. Opportunities exist to conduct this through the Department's competitive MSc industrial internships.

The course is fully accredited by the UK professional body, the Institution of Engineering and Technology.

### Course Duration

12 months full-time

### Entry Requirements

First- or second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical, power or energy engineering, or a related subject.

"I learnt about new trends in the electricity sector and the latest advances in low carbon energy production. The scholarship the University gave me helped financially, and I've developed practical expertise for my future career as a power engineer."

**ROBERTO FIALLOS CANAS, FROM ECUADOR**
MSc ELECTRICAL POWER ENGINEERING WITH BUSINESS

# Electronic and Electrical Engineering

MSc

## Why study this programme at Strathclyde?

- Advanced subject options across the entire electronic and electrical engineering discipline
- Tailor the course to match your career interests
- Benefit from purpose-built study and learning facilities, and the chance to engage with industry partners

## Course Structure

**Compulsory Class**
- Assignment and Professional Studies

**Optional Classes** (minimum of five to be chosen)
- Power Electronics, Machines and Applications
- Power System Design, Operation and Protection
- Digital Signal Processing Principles
- Information Transmission and Security
- Communications Networks
- Control Principles
- Advanced Power System Analysis and Protection
- HVT and EMC
- Power Electronics for Energy and Drive Control
- Power System Economics, Markets and Asset Management
- Wind Energy and Distributed Energy Resources
- Advanced Digital Signal Processing Principles
- Embedded Systems Design
- Image and Video Processing
- Control Techniques
- Software Engineering

You also undertake a three-month summer research project on a topic of your choice. Opportunities exist to conduct this through the Department's competitive MSc industrial internships.

The course is fully accredited by the UK professional body, the Institution of Engineering and Technology.

## Course Duration

12 months full-time

## Entry Requirements

First- or second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical or communications engineering, or a related subject.

"The University of Strathclyde is the best university which offers my course; it covers business aspects along with financial implications and the environmental impact.

The University is a welcoming environment where everyone is approachable from the admissions team to the world-class professional staff. I've had the chance to meet people from different cultural backgrounds which I don't get in my home country."

**DAVID SHOMUYIWA, FROM NIGERIA**
MSc ELECTRONIC & ELECTRICAL ENGINEERING

# Renewable Energy in the Marine Environment

MSc (Jointly Awarded)

## Why study this programme at Strathclyde?

- Jointly delivered by four leading universities in the UK, Spain, France and Norway
- Industry-based internships
- Erasmus Mundus scholarships for eligible applicants
- Gain the skill set for a career in offshore renewable energy

## Course Structure

This MSc is delivered in partnership by the University of Strathclyde (UK), University of the Basque Country (Spain), Ecole Centrale de Nantes (France) and the Norwegian University of Science & Technology, with funding support from the EU Erasmus+ Programme.

Two pathway specialisms (A or B) are available, and classes studied vary according to the specialism chosen.

A – Renewable Offshore Energy Systems Engineering
B – Power Electronics & Control for Offshore Renewable Energy Engineering

All classes are delivered in English and student mobility is compulsory as study involves enrolment in at least three of the four universities.

Erasmus Mundus scholarships, covering full tuition fees, participation costs, travel and installation contributions and a monthly allowance, are available for eligible applicants.

Further information and details on how to apply at:
http://master-rem.eu/about-rem/

### Year 1
### Semester 1 – University of Strathclyde, UK
- Inspection and Security (A)
- Control Principles (B)
- Wind Energy & Distributed Energy Resources (B)
- Marine Renewable Energy Systems (A/B)
- Power Electronics Devices, Drives, Machines and Applications (B)
- Physical Model testing for Offshore Renewables (A)
- Advanced Marine Structures (A)
- Energy Economics (A/B)
- Environmental Impact Assessment (A/B)

### Semester 2 – Universidad del Pais Vasco, Spain
- Ocean Wave Energy and Offshore Wind Energy (A/B)
- Modelling of wind/marine current generators (B)
- Wave to Wire Control (B)
- Power Electronics in Offshore Power Systems ( B)
- Advanced Fluid Dynamics Modelling (A)
- Theoretical aspects of Fluid Dynamics (A)
- Computational Fluid Dynamics for Turbulent Flow (A)
- Integration of Renewable Energy (A/B)
- Operation of Transmission and Distribution Grids (A/B)
- Environmental Conditions for Marine Renewables (A/B)
- Operations and Maintenance of Marine Arrays ( A/B)
- Basque Language and Culture (A/B)

### Semester 3 – Ecole Centrale de Nantes (A), France OR Norwegian University of Science & Technology (B)
- Water Waves and Sea States Modelling (A)
- General Concepts of Hydrodynamics (A)
- Numerical Hydrodynamics (A)
- Experimental Hydrodynamics (A)
- Marine RE: Offshore Wind Turbines (A)
- Marine RE: Tidal Turbines (A)
- Marine RE: Wave Energy Converters (A)
- Wave-structure Interactions and Moorings (A)
- French Language and Culture (A)
- Applied Electromagnetics in Power Engineering (B)
- Power Electronics (B)
- Power System Analysis (B)
- Power Electronics in Future Power Systems (B)
- Wind Power in Electric Power Systems (B)
- Quality of Supply in Electrical Power Systems (B)

### Semester 4 – at any of the four universities
- MSc Thesis (A/B)

## Course Duration
24 months full-time

## Entry Requirements
First- or upper second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical, mechanical or systems engineering, geosciences, oceanography, mathematics, physics or environmental sciences.

UKVI-recognised English language qualification at B2 level (IELTS 6.5) for non-native English speakers

# Smart Grids
MSc (Jointly Awarded)

## Why study this programme at Strathclyde?

■ Double degree in partnership with Comillas Pontifical University, Spain and Iberdrola
■ Paid industrial internships in the UK/USA/Spain/Brazil
■ Build the skillset to meet the needs of the power sector
■ Gain expertise in electrical power and smart grids

### Course Structure
You will study at two leading universities for electrical power systems and smart grids in Spain and the UK, then complete a short paid internship with multinational industry partner, Iberdrola at one of their branch offices in the UK, USA, Spain or Brazil. The MSc is fully delivered in English.

**Semester 1 (Sept - Dec, Comillas Pontifical University)**
Compulsory Classes
■ Fundamentals of Power Systems OR Fundamentals of Telecommunications
■ Regulation and New Business Models
■ Operation and Planning of Future Distribution Networks
■ Telecommunications for Smart Grids
■ Leadership, Change Management and Corporate Responsibility

**Semester 2 (Jan - mid-May, University of Strathclyde)**
Compulsory Classes
■ Control and Protection of Future Networks
■ Hardware IoT Communication System Design
■ 5G Communications Networks
■ Offshore and Pan European Supergrids
■ Data Analytics an AI for Energy Systems
■ Power Electronics for Transmission and Distribution

**Semester 3 (mid-May - mid Sept, Iberdrola)**
Individual project – industry defined paid internship

### Course Duration
12 months full-time

### Entry Requirements
First- or upper second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical or telecommunications engineering, or a related physical sciences subject.

UKVI-recognised English language qualification at C1 level (IELTS 7.0) for non-native English speakers.

# Wind Energy Systems
MSc

## Why study this programme at Strathclyde?

■ Funded places available for Scottish and EU applicants
■ Develop the expertise to strengthen, lead and transform the high-growth global wind energy industry
■ Study within Europe's largest and leading university electrical power and energy technology research group

### Course Structure
Compulsory Classes
■ Wind Turbine Technology
■ Power Systems and Wind Integration
■ Assignment and Professional Studies

Optional Classes (minimum of three to be chosen)
■ Power Electronics, Machines and Applications
■ Power System Design, Operation and Protection
■ Advanced Power System Analysis and Protection
■ Power Electronics for Energy and Drive Control
■ Power System Economics, Markets and Asset Management
■ Control Principles
■ Inspection and Security
■ Geographical Information Systems
■ Environmental Impact Assessment
■ HVT and EMC
■ Energy Economics
■ Renewable Marine Energy Systems

You also undertake a three-month summer research project on a topic of your choice. Opportunities exist to conduct this through the Department's competitive MSc industrial internships.

The course is fully accredited by the UK professional body, the Institution of Engineering and Technology.

### Course Duration
12 months full-time

### Entry Requirements
First- or upper second-class UK Honours degree, or equivalent overseas qualification, in electronic, electrical or mechanical engineering, or a related discipline (physics, mechatronics, control or systems engineering).

# Department of Mechanical and Aerospace Engineering

**TAUGHT COURSES**
Advanced Mechanical Engineering
Advanced Mechanical Engineering with Specialist Pathways: Aerospace/Energy Systems/Materials/Power Plant Technologies
Advanced Mechanical Engineering with Industrial Placement
Sustainable Engineering: Renewable Energy Systems and the Environment
Welding Metallurgy and Welding Engineering

**Contact for Research Degrees and Taught Courses**
**t:** +44 (0)141 548 2846
**e:** mae-pg@strath.ac.uk

The Department is one of the biggest and best of its kind in the UK. We apply our knowledge and understanding in mechanical and aerospace engineering to solve challenges facing industry and society. We host the Energy Systems Research Unit, the Aerospace Centre of Excellence, the James Weir Fluids Laboratory, and the Mechanics and Materials Research Centre.

**Research Themes**
**Energy**
Research takes place within the Energy Systems Research Unit. We develop and test new methods and technologies for energy reduction and supply, and help designers create clean and sustainable solutions. We offer consultancy services that include the laboratory testing of new products, the performance appraisal of proposed new designs or retrofits, and the field monitoring of energy systems in use. Our research goals include:

- improving the accuracy of the mathematical models and numerical methods used to represent heat, mass and power flow
- applying simulation to optimise energy component/ system performance and promote energy efficiency measures
- evolving software engineering techniques that increase researcher efficiency and programme robustness
- improving confidence in predictions through the development of programme validation, calibration and accreditation procedures
- constructing knowledge-based design support environments to enable application interoperability and effective teamwork

**Aerospace**
Research in the Aerospace Centre of Excellence delivers new approaches to systems engineering, flight mechanics and computational intelligence to underpin new concepts and technologies for the sustainable exploration and exploitation of space, space situational awareness, remote sensing, robotics and autonomy, space services and cost-effective, efficient and reliable global transport and access to space.The Centre is part of the Strathclyde Ocean, Air and Space University research theme which looks at key challenges in space systems and satellite application, space science and exploration, remote sensing and Earth observation, quantum technology, sustainable transport, risk, reliability and resilience engineering, robotics and autonomy, and ocean engineering.

**Fluids**
At the James Weir Fluids Laboratory, we explore the fundamental flow physics for new fluids technologies in the fields of energy, sustainability, nanotechnology, health and transport. We have developed simulation tools to test new concepts, products and designs. We have experimental platforms for microfluidics and complex fluids and we are skilled in industrial computational fluid dynamics on local and national high-performance computers. Our current projects cover nanoliquids, microscale gas flows, interfacial dynamics, and micro-droplet technology.

**Materials**
Materials for energy conversion applications, renewable and nuclear conversion and bio-mechanics are among the areas explored by the Mechanics and Materials Research Centre. Our research focuses on mechanics (including solid mechanics), polymers and polymer composites, and tribology and tribo-corrosion. Our department also hosts the Tribo-Corrosion Network and is home to the Advanced Materials Research Laboratory.

**Facilities**
The Department's large-scale laboratory facilities include:

- High Speed Computer (1088 cores)
- 1.5m low-speed/0.9m environmental wind tunnel
- facilities for carrying out vibration and shock tests
- machinery condition diagnosing from vibration signals
- polymer processing laboratory
- optical strain measurement facility
- autoclave with 10 bar pressure capacity and temperatures up to 650°C

# Scholarship Programmes

## Research Scholarships

Each year, the Department has a limited number of fully-funded PhD scholarships available to first-class applicants. Internal applications normally take place in March and June each year. Prospective UK/EU students who hold (or expect to hold) a first-class Honours degree or an MSc with Distinction are encouraged to make an informal expression of interest between November and January to take advantage of potential scholarships.

## MSc Scholarships

Applicants of outstanding calibre (usually holders of a first-class Honours degree or equivalent overseas qualification) may be eligible to apply for a range of international scholarships offered by the University:

- Commonwealth Shared Scholarship
- Mackenzie Scholarship
- Pakistan 50th Anniversary Scholarship
- Lloyd's Register Foundation
- ScottishPower/Iberdrola Foundation Scholarship
- Scotland's Saltire Scholarships
- Dean's Excellence Award for India
- University of Strathclyde International Scholarship

## Scottish/EU Applicants

Scottish/EU postgraduate applicants may be eligible to apply to the Student Awards Agency for Scotland (www.saas.gov.uk) for a tuition fee loan to help towards the cost of their fees.

## Contact for Scholarship Information

**t:** +44 (0)141 548 2846
**e:** mae-pg@strath.ac.uk

# Advanced Mechanical Engineering with Optional Specialist Streams

MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Accreditation by the Institution of Mechanical Engineers
- Develop in-depth technical understanding of advanced mechanical topics
- Gain skills in project management and risk analysis
- Choice of specialist pathways to widen career options

### Specialist Pathways

In addition to the Advanced Mechanical Engineering (AME) programme, the following specialist pathways are offered at MSc level only:

MSc Advanced Mechanical Engineering with Aerospace
MSc Advanced Mechanical Engineering with Energy Systems
MSc Advanced Mechanical Engineering with Materials
MSc Advanced Mechanical Engineering with Power Plant Technologies

### Course Structure

**Compulsory Classes**
Up to nine technical classes, plus three business (generic) classes can be chosen. MSc students also undertake an individual project. Students on the Advanced Mechanical Engineering course can select from any of the technical classes below.

- Pressurised Systems
- Machinery Diagnosis and Condition Monitoring
- Mathematical Modelling in Engineering Science
- Advanced Topics in Fluid Systems Engineering
- Lightweight Structures
- Spaceflight Systems
- Materials for High Temperature Applications

**Aerospace** (compulsory for AME with Aerospace, optional for other streams)
- Aerodynamic Performance
- Aerodynamic Propulsion Systems
- Spaceflight Mechanics

**Energy** (compulsory for AME with Energy Systems, optional for other streams)
- Energy Resources and Policy
- Electrical Power Systems
- Energy Modelling and Monitoring

**Materials** (compulsory for AME with Materials, optional for other streams)
- Engineering Composites
- Polymer and Polymer Composites
- Industrial Metallurgy

**Power Plant Technologies** (compulsory for AME with Power Plant Technologies , optional for other streams)
- Boiler Thermal Hydraulics
- Gas and Steam Turbines
- Electrical Power Systems

### Generic Classes
- Design Management
- Project Management
- Risk Management
- Financial Engineering
- Environmental Impact Assessment
- Sustainability

### Course Duration
**MSc:** 12 months full-time; 24 months part-time (minimum)
**PgDip/PgCert:** 9 months full-time; 18 months part-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in engineering or physical science.
**PgDip/PgCert:** Normally a first degree in a relevant subject, but other applicants with equivalent industrial experience may be considered.

# Advanced Mechanical Engineering with Industrial Placement
MSc

## Why study this programme at Strathclyde?

- Gain in-depth technical understanding and practical experience
- Choose to follow a specialist named stream
- Undertake an industrial placement of 8 to 12 weeks
- Complete an individual project with an industry theme or aligned to engineering research at Strathclyde

### Course Structure
Students choose from the technical and generic classes listed opposite and in addition undertake an industrial placement for up to three months. You can also choose to follow one of the specialist named streams, following the curriculum listed opposite, and also incorporating the industrial placement.

### Year 1
- Semester 1, September to December: taught classes
- Semester 2, January to May: taught classes
- June to September: industrial placement

### Year 2
- Semester 3, October to January: dissertation

### Industrial Placement
Students will complete an 8-12 week industrial placement or from June to September. The Department provides support to apply for internships and allocates a supervisor to be your point of contact during your placement.

### Individual Project
Students undertake an individual research project the theme of which can be industry-related or aligned to engineering research at the University. The dissertation can be linked to the industrial placement and worked on with the industry partner.

### Course Duration
18 months full-time

### Entry Requirements
First or upper second-class Honours degree, or overseas equivalent, in engineering or physical sciences.

# Advanced Mechanical Engineering by Distance Learning

MSc

## Why study this programme at Strathclyde?

- Study in your own time using online materials via video, podcasts, webinars and presentations
- Complete an individual project with an industry theme or aligned to engineering research at Strathclye
- Benefit from specialist technical classes to tailor your learning needs

### Course Structure

Students select a combination of specialist and generic classes and undertake an industrial project.

#### Semester 1
- Pressurised Systems
- Materials for High Temperature Applications
- Introduction to Open Souce Computational Dynamics
- Hydraulics

#### Semester 2
- Boiler Thermal Hydraulics
- Nuclear Power Systems
- Gas and Steam Turbines
- Advanced Open Source Computational Fluid Dynamics
- Aerodynamics in C
- Project Management

### Individual Project

Students undertake an individual research project in their final year, the theme of which can be industry-related or aligned to engineering research at the University.

### Course Duration

**MSc:** 36 months part-time distance learning
**PgDip:** 24months part-time distance learning
**PgCert:** 12 months part-time distance learning

### Entry Requirements

First or upper second-class Honours degree, or overseas equivalent, in engineering or physical sciences; an equivalent professional qualification may also be considered.

# Satellite Applications*

MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Develop your own business plan or start-up company
- Benefit from support from space industry experts and professionals
- Gain multidisciplinary skills through an emphasis
- Learn how to solve real global development challenges

### Course Structure

#### Compulsory Classes
- Introduction to Space Technologies for Satellite Applications
- Introduction to Satellite Applications
- Data Science for Satellite Applications
- Satellite Application Payloads
- Satellite Applications for Sustainable Development Goals (SDGs)

### Individual Project

Students will create their own company or develop a viable business plan that address challenges in one or more UN SDGs.

### Course Duration

**MSc:** 12 months full-time
**PgDip/PgCert:** 9 months full-time

### Entry Requirements

First or upper second-class Honours degree, or overseas equivalent, in a relevant engineering, technology or science discipline. Other qualifications may also be considered provided there is evidence of capacity for postgraduate study.

* approval pending

# Welding Metallurgy and Welding Engineering

MSc/PgDip/PgCert (part-time distance learning)

## Why study this programme at Strathclyde?

- Develop highly sought-after understanding of welding – processes, testing, metallurgy and management
- Undertake a supervised research project with a world-leading research group
- Benefit from an innovative teaching and learning environment, supported by online tutorials

## Course Structure
### Compulsory Classes
- Safety and Risk Management in Welding Processes
- Properties of Metals for Welding
- Metals Testing and Test Equipment
- Welding Processes and Equipment
- Weld Quality and its Management
- Design in Welded Structures
- Welding Metallurgy
- Advanced Welding Processes
- Enhancing Welding Processes
- Management Principles for Welding Operations

### Individual Project
Students undertake an individual research project to address cutting-edge welding metallurgy and welding engineering challenges. The theme of the project can be industry-related, perhaps to your own company, or it could align with welding research within the department.

### Course Duration
**MSc:** 36 months part-time distance learning
**PgDip:** 24months part-time distance learning
**PgCert:** 12 months part-time distance learning

### Entry Requirements
First degree or other qualification equivalent to an Honours degree in a relevant engineering, technology or science discipline. Entry may be possible with other qualifications provided there is evidence of relevant experience and of the capacity for postgraduate study. Students with only industrial experience may be considered and will be subject to interview.

# Sustainable Engineering Programme: Renewable Energy Systems and the Environment MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Cross-disciplinary programme with input from industry
- Accredited by the Energy Institute, the Institution of Mechanical Engineers & the Royal Aeronautical Society
- Explore how quality of life can be balanced by the need for conservation of world resources

## Course Structure
- Instructional Classes
- Group Project
- Individual Project

### Generic Classes (three to be chosen)
- Design Management
- Financial Engineering
- Project Management
- Risk Management
- Environmental Impact Assessment

### Specialist Classes
- Energy Resources and Policy
- Energy Systems Analysis
- Electrical Power Systems
- Energy Modelling and Monitoring

### Group Project
You work within a group of students from different specialist themes to produce sustainable solutions for real-life industry problems. Site visits, field trips and regular progress reports to industry partners are an integral part of the process.

### Individual Project
MSc students study a selected topic in depth and submit a thesis. There is substantial industry input at this stage in the form of project ideas.

### Course Duration
**MSc:** 12 months full-time; 24 months part-time (minimum)
**PgCert/PgDip:** 9 months full-time; 18 months part-time

### Entry Requirements
First degree or other qualification equivalent to an Honours degree in a relevant engineering, technology or science discipline. Entry may be possible with other qualifications provided there is evidence of relevant experience and of the capacity for postgraduate study.

# Department of Naval Architecture, Ocean and Marine Engineering

**TAUGHT COURSES**
Marine Engineering
Offshore Floating Systems
Ship and Offshore Structures
Ship and Offshore Technology (two-year programme offered jointly with Hamburg University of Technology)
Subsea and Pipeline Engineering
Technical Ship Management
Sustainable Engineering: Offshore Renewable Energy (part of Sustainable Engineering Programme, see pg 22-23)

The Department of Naval Architecture, Ocean and Marine Engineering (NAOME) has staff expertise covering all areas of Naval Architecture, Ship Design, Marine Engineering, Ocean Engineering, High-Speed and Small Craft Design. The Department's laboratory and computing facilities include the largest university ship model experiment tank in the UK, a small towing/wave-making tank and a diesel engine test facility. The Department also has a racing yacht which students can use.

## Research

Our Department is one of the world's leading marine technology departments conducting research on ships and other offshore structures including marine renewable energy devices. We have Europe's largest team of postgraduate researchers and academic staff to sustain the production of useful and innovative research ideas. Our research is strategically grouped under three key areas: Fluid-Structure Interaction; Marine Design, Operations and Safety; and Ocean Engineering. We work closely with key UK and global industry and take part in many diverse research projects and networks funded by the UK government and the EU. Our state-of-the-art facilities include the largest towing/wave tank of any UK academic institution, the world's first dedicated Maritime Safety Research Centre and a dynamic CFD group having access to the regional super computer facility. We are also one of the key players of the EPSRC/ETI Industrial Doctoral Centre for Offshore Renewable Energy (IDCORE).

## Research Areas

### Fluid-Structure Interaction

Our internationally-renowned academic staff conduct research, development and demonstration activities in this key area, supported by the Kelvin Hydrodynamics Laboratory facilities which include a 75-metre towing/wave tank and fully turbulent circulating sea water channel. These experimental facilities are complemented by the High Performance Computing platform for the West of Scotland Centre (ARCHIIE-WeST) to conduct time-intensive numerical fluid-structure interaction simulations. Our research in this area cross-cuts NAOME's other key areas, and supports the numerical and experimental hydrodynamics, structure and material research involving ships, offshore and other subsea structures as well as the marine renewables energy devices.

### Marine Design, Operations and Safety

Our largest and most diverse key research area is supported by our internationally-leading academic staff and the world's first dedicated Maritime Safety Research Centre. Cross-cutting activities with the Fluid-Structure Interaction research and access to the regional super computer, ARCHIE-WeST, strengthen our research, which is also supported by our experimental marine engineering facilities, including a fuel cell laboratory. The main activities in this key area focus on the Intact/Damage Stability and Survivability of Ships; Maritime Human Factors and Navigational Safety; Energy Efficient Ship Design and Operations; Marine Engineering, Alternative Fuels and Emissions; and Life Cycle Risk Management.

### Ocean Engineering

Research in this area has a strong focus on offshore oil/gas and renewable energy, and is led by our internationally-renowned academic staff. Blended by the cross-cutting activities of our Fluid-Structure Interaction research, our research also benefits from the Kelvin Hydrodynamics Laboratory facilities and regional supercomputer, ARCHIE-WeSt. We also make a major contribution to the UK's first Industrial Doctoral Centre for Offshore Renewable Energy (IDCORE).

## Scholarships and Funding

Applicants from Scotland and non-UK EU countries may be eligible for fees-only support from the Student Awards Agency for Scotland (www.saas.gov.uk). In addition, there are a limited number of scholarships from industry including BP and the Lloyd's Register Foundation. Please contact the Department.

# Marine Engineering
MSc/PgDip

## Why study this programme at Strathclyde?

- Accreditation by the Royal Institution of Naval Architects and the Institute of Marine Engineering, Science and Technology
- Enhance your teamworking and communication skills with group project work

### Course Structure
The programme has three components:

- Instructional Modules
- Group Project
- Individual Project (MSc only)

### Compulsory Classes
- Advanced Marine Engineering
- Marine Engineering Simulation and Modelling
- Inspection and Survey
- Maritime Safety and Risk
- Onboard Energy Management and Marine Environment
- Systems Availability and Maintenance
- Marine Transport and Economics

### Optional Classes
- Risk Management
- Financial Engineering
- Design Management
- Project Management

### Course Duration
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
**MSc:** BEng with first- or upper second-class Honours, or equivalent overseas qualification.
**PgDip:** Applicants with marginally lower qualifications will be considered for the Postgraduate Diploma in the first instance. Applicants with other qualifications will be considered on an individual basis.

# Offshore Floating Systems
MSc/PgDip

## Why study this programme at Strathclyde?

- Gain practical knowledge of offshore floating systems
- Benefit from guest lectures by industry leaders
- Accreditation by the Royal Institution of Naval Architects and the Institute of Marine Engineering, Science and Technology

### Course Structure
The programme has three components:

- Instructional Modules
- Group Project
- Individual Project (MSc only)

### Compulsory Classes
- Inspection and Survey
- Risers and Mooring Lines
- Dynamics of Floating Offshore Installations
- Finite Element Analysis of Floating Structures
- Maritime Safety and Risk
- Design and Construction of Floating, Production, Storage and Offloading Vessels
- Advanced Marine Structures
- Theory and Practice of Marine Computational Fluid Dynamics

### Course Duration
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
**MSc:** BEng with first- or upper second-class Honours, or equivalent overseas qualification.
**PgDip:** Applicants with marginally lower qualifications will be considered for the Postgraduate Diploma in the first instance. Applicants with other qualifications will be considered on an individual basis.

# Ship and Offshore Structures
MSc/PgDip

## Why study this programme at Strathclyde?

- Accreditation by the Royal Institution of Naval Architects and the Institute of Marine Engineering, Science and Technology
- Learn about the factors influencing the dynamic behaviour of offshore installations

### Course Structure
The programme has three components:

- Instructional Modules
- Group Project
- Individual Project (MSc only)

### Compulsory Classes
- Risers and Mooring Lines
- Dynamics of Floating Offshore Installations
- Finite Element Analysis of Floating Structures
- Advanced Marine Structures
- Reliability-based Structural Design and Plated Structures
- Computational Modelling of Problems in Structural Mechanics
- Materials Engineering

### Course Duration
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
**MSc:** BEng with first- or upper second-class Honours, or equivalent overseas qualification.
**PgDip:** Applicants with marginally lower qualifications will be considered for the Postgraduate Diploma in the first instance. Applicants with other qualifications will be considered on an individual basis.

# Ship and Offshore Technology
MSc (two-year programme with Hamburg University of Technology)

## Why study this programme at Strathclyde?

- Gain an award in the name of two universities
- Complete an intensive German language course
- Accreditation by the Royal Institution of Naval Architects and the Institute of Marine Engineering, Science and Technology

### Course Structure
The course is offered jointly between the University of Strathclyde and Hamburg University of Technology, Germany; the awards are made in the name of both universities.

**Year 1 (University of Strathclyde)**
- Risers and Mooring Lines
- Marine Pipelines
- Dynamics of Floating Offshore Installations
- Maritime Safety and Risk
- Design and Construction of Floating, Production, Storage and Offloading Vessels
- Theory and Practice of Marine CFD
- Inspection and Survey
- Finite Element Analysis of Floating Structures
- Group Project
- Research Project

**Year 2 (Hamburg University of Technology)**
- Structural Analysis of Ships and Offshore Structures
- Ship Design
- Seakeeping of Ships and Naval Architecture Laboratory
- Masters Thesis

**Optional Classes**
- Non-Linear Structural Analysis
- Ship Vibration
- Fatigue Strength of Ships and Offshore Structures
- Arctic Technology
- Innovative CFD Approaches
- Manoeuvrability and Shallow Water Ship Hydrodynamics

### Course Duration
24 months full-time

### Entry Requirements
BEng with first-class Honours, or equivalent overseas qualification, in a marine or marine-related engineering subject. Knowledge of structural mechanics, hydrostatics, fluid dynamics, ship resistance and propulsion and ship design is essential.

# Subsea and Pipeline Engineering
MSc/PgDip

## Why study this programme at Strathclyde?

- Accreditation by the Royal Institution of Naval Architects and the Institute of Marine Engineering, Science and Technology
- Gain advanced knowledge of subsea systems
- Benefit from excellent teaching facilities

### Course Structure
The programme has three components:

- Instructional Modules
- Group Project
- Individual Project (MSc only)

### Compulsory Classes
- Maritime Safety and Risk
- Risers and Mooring Lines
- Marine Pipelines
- Subsea Systems and Installation
- Subsurface Technology
- Marine Pipeline Integrity
- Dynamics of Floating Offshore Installations
- Finite Element Analysis of Floating Structures

### Course Duration
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
**MSc:** BEng with first- or upper second-class Honours, or equivalent overseas qualification.
**PgDip:** Applicants with marginally lower qualifications will be considered for the Postgraduate Diploma in the first instance. Applicants with other qualifications will be considered on an individual basis.

# Technical Ship Management
MSc/PgDip

## Why study this programme at Strathclyde?

- Accreditation by the Royal Institution of Naval Architects and the Institute of Marine Engineering, Science and Technology
- Develop skills essential for efficient management of ships and fleets

### Course Structure
The programme has three components:

- Instructional Modules
- Group Project
- Individual Project (MSc only)

### Compulsory Classes
- Maritime Safety and Risk
- Marine Transport and Economics
- Maritime Regulatory Framework
- Blue Growth and Maritime Law
- Systems Availabiility and Maintenance
- Risk Management
- Onboard Energy, Management and Marine Environment Protection

### Course Duration
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
**MSc:** BEng with first- or upper second-class Honours, or equivalent overseas qualification.
**PgDip:** Applicants with marginally lower qualifications will be considered for the Postgraduate Diploma in the first instance. Applicants with other qualifications will be considered on an individual basis.

"

International relations is an interdisciplinary course that can prepare you for a career in many spheres. My course has exposed me to the way international organisations operate and has improved my research skills. This will help prepare me for a future career as researcher in an international organisation that promotes human rights. I was fortunate to receive funding for my course from a Commonwealth Shared Scholarship.

**DORIS NNENNA AJA, FROM NIGERIA**
**MSc INTERNATIONAL RELATIONS**

"

# FACULTY OF HUMANITIES & SOCIAL SCIENCES

We have significant expertise in developing the professional practice needed to equip modern societies at all levels

**We believe education has the capacity to change lives and providing an enriching student experience is a priority for us. Our graduates form the backbone of business and industry, and public services in Scotland and around the world.**

In Humanities & Social Sciences we focus on the building blocks of society – human endeavour. Studying here, you will better understand how human beings think, act and interact with one another and the world around them. Employers value this knowledge.

Research informs our teaching and helps us make a difference to business, industry and society as a whole. We have a vibrant research culture and our research is noted for its impact.

Our Graduate School is home to over 300 research students from more than 30 countries and we support their development through a tailored training programme.

Our schools touch every aspect of human life: education and learning; government and public policy; humanities and culture; justice and the law; life-long learning; psychological sciences and health; and social work and social policy.

We have strong links with governments, global organisations and academic networks. Our graduates are sought-after and intellectually engaged – focused on applying knowledge, they know how the world works, and how to make it a better place.

### Contact
Humanities & Social Sciences
**t:** +44 (0)141 444 8600
**e:** hass-pgt-enquiries@strath.ac.uk

# School of Education

**RESEARCH DEGREES**
MPhil, PhD, EdD

**Contact for Research Degrees**
e: hass-postgrad@strath.ac.uk

**TAUGHT COURSES**
PGDE Primary/Secondary
Gaelic Immersion for Teachers
TESOL and Intercultural Communication (offered jointly with the School of Humanities)
Applied Educational and Social Research
Autism
Education Studies
Educational Leadership (part-time)
Early Years Pedagogue (part-time)
Part-time MEd programmes including MEd Education
Studies with pathways

**Contact for Taught Courses**
e: hass-pgt-enquiries@strath.ac.uk

The School of Education is the leading provider of teacher education in Scotland and one of the largest in the UK. Our teacher education courses have a strong track record and are highly-valued by our students. Our graduates are sought by schools all over the country, and the majority of our students are in employment by graduation.

We are home to:

- Autism Network Scotland
- Scotland's National Centre for Languages (SCILT)
- Confucius Institute

We have a vibrant research culture and our work is noted for its high impact as we try to better the lives of children and practioners in Scotland and beyond.

**Research**
**MPhil/PhD in Education**
The School of Education welcomes proposals from prospective students to study at doctorate level. Admission to the PhD programme is primarily based on the quality of a proposal and its match to areas of research expertise held by members of staff. So we encourage prospective students to engage with our research areas.

We offer a research community with excellent connections to national and international education research and practice communities. You will be invited to participate in a range of research and knowledge exchange activities where you can learn from and with us about the research, policy and practice innovation and evaluation.

**Research Areas**
Our academic staff have national and international recognition for their research and represent a range of expertise spanning diverse aspects of education. The following areas are some of the key aspects in which we can offer supervision:

- evidence-based practice
- learning-based pedagogies
- policy evaluation
- gender and sexuality
- equity and diversity
- curriculum development
- inclusion and issues around children with special educational needs, particularly autism
- children and childhood
- a strong theme around social justice and civic responsibility

In addition, colleagues are at the forefront of innovative research approaches including quantitative methods, secondary data sets, mixed methods, visual methodology and participatory ways of working.

These areas are supported by specialist centres within the School, such as the Centre for Lifelong Learning, Scotland's National Centre for Languages (SCILT), the National Centre for Autism Studies and the Centre for Children and Young People Studies in which postgraduate research students are encouraged to play a full part.

The School of Education at Strathclyde is part of the Scottish Doctoral Training Centre through which ESRC Studentships in Education can be gained.

**Entry Requirements fo Research Degrees**
A Masters degree or evidence of Masters-level study, plus full-time practitioner experience (or equivalent) in a professional field with an educational dimension. International students require a minimum IELTS score of 6.5 in writing and reading.

# Doctor of Education

EdD (full-time, part-time)

## Why study this programme at Strathclyde?

- One of only a few programmes in the UK that offer specialist pathways
- Transfer Masters-level credits from other programmes
- Choose full-time or part-time study modes – supported through the University's Virtual Learning Environment

This professional doctoral degree is aimed at those who have been working in the education sector for a number of years. It provides the opportunity to undertake research aligned to your role and practice as an educationalist.

The specialist areas below, or a generic route, are offered:

- Supporting Teacher Learning (part-time and full-time)
- Educational Leadership (part-time and full-time)
- Philosophy with Children (part-time and full-time)
- Bilingual Education (part-time and full-time)
- Autism (part-time only)
- Early Years Pedagogue  (part-time only)
- Inclusive Education (part-time only)
- Digital Technologies (by Accreditation of Prior Learning only – please contact us)

### Full-time Course Structure
Full-time students will attend a range of taught modules through the week. Sessions will comprise elements of lecture, workshop and seminar.

### Year 1 (taught stage)
Semester 1
- Methods of Enquiry, Literature and Scholarship
- Choice of optional or subject specific pathway class(es)

Semester 2
- Advanced Research Methods and Proposal
- Choice of optional or subject specific pathway class(es)

### Years 2 & 3 (research stage)
- Thesis supervised by two supervisors

### Part-time Course Structure
The part-time programme has been designed to provide a level of flexibility that facilitates part-time study for those who are continuing to work full-time while undertaking the EdD. The core classes are taught on-campus on Saturdays from 10am - 4pm. The timing of the optional classes varies but is focused around evening and weekends.

### Year 1 (taught stage)
Semester 1
- Methods of Enquiry, Literature and Scholarship

Semester 2
- Choice of optional or subject specific pathway class(es)

### Year 2 (taught stage)
Semester 1
Choice of optional or subject specific pathway class(es)

Semester 2
- Advanced Research Methods and Proposal

### Years 3 - 5 (research stage)
- Thesis supervised by two supervisors

### Entry Requirements
Masters degree or evidence of Masters-level study, plus full-time practitioner experience (or equivalent) in a professional field with an educational dimension.

# Professional Graduate Diploma in Education

Primary and Secondary Pathways

## Why study this programme at Strathclyde?

- Learn from on-campus classes and 18 weeks of placements in schools
- Become qualified to teach in locations world-wide
- Opportunity to achieve Masters-level credits
- Funded places available (Scottish and EU students only)

## Course Structure

The course provides the theoretical and practical starting point to your teaching career. You will acquire the skills, attitudes and competencies to communicate in the classroom.

Those following the Primary route will be qualified to teach from nursery (age 3) to Primary 7 (age 12). The Secondary route qualifies you to teach specific subjects to pupils aged 11 to 17 years.

## Masters-level Credits

As part of the course, you will have the opportunity to gain up to 80 Masters-level credits. On completion of these, there are opportunities in the subsequent year to work towards further Masters qualifications, either on a face-to-face or online basis.

## Compulsory Classes

- Placement Learning – taught both on campus and in schools, this module will enable you to become an effective teacher through learning pedagogical theory, observing experienced teachers and applying your knowledge through delivering teaching.
- Creative Contexts for Learning – examines what is taught and how teachers use assessment to promote learning.
- Educational Perspectives and Policies – develops your understanding of educational issues in a broader intellectual context.
- Principles and Policy in Practice – is the companion module to Educational Perspective and Policies and shares a focus on critical professional engagement informed by educational research and theory.
- Professional Specialisation – allows you to undertake further study in an area of particular interest.

You are expected to keep a portfolio of progress throughout the course. This prepares you for the continuation of professional development during your teaching career.

## SECONDARY SUBJECT AREAS AVAILABLE

You will have the opportunity to qualify in one or two subjects, depending on the combination.

| | | |
|---|---|---|
| Art and Design | Gaelic | Mandarin |
| Biology | Geography | Music |
| Business Education | German | Physical Education |
| Chemistry | History | Physics |
| Computing | Home Economics | Psychology |
| English | Italian | Religious Education |
| French | Maths | Technological Education |

## Course Duration

36 weeks full-time, including 18-week placement experience

## Entry Requirements

A university degree validated by a higher education institution in the UK, or a degree of an equivalent standard from an institution outside the UK. (A degree should have at least 360 credit points.) For the Secondary route, we require passes in at least two years' progressive study in the subject(s) you want to teach.

National Qualifications in English at SCQF Level 6 (for example, Higher Grade) or an accepted alternative; National Qualifications in Mathematics at SCQF Level 5 (eg National 5, or Intermediate 2) or an accepted alternative.

We also require the following information, which is considered when selecting candidates for interview (please note interviews can be held by Skype):

- evidence that you have experience of working with children in a school setting or related context
- an understanding of modern education
- an ability to relate to people

# Gaelic Immersion for Teachers
PgDip (full-time)

## Why study this programme at Strathclyde?

- The course is unique in Scotland and combines language training with a focus on pedagogical requirements for working in Gaelic-medium education
- Benefit from three placements – two classroom based and one with a Gaelic-speaking organisation

### Course Structure
Compulsory Classes
- Gaelic 1: Gràmar, fuaimneachadh agus cainnte làitheil
- Gaelic 2: Leasachadh conaltraidh
- Gaelic 3: Comasan conaltraidh adhartach
- Pedagogy 1: Language learning and teaching
- Pedagogy 2: Gaelic medium education: policy, provision, practice
- Pedagogy 2: Understanding, supporting and promoting bilingualism

### Work Placement
You'll complete three placements over the course of the year. Two of the three will be in Gaelic-medium classrooms, relevant to your existing experience and plans for future work. You'll spend one week in November observing practice and four weeks in the spring teaching classes in Gaelic.

The third placement will be in a Gaelic-speaking organisation. You'll complete 70 hours of voluntary work over the course of the year. You'll use the Gaelic language and develop links for future school activities.

### Project
There is flexibility in your choice of project but you're encouraged to consult your local sponsoring authority. It may involve the school or organisation where you have taken your placements

### Course Duration
12 months

### Entry Requirements
Candidates for this course will be selected by their local authority. Eligibility to apply will be determined following an interview and participation in a week-long taster session.

Candidates should be qualified to teach in Scotland (ie full GTCS registration), and have intermediate-level Gaelic, eg Higher Gaelic or Gàidhlig.

# TESOL & Intercultural Communication
MSc/PgDip/PgCert(full-time, part-time)

## Why study this programme at Strathclyde?

- Gain the theoretical and practical skills to teach English to learners with a wide range of social, cultural and communicative goals
- Benefit from the expertise of educationalists, linguists, and literature/culture scholars

### Course Structure
Compulsory Classes
- Language Learning in a Multilingual World
- Introduction to Intercultural Communication
- Contemporary Issues in Language Teaching
- Research Methodologies and Reasoning OR Research Skills in Literature, Culture and Communication

### Optional Classes
- Action Research to Effect Change for Bilingual Learners
- Practice and Policies in Supporting Bilingual Learners
- Transcultural Fandom and British Popular Culture
- Narrative Processing Across Languages and Cultures
- Theories and Policies in Second Language Acquisition and Bilingualism
- Independent Study

### Dissertation (MSc students only)
Students write a dissertation of 12,000 - 15,000 words on a topic relating to the course.

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
Degree or relevant professional qualification, or a combination of qualifications and experience demonstrating capacity for postgraduate study.

# Applied Education and Social Research

MSc/PgDip (full-time & part-time distance learning)

## Why study this programme at Strathclyde?

- Learn to evaluate, design, conduct, analyse and justify applied research
- Benefit from teaching by internationally-recognised experts
- Tailor the choice of classes to your personal interests

### Course Structure
**Compulsory Classes**
- Educational Research and Enquiry
- Design Strategies in Educational and Social Research
- Data Collection in Educational and Social Research
- Data Analysis in Educational and Social Research

**Optional Classes** (one to be chosen)
- Further Quantitative Research Design and Data Analysis
- Further Qualitative Research Design and Data Analysis

**Dissertation (MSc students only)**
Students write a dissertation of 12,000 - 15,000 words on a topic relating to the course.

### Course Duration
12 months full-time (attendance and blended learning);
24 part-time (distance learning)

### Entry Requirements
An undergraduate degree or equivalent.

# Autism

MSc (full-time)

## Why study this programme at Strathclyde?

- Understand complex cognitive and affective theories essential to supporting the autism profile
- Translate theory into practice with a work placement
- Receive input from internationally-respected autism experts

### Course Structure
**Compulsory Classes**
- Conceptual Frameworks
- The Spectrum of Autism
- Responding to the Impact of Autism: Approaches and Interventions
- Emotional Wellbeing
- Experiential Placement*
- Research Methods and Reasoning
- Dissertation

* students without autism practice experience must attend a compulsory placement

**Optional Classes**
- Counselling Skills in Autism
- Becoming a Trainer
- Independent study module

### Course Duration
12 months

### Entry Requirements
Undergraduate degree in a related discipline, or equivalent qualification, and direct experience of living or working with individuals on the autism spectrum. Experience is essential as students must demonstrate theory to practice links.

# Education Studies
MSc (full-time)

## Why study this programme at Strathclyde?

- Develop a solid foundation for understanding educational processes
- Enhance practice and career opportunities in the broader field of education
- Gain a grounding in research methods and reasoning

### Course Structure
**Compulsory Classes**
- Thinking About Education
- Research Methods and Reasoning
- Globalisation, Society and Education Policy
- Frameworks for Understanding Learning
- Dissertation

**Optional Classes** (one to be chosen from a selection which may include)
- Literacy for Subject Disciplines in School
- Health & Wellbeing: Policy Practice & Pedagogy
- Understanding Inclusive Education
- Conceptions of Leadership
- Introduction to Philosophy and Philosophical Practice
- Children's Literature and Literary Theory
- Child-centred and Child-Focused Approaches to Practitioner Research
- Learning for Sustainability
- Student Thinking and Learning in Science
- Diversity, Gender and Sexuality in Education
- Theories and Policies in 2nd Language Acquisition and Bilingualism
- Developing Effective Practice in Youth Health Promotion
- Policy and Practice: Early Career Development
- Practice and Policies in Supporting Bilingual Learners
- Contemporary Issues in Language Teaching

### Course Duration
12 months

### Entry Requirements
Degree or relevant professional qualification, or a combination of qualifications and experience demonstrating capacity for postgraduate study.

# Early Years Pedagogue
MEd (part-time)

## Why study this programme at Strathclyde?

- Recognised by the Scottish Government
- Blended approach of professional training and networking with practice-based assessments
- Informed by contemporary research and international perspectives

### Course Structure
**Compulsory Classes**
- Taking Action: child, family and community efficacy
- Creating stimulating learning environments: indoors and outside
- Listening to children and hearing their voices
- The connected child: early child development
- Leading in a time of change
- Child-centred and child-focused approached to practitioner research
- Dissertation

### Course Duration
36 months part-time

### Entry Requirements
The Early Years Pedagogue is a specialist postgraduate route for General Teaching Council for Scotland registered teachers and Bachelor of Arts in Childhood Practice Honours graduates working in the early years 3 to 8.

Applicants should hold a post with an appropriate age group, or have sufficient guaranteed access to such a position in order to fulfil the assessment requirements of the class.

# Educational Leadership
MEd (part-time)

## Why study this programme at Strathclyde?

- Enhance your professional practice in leadership
- Develop your understanding of leadership and the purposes which educational leadership serves
- Gain insights into your own professional development and an understanding of yourself as a leader

### Course Structure
**Year 1 Compulsory Classes**
- Conceptions of Leadership
- Leadership for Learning
- Leadership for Equity, Inclusion & Social Justice

**Year 2 Classes**
- Research Methods and Reasoning*
- Leadership for School Improvement
- Contexts for Leadership

*You may replace Research Methods and Reasoning with the Year 3 class Strategic Leadership to complete a Postgraduate Diploma. However, you would not then be able to progress to Year 3.

**Year 3**
You can choose to take the class Strategic Leadership, plus a work-based project within your workplace to evaluate the impact of a proposed strategic change on student learning.

Alternatively you can choose to undertake dissertation under the guidance of a supervisor, in a subject area of your choice.

### Course Duration
36 months

### Entry Requirements
Good undergraduate degree, or relevant professional qualification, a teaching qualification (or its equivalent) or relevant experience within an educational setting.

# Education Studies
# Part-time Taught Masters Programmes
MEd

## Why study this programme at Strathclyde?

- Apply your learning as you study to improve your practice
- Gain recognition for continuing professional development
- Undertake individual classes and use credits as prior learning towards a Masters qualification

### Course Structure
This programme allows you to tailor your studies through a choice of classes guided by your Advisor of Studies. Under the Education Studies framework, pathways include:

- Inclusive Education
- Philosophy with Children (only such course in the UK)
- Supporting Teacher Learning (GTCS recognition)
- Supporting Bilingual Learners
- Health and Wellbeing
- Educational Leadership
- Early Career Development
- STEM Education
- Children's Literacies
- Diversity and Education
- Independent Study

**Year 1:** three classes, normally one per semester. Classes taught on campus involve attending either in the evening or on Saturday mornings. Distance learning classes involve participation in weekly online seminars. These are scheduled in the evening to accommodate working professionals. Students who decide to complete their studies after one year will graduate with a Postgraduate Certificate.

**Year 2:** Two optional classes and a compulsory class, which are taken over a period broadly similar to the three school terms. The compulsory class, Research Methods and Reasoning, is delivered entirely online. Students who decide to complete their studies at the end of year two will graduate with a Postgraduate Diploma.

**Dissertation**
Following the Postgraduate Diploma you can undertake a research dissertation in a subject area of your choice. We will match you to an appropriate supervisor to provide one-to-one support. Your dissertation can be completed via distance learning to provide flexibility.

For further information, please contact us (hass-pgt-enquiries@strath.ac.uk)

# School of Government and Public Policy

**Contact for Research Degrees**
e: hass-postgrad@strath.ac.uk

**TAUGHT COURSES**
Data Science for Politics and Policy-making
European Politics
Global Sustainable Cities
International Relations
International Relations, Law and Security (in collaboration with the Law School)
Political Research
Politics
Public Policy
Diplomacy and International Security (in collaboration with HIstory and the Law School, see pg 86 for course description)

**Contact for Taught Courses**
e: hass-pgt-enquiries@strath.ac.uk

The School of Government and Public Policy has a long history of international research excellence. The quality of our research is recognised internationally – for example, the German Centre for Higher Education Development (CHE) lists the School as part of an 'Excellence Group' in political science.

We are one of the founding members of the European Consortium for Political Research, the largest organisation of its kind in European political science.

We have a strong research culture that focuses on individual and team-based research. We host three research centres:

- European Policies Research Centre
- Centre for Elections and Representation
- Centre for the Study of Public Policy

Our research is supported by grants from a range of funding bodies, including research councils, national governments and international bodies, such as the OECD and the EU.

**Research Activities**
The research activities of the School are grouped in four broad interlocking priority areas:

**Elections and Representation**
The School has a strong track record in the study of voting behaviour, political attitudes, social media, political behaviour and political parties, and is one of the leading centres of quantitative political science in the UK. Staff have recently been engaged in a number of major government and research council-funded projects including:

- Public attitudes on the EU referendum and on Scotland's independence referendum and broader British and Scottish social attitudes
- The impact of social media on attitudes towards Scottish independence
- A global examination of how corruption affects political participation, trust and popular support for government
- A comparative examination of the attitudes, backgrounds and experiences of parliamentary candidates
- The impact of cohesion policy on EU administrative capacity building in Europe
- Maximising synergies between European Structural and Investment Funds and other EU Instruments
- Energy saving innovations and economy-wide rebound effects
- Impacts of policy changes on climate change modelling
- The political economy of growth and institutional reform

**Public Policy**
In addition to the public policy expertise of the European Policies Research Centre, researchers in the School analyse the conditions that contribute to policy success, policy learning and policy transfer, EU policy-making, public policy in post-devolution Scotland and the territorial impact of public policy.

**Governance and Institutions**
The School has an established international profile in the study of parliaments in Scotland, the UK, and Europe. Staff also specialise in the study of Youth Parliaments, the European Commission and EU policy-making, multi-level governance and devolution, and the politics of nationalism, regionalism and localism.

**International Politics**
In addition to the extensive expertise in EU policies and politics and that in South-Eastern Europe politics, West European politics and German politics, there is a rapidly expanding expertise in international relations within the School. This includes international relations, war, terrorism and conflict, human rights, economy and security, international public policy, international institutions and global governance, international security, international law, Asian and US security, the international politics of Asia, the role of NGOs in international relations, the politics of the anti-globalisation movement, constructivist theories of security, feminist theory, and Chilean politics.

# Data Science for Politics and Policy-making
MSc

## Why study this programme at Strathclyde?

- Develop the skills to use big data to solve complex political and social problems
- Understand the mechanics behind capturing and organising large amounts of data
- Undertake a research or client-based project

### Course Structure
The course comprises compulsory and optional classes and a research or client-based project dissertation. It is delivered in collaboration with the Department of Computer & Information Sciences.

### Compulsory Classes
- Principles of Research Design
- Qualitative Methods
- Big Data Technologies
- Legal Ethical and Professional Issues for the Information Society
- Machine Learning for Data Analytics
- Database Fundamentals

### Optional Classes (one to be chosen)
- Welfare Concepts and Ideas
- Public Policy

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in social science.

# European Politics
MSc

## Why study this programme at Strathclyde?

- Understand national and European economic and policy priorities
- Study the economic and political issues pertaining to Britain's decision to leave the EU
- Gain skills to design advanced research projects

### Course Structure
The course comprises compulsory and optional classes and a research project dissertation.

### Compulsory Classes
- Principles of Research Design
- European Political Economy
- European Governance
- Qualitative Methods OR Quantitative Methods 1

### Optional Classes
Students also choose two optional classes. The range of classes will normally include:

- Contemporary International Relations
- Debating International Relations Theory
- International Institutions and Regimes
- Feminism and International Relations
- Contemporary Security Challenges and Responses
- Public Policy
- Comparative Public Policy
- Quantitative Methods 1 (if not chosen from list above)
- Quantitative Methods 2
- Qualitative Methods (if not chosen from list above)

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in social science.

# Global Sustainable Cities
MSc

## Why study this programme at Strathclyde?

- Focus on major urban opportunities and issues
- Develop skills to lead the design and delivery of sustainable city strategies
- Undertake two project placements
- Learn from staff across multiple disciplines

### Course Structure
**Compulsory Classes**
- Global Cities: Society and Sustainability
- City Systems and Infrastructure
- Understanding and Modelling Cities
- Public Policy, Governance and Strategic Change in Cities
- Business Models, Financing and Urban Business Case Analysis
- Leadership Skills for Urban Change
- Urban Theory

**Optional Classes**
Choose from classes across the University to develop skills in specific areas.

**Placement Projects**
You undertake two challenging problem-focused projects, applying your skills and learning within a professional working environment. Placements may be in the UK or overseas.

### Duration of Programme
12 months full-time; 24 months part-time

### Entry Requirements
Upper second-class Honours degree, or overseas equivalent, in a relevant subject. Applications are also welcome from candidates with strong career experience in a relevant field.

# International Relations
MSc

## Why study this programme at Strathclyde?

- Gain grounding in the analysis of international relations
- Combine training in different theoretical and methodological approaches
- Examine the theories and research designs for the study of conflict, peace, security and cooperation

### Course Structure
The course comprises compulsory and optional classes and a research project dissertation.

**Compulsory Classes**
- International Institutions and Regimes
- Debating International Relations Theory
- Principles of Research Design
- Contemporary International Relations

**Optional Classes**
Students also choose two optional classes. The range of classes will normally include:

- Feminism and International Relations
- European Governance
- European Political Economy
- Contemporary Security Challenges and Responses
- Law of the World Trade Organisation
- International Environmental Law 1 & 2
- Global Health, Rights and Development
- Qualitative Methods
- Quantitative Methods 1
- Quantitative Methods 2

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in social science.

# International Relations, Law and Security

MSc/LLM

## Why study this programme at Strathclyde?

- Learn alongside students from other disciplinary backgrounds
- Focus on contemporary policies rather than traditional areas of concern
- Benefit from a unique multidisciplinary experience

### Course Structure
The course comprises compulsory and optional classes and a research project dissertation. LLM students may apply to undertake a field dissertation within a governmental or non-governmental organisation with an international focus, either in the UK or overseas.

### Compulsory Classes
- Contemporary Security Challenges and Responses
- Principles of Research Design (MSc) OR Legal Research Methods and Skills (LLM)

### Optional Classes
Students also choose four optional classes. The range of classes will normally include:

- Contemporary International Relations
- Comparative Public Policy
- European Human Rights Law
- International Human Rights Law
- Terrorism and the Law
- International Migration Law
- Human Rights Protection in the UK
- Privacy, Crime and Security
- Quantitative Methods 1
- Quantitative Methods 2
- Qualitative Methods
- International Institution and Regimes

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in social sciences/law subjects or substantial professional experience.

# Political Research

MSc

## Why study this programme at Strathclyde?

- Develop skills in empirical political science
- Explore different methodological approaches and their application to real-life political problems
- Gain transferable employability skills in research design

### Course Structure
The course comprises compulsory and optional classes and a research project dissertation.

### Compulsory Classes
- Principles of Research Design
- Qualitative Methods
- Quantitative Methods 1
- Quantitative Methods 2

### Optional Classes
Students also choose two optional classes. The range of classes will normally include:

- European Governance
- European Political Economy
- Policy Analysis
- Comparative Public Policy
- International Institutions and Regimes

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in social science.

# Politics
MSc

## Why study this programme at Strathclyde?

- Gain advanced understanding of the study of politics
- Learn to design and conduct research projects in political science
- Benefit from the input of guest lecturers and visiting academics

### Course Structure
The course comprises compulsory and optional classes and a research project dissertation.

### Compulsory Classes
- Principles of Research Design
- Qualitative Methods OR Quantitative Methods 1

### Optional Classes
Students also choose four optional classes. The range of classes will normally include:

- Feminism and International Relations
- European Governance
- European Political Economy
- Contemporary International Relations
- Contemporary Security Challenges and Responses
- Debating International Relations Theory
- International Institutions and Regimes
- Public Policy
- Comparative Public Policy
- Quantitative Methods 1 (if not chosen from list above)
- Quantitative Methods 2
- Qualitative Methods (if not chosen from list above)

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in social science.

# Public Policy
MSc

## Why study this programme at Strathclyde?

- Explore various conceptual and methodological tools and their connections to real-world problems
- Gain a range of useful research and analysis skills
- Option to specialise in European and international public policy

### Course Structure
The course comprises compulsory and optional classes and a research project dissertation.

### Compulsory Classes
- Policy Analysis
- Comparative Public Policy

In addition, two classes are chosen from the following:

- Principles of Research Design
- Qualitative Methods
- Quantitative Methods 1
- Quantitative Methods 2

### Optional Classes
Students also choose two optional classes. The range of classes will normally include:

- European Governance
- European Political Economy
- International Institutions and Regimes
- Principles of Research Design (if not chosen from list above)
- Quantitative Methods 1 (if not chosen from list above)
- Quantitative Methods 2 (if not chosen from list above)
- Qualitative Methods (if not chosen from list above)

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in social science.

# School of Humanities

**TAUGHT COURSES**
Applied Gender Studies
Applied Gender Studies (Research Methods)
Business Translation and Interpreting
Creative Writing
Digital Journalism
Diplomacy and International Security (in collaboration with the School of Government & Public Policy and the Law School)
Interdisciplinary English Studies (approval pending)
Media and Communication
Health History
Historical Studies
TESOL and Intercultural Communication (taught jointly with the School of Education, see pg 73 for course entry)

**Contact Taught Courses**
e: hass-pgt-enquiries@strath.ac.uk

The School of Humanities is a community of researchers, teachers, students and support staff working together on some of the most interesting and exciting issues in historical and contemporary culture. The quality of our research has a strong national and international reputation.

Our undergraduate and postgraduate courses cover a wide range of areas, from the teaching of high-level skills in languages, through advanced practical study in creative writing and journalism, to research-led courses at the cutting edge of their academic disciplines in the study of history, literature, language, and culture.

The School is home to the following centres:

**Centre for the Social History of Health and Healthcare**
A collaborative research group involving historians and students from the University of Strathclyde and Glasgow Caledonian University; activities focus on the way in which medicine, medical science and healthcare systems have developed over time and have come to shape our contemporary experience.

**Language Learning Centre**
French, Spanish and English as a Foreign Language are taught by staff within the Language Learning Centre. A key feature of these language classes is their emphasis on high-level professional skills, such as making presentations, writing reports, interpreting and translating into English, all of which prepare students for a wide range of future careers. These skills are taught through innovative teaching methods using modern equipment available in the Language Centre as well as a web-based learning environment.

**Scottish Oral History Centre**
Since 1995, the Scottish Oral History Centre (SOHC) has been involved in a wide range of teaching, research and outreach activities designed primarily to encourage the use of 'best practice' oral history methodology in Scotland. There are several current Masters and PhD students who incorporate oral history interviewing into their research methodologies in history at Strathclyde.

The Centre has developed a strong profile in Scotland and has growing international links. A transatlantic collaborative relationship is being established with the Centre for Oral History and Digital Storytelling (COHDS), University of Concordia, Montreal, Canada, where a number of our staff hold Research Affiliate status. The Director of COHDS, Professor Steven High, is the first SOHC visiting Professor.

**Research Areas**
- Scotland and the world
- European and international history
- History of science and technology
- History of health and medicine
- Oral history
- Translation studies
- Literary linguistics
- Victorian literature and culture
- 20th century literature
- Creative writing
- Animal studies
- Gender and sexuality in media, literature and culture
- Political communications
- Media, health, wellbeing and trauma
- Social media

# MRes Programmes in Humanities

## Why study this programme at Strathclyde?

- Combine research and instructional classes
- Gain key research skills, experience and training
- Study opportunities across a wide spectrum of subjects
- Opportunity to progress to a PhD programme
- Benefit from the guidance of an academic supervisor

The MRes (Masters by Research) combines research in a dissertation and instructional classes, with an emphasis on providing basic research skills, experience and training. It is offered across a wide spectrum of subjects. The MRes (and MPhil) are independent postgraduate degrees and can serve as stepping-stones to the PhD programme. The MRes degree provides an alternative entry-point to academic research for those who are not yet sure what topic they wish to research, or who require training in new skills before they can embark on doctoral work.

### Course Duration
12 months full-time; 24 months part-time

### MRes Entry Requirements
Normally a first-class or upper second-class Honours degree (or overseas equivalent) in the relevant or appropriate related subject.

### MRes Creative Writing
This course enables students to work on a substantial piece of imaginative writing with a successful, published author for one year (full-time) or two years (part-time), specialising in one genre, such as poetry, fiction or imaginative non-fiction. Working closely with one supervisor rather than with a group means the course can adapt to your personal interests.

The main element of the MRes is a dissertation of around 30,000 words, which includes a critical reflection on the creative process of around 5,000 words. The remainder of the course comprises a research methods class which teaches skills such as how to search for information, make presentations and apply for grants.

### MRes English
Students wishing to undertake the MRes in English can study in a number of areas, related to the research specialisms of academic staff. Prospective students should consult individual staff research profiles and are encouraged to contact potential supervisors. Our areas of research strength include Victorian, gender and sexuality, Scottish studies, 20th and 21st-century popular culture, animal studies, Renaissance, life writing, linguistic and cognitive literary studies.

Students prepare a 30,000 word dissertation and undertake the class Research Skills in Literature, Culture and Communication.

### MRes History
Students work on their chosen topic under close supervision by a member of staff. The main element of the MRes is a dissertation of not more than 30,000 words. In addition, students take a number of taught classes, including Research skills, sources and methods for historians, depending on their field of research. Optional classes include Palaeography, Quantitative Methods, Qualitative Methods, Oral History.

The taught skills classes provide the training needed to complete a substantial piece of research and lay the foundation for further study.

### MRes Journalism
Students wishing to undertake an MRes in Journalism should consult the wide-ranging interests of academic staff, which are organised under four major research clusters: Gender and Media, Political Communications, Social Media, and Media, Health, Wellbeing and Trauma. Within this we have particular interests in gender-based violence, cyberbullying, media ethics, digital storytelling, media reporting of bereavement, gender and politics, body image and mental health, social media, social network analysis, media and national identity.

Students prepare a 30,000 word dissertation and undertake a research training class to equip them for advanced academic research.

# Applied Gender Studies

MSc/PgDip

## Why study this programme at Strathclyde?

- Develop analytical and practical skills to engage critically with contemporary gender issues.
- Undertake research placements with organisations from the feminist third sector and organisations committed to gender equality in education, arts, culture and sport.

### Course Structure

**Compulsory Classes**
- Understanding Gender
- Feminist Knowledge, Feminist Research
- Feminisms – Continuity and Change

**Optional Classes** (three to be chosen)
- Gender Studies Research Placement
- Advanced Topics in Gender Studies
- Gender, Health and Modern Medicine
- Global Queers: Travel Writing and Sexual Politics
- Diversity, Gender and Sexuality in Education
- Feminism and International Relations
- Transcultural Fandom and British Popular Culture
- The Working Man in Modern Britain: Gender, Class and Health, 1800-2000

**Masters Students Only**
- Dissertation

### Course Duration

**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements

First- or second-class Honours degree, or overseas equivalent, in a relevant discipline, usually in the Humanities and Social Sciences. Applicants with relevant experience (paid or voluntary) in feminist, queer or equalities work will also be considered.

# Applied Gender Studies (Research Methods)

MSc/PgDip

## Why study this programme at Strathclyde?

- Benefit from the opportunity to engage with the unique archival collections at Glasgow Women's Library
- Gain skills to design and conduct advanced research projects in Social Sciences
- Develop an understanding of key feminist debates

### Course Structure

**Compulsory Classes**
- Feminist Knowledge, Feminist Research
- Advanced Topics in Gender Studies
- Perspectives on Social Research
- Quantitative Methods
- Qualitative Methods

**Optional Classes** (one to be chosen)
- Gender Studies Research Placement
- Gender, Health and Modern Medicine
- Diversity, Gender and Sexuality in Education
- Feminism and International Relations
- Transcultural Fandom and British Popular Culture

**Masters Students Only**
- Dissertation

### Course Duration

**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements

First- or second-class Honours degree, or overseas equivalent, in a relevant discipline, usually in the Humanities and Social Sciences. Applicants with relevant experience (paid or voluntary) in feminist, queer or equalities work will also be considered.

# Business Translation and Interpreting
MSc/PgDip

# Creative Writing
MLitt/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain practical experience through industry-based activities on a flexible, skill-building course
- Boost employability by participating in the SDL Trados Certification Program
- Option to pursue a research pathway toward PhD study

## Why study this programme at Strathclyde?

- Benefit from workshops with peers and tutors while developing your ideas
- Opportunity to work on an extended creative project developed on a one-to-one basis with your tutor
- Prepare for the practical side of literary development

## Course Structure
Compulsory Classes
- Text Typology and Specialised Translation
- Translation and Interpreting Studies
- Professional Interpreting Practice
- Translation and Language Technology
- Interpreting for Business and Commerce
- Business Translation

Optional Classes (one per semester)
- Introduction to Intercultural Communication
- Narrative Processing across Languages and Cultures
- Transcultural Fandom and British Popular Culture
- Research Skills in Literature, Culture & Communication

Masters Students Only
- Dissertation or Translation/Interpreting Project

## Course Duration
MSc: 12 months full-time
PgDip: 9 months full-time

## Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent. An academic background in English or translating is not required. Applicants with a lower degree classification may be considered on an individual basis.

Suitable applicants are required to attend an aptitude test prior to admission, comprising a written translation test, followed by an oral interview to further demonstrate your language proficiency. The oral interview can be conducted face-to-face or online according to circumstances.

We currently admit students who can master another language in addition to English, from the following: Chinese, German, Spanish, Italian, French.

## Course Structure
Compulsory Classes
- Creative Writing Workshop 1 & 2
- Skills Workshop 1 & 2

Masters Students Only
- Dissertation

## Course Duration
MSc: 12 months full-time; 24 months full-time
PgDip: 9 months full-time; 21 months part-time

## Entry Requirements
Upper second-class Honours degree, or overseas equivalent, in any subject, plus a portfolio of creative writing. This should include the following:

- 2,000 words of prose (fiction or creative non-fiction)
- up to 10 poems (no more than 40 lines in length)
- the page equivalent of a short, fifteen-minute play
- an outline of creative work you might develop in the course of the degree, possibly in the context of the dissertation (no more than two A4 pages)

# Digital Journalism
MLitt/PgDip

## Why study this programme at Strathclyde?

- Gain the skills to produce multimedia news and features
- Learn how to devise, launch, produce and market an online publication
- Work in the University's simulated news environment and report externally using mobile media

### Course Structure
**Compulsory Classes**
- Multimedia Journalism
- Entrepreneurial Journalism
- Producing Media
- Scots Law for Journalists
- Media Ethics

**Optional Class**
- Communication and Media Theory in an International Context
- From Broadcast to Participation: A History of Mediation
- Strategic Communication

**Placement**
- Four-week journalism placement

**Masters Students Only**
- Academic Dissertation or Production Dissertation

### Course Duration
**MLitt:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
Honours degree, or overseas equivalent, or professional experience demonstrating ability to study at Masters level. Experience of student journalism, a media work placement, freelance work or professional journalism is expected.

# Diplomacy and International Security
MSc

## Why study this programme at Strathclyde?

- Deepen your understanding of contemporary and historical issues relating to diplomacy and security
- Gain skills to design advanced research projects
- Benefit from a unique multidisciplinary experience

### Course Structure
**Compulsory Classes**
- Research Skills, Sources and Methods for Historians OR Principles of Research Design OR Legal Research Skills
- The Evolution of Diplomacy

**Optional Classes** (five to be chosen)
- Embassies in Crisis
- Contemporary Security Challenges and Responses
- Britain, France and the United States 1945-1955 Diplomacy, Strategy and Alliance
- Contemporary International Relations
- Terrorism and the Law
- International Human Rights Law
- International Institutions and Regimes
- International Health Organisations and the Making of the Modern World Order, 1851 to c 2000

**Masters Students Only**
- Dissertation

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in humanities, social sciences/law subjects or substantial professional experience.

# Interdisciplinary English Studies*
MLitt/PgDip/PgCert

## Why study this programme at Strathclyde?

- Opportunity to take your studies to a more specialised level or in a new direction
- Find connections between literary studies and other academic disciplines
- Benefit from the guidance of an expert supervisor

### Course Structure
**Compulsory Classes**
- Research Skills

**Optional Classes** (five to be chosen)
- Advanced Topics in Interdisciplinary English Studies
- English Studies Research Placement

Group A:  Culture and Interculture
- Introduction to Intercultural Communication
- Narrative processing across Languages and Cultures
- Contemporary Scottish Cultural Studies
- Making and Unmaking British Literature 1880-1950
- Exile, Memory and Literature in 20th-century Europe

Group B: The Representation of Gender and Sexuality.
- Global Queers: Travel Writing And Sexual Politics
- Transcultural Fandom and British Popular Culture
- Women Writers of the Anglo- and Italospheres in the Long 19th Century, 1789-1914

Group C: History, Symbol and Representation
- The Working Man in Modern Britain
- Civility in Early Modern Culture
- Visions of Suburbia
- Fleshy Histories: Meat Eating and Meat Avoidance, 1500 to the Present
- The Animal Turn in the Humanities

**Masters Students Only**
- Dissertation

### Course Duration
**MLitt:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time
**PgCert:** 4 months full-time; 9 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in English literature or a related subject.

*approval pending

# Media and Communication
MLitt

## Why study this programme at Strathclyde?

- Develop expertise in strategic communications to support a career in corporate communications, public relations, or academic research into these areas
- Learn to apply media and communication theories across international contexts and media platforms

### Course Structure
**Compulsory Classes**
- Research Skills in Literature, Culture and Communication
- Communication and Media Theory in an International Context
- From Broadcast to Participation: a History of Mediation
- Strategic Communication
- Media and Communication Option

### Course Duration
**MLitt:** 12 months full-time; 24 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in Media and Cultural Studies, English Studies, or a related discipline. Other qualifications may be considered.

# Health History

MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Explore the origins and impacts of our modern health experiences and expectations
- Examine the impact of warfare on medical technologies
- Suitable for those from humanities, social science and health science backgrounds

### Course Structure

**Compulsory Classes**

- Research Skills, Sources and Methods for Historians

**Optional Classes** (four to be chosen)

- Health and Healthcare in the Long 19th Century
- Pharmaceuticals, Ethics and Health, 1800-1980
- Governing Highs and Health: History and the Control of Drugs, c1800-c1945
- Work and Occupational Health in the 20th Century: Comparative Perspectives
- Food and Health in the West During the 20th Century
- The Politics of Health in 20th-century Britain
- Race, Ethnicity and Health in 20th-century America
- Medicine and Warfare, 1800-2000
- Gender, Health and Modern Science since 1800
- Work Placement in History

**Masters Students Only**

- Dissertation of 15,000 words

### Course Duration

**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21months part-time
**PgCert:** 4 months full-time; 9 months part-time

### Entry Requirements

First- or second-class Honours degree or overseas equivalent, in history or a related discipline.

# Historical Studies

MSc/PgDip

## Why study this programme at Strathclyde?

- Deepen your historical knowledge, understanding and awareness
- Assess historical themes and historiographical interpretations across a broad chronological range
- Develop transferable skills necessary for employment

### Course Structure

**Compulsory Class**

- Research Skills, Sources and Methods for Historians

**Optional Classes**

- Britain, France and the United States, 1945-1958: Diplomacy, Strategy and Alliance
- Nationalism and Nation-states in the Arab Middle East, 1900-1945
- Advanced Oral History
- Palaeography, c1500-c1800
- Pharmaceuticals, Ethics and Health, 1800-1980
- War, Sacrifice and the Nation in Europe, 1789-1918
- Transnational Radicalism and the Irish World: 1845 - 1923
- Plantations by Land and Sea
- Segregation, Migration and War: African-Americans 1910-1930
- Scotland and Ulster in the Early Modern North Atlantic World
- Work Placement in History

Note: Not all classes will be on offer in any one year. Others may also be chosen from Level 5 classes on offer across the Faculty of Humanities & Social Sciences.

**Masters Students Only**

- Dissertation of 15,000 words

### Course Duration

**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements

First- or upper second-class Honours degree in history, or overseas equivalent.

# Law School

## RESEARCH DEGREES
MPhil, PhD

## Contact for Research Degrees
**e:** hass-postgrad@strath.ac.uk

## TAUGHT COURSES
Climate and Energy Law
Construction Law
Criminal Justice and Penal Change
Global Environmental Law and Governance
Human Rights Law
International Commercial Law
Internet Law and Policy/IT and Telecommunications Law
Law
Law and Finance
Law of the Sea, Sustainable Development
and International Law
Mediation and Conflict Resolution
Diplomacy and International Security (in collaboration with
History and School of Government and Public Policy, see
pg 86 for course description)
International Relations, Law and Security (in collaboration
with the School of Government and Public Policy,
see pg 80 for course description)

## PRE-QUALIFICATION LAW COURSES
Diploma/LLM in Professional Legal Practice
LLB Law Graduate Entry
LLB Law (Scots & English) Graduate Enry

## Contact for Taught Courses
**e:** hass-pgt-enquiries@strath.ac.uk

Strathclyde Law School has established a reputation of
more than 50 years for quality teaching and research.
We offer flexible learning including options for part-time
study, accelerated study and distance learning.

The Law School is one of the UK's leading law schools
and demonstrates the highest quality in teaching and
research. We host Scotland's biggest Law Clinic, which is
run by an Executive Committee of students and chaired by
a Clinic Director. The Clinic provides a 'real life' learning
experience for students, enhancing their professional
skills. It is an invaluable service to members of the public
who do not qualify for legal aid but cannot afford to pay
legal fees. The Law School also hosts the Mediation Clinic,
providing postgraduate students with a unique opportunity
to mediate alongside experienced practitioners.  The Clinic
receives cases from several local courts including Glasgow
Sheriff Court, Scotland's largest, and has just launched a
new Housing Mediation Project.

The Law School hosts several centres of excellence
including the Centre for Law, Crime and Justice, the Centre
for Professional Legal Studies and the Centre for the Study
of Human Rights Law.

## Research Areas
Research in Law covers a broad spectrum, with particular
strength in socio-legal research. Research clusters
are focused around:
- **Access to Justice and the Provision of Legal Services** –
  our researchers have expertise in many areas including
  intervention of the legal process in the employment
  relationship; mediation and its interaction with lawyers
  and civil justice; the use of forensic science and expert
  evidence in legal proceedings; the role of the jury; and
  the role of law clinics in teaching ethical awareness.
- **Constitutional and Administrative Law** – covers most
  areas of domestic public law and comparative public law.
- **Dispute Resolution** – we conduct research in issues
  including mediation and negotiation, redress
  mechanisms and public services, and international
  dispute resolution.
- **Environmental Law and Governance** – research in the
  Strathclyde Centre for Environmental Law and
  Governance aims to identify and shape emerging areas
  of legal research in environmental governance with a
  strong development focus.
- **Human Rights** – human rights intersect with many
  areas of law and staff are able to supervise a wide range
  of cross-cutting topics. Core human rights research
  includes women's rights, migrants' rights, child care
  and protection in the context of the right to respect for
  private and family life, the prohibition of torture,
  freedom of expression, and human rights dimensions
  of environmental governance.
- **Law, Crime and Justice** – research expertise covers areas
  such as Criminal Law, Homicide, Cybercrime, Children,
  Young People and Crime & Justice, Security, Policing &
  Counter-terrorism, Women, Girls, Gender & Justice.
- **Technology Law and Regulation** – research explores
  issues of regulation within the context of existing
  and emerging technologies and includes studies of
  Intellectual Property Law, the governance of the Internet
  and regulation of offline technologies.
- **Scottish Private Law** – our academics review areas such
  as family law, bio-ethics and personhood, child law and
  child protection, sexual orientation and same-sex
  families, and history of Scots private law.

Other areas of expertise include International Migration
Law, EU Migration and Asylum Law, EU External Relations,
EU and UK Labour Law, EU and UK Competition Law, Public
International Law, Finance Law, and Law and Society.

# Climate and Energy Law
LLM/PgDip/PgCert (online only)

## Why study this programme at Strathclyde?

- Gain the knowledge to understand rapidly evolving energy markets and implement policy efforts
- Flexibility to continue in your professional role while gaining a specialised qualification
- Learn from leading experts in the field of climate change

### Course Structure
The programme is delivered fully online through Strathclyde's virtual learning environment. Classes will be taught through a combination of podcasts, lectures, forums and tutorials.

### Compulsory Classes
- Climate Change and International Law
- Climate, Energy and Comparative Law
- Climate and Energy Finance
- Sustainable Energy Governance
- Climate, Energy and Litigation
- Climate, Energy and the Global Economy

### Masters Students Only
- Dissertation

### Course Duration
**LLM:** 12 months full-time; up to 24 months part-time
**PgDip:** 9 months full-time; up to 21 months part-time
**PgCert:** 8 months part-time

### Entry Requirements
First degree in a relevant subject. Applications are also welcome from candidates with significant high-calibre industry or government experience. A formal legal background is not required.

# Construction Law
LLM/PgDip/PgCert

## Why study this programme at Strathclyde?

- Construction professionals develop knowledge of the law required for practical application
- Lawyers gain legal expertise relating to management of construction projects
- Full-time and part-time study options

### Course Structure
Some classes are taught by way of webcast lectures, others are taught in a traditional face-to-face format. All core construction law classes and the compulsory class in Legal Research are taught in the evenings (normally 6pm - 8pm) or by webcast. Many optional classes are also taught in the evening, with some are available during the day.

### Compulsory Classes
- Context of Construction (for Law graduates)
- Legal Process and the Law of Contact and Other Obligations (for non-Law graduates)
- Law of the Construction Industry
- Law and Practice of Construction Management
- Construction Dispute Resolution
- Legal Research (LLM only)

Students also select one optional class from other Law School Masters programmes.

### Masters Students Only
- Dissertation of 15,000 words

### Course Duration
**LLM:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 18 months part-time
**PgCert:** 8 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in a related discipline. Where an applicant has a lower second-class Honours degree in a relevant discipline, admission may be possible with suitable professional qualifications and/or considerable appropriate experience.

"Coming from a small rural town in India, it was my dream to study abroad and I was proud to be awarded a scholarship by the state government to come to Strathclyde.

There are many opportunities for internship and seminars by experts, role play exercises and visits to local justice agencies bring what we're learning to life. I interned at the Miscarriages of Justice Organisation in Glasgow which enabled me to analyse and understand theory, policies and practices."

**MANJUNATHTA HIRAL, FROM INDIA**
LLM CRIMINAL JUSTICE & PENAL CHANGE

"The depth of the course has not only broadened my understanding of the key elements of International Human Rights Law but also honed my skills in reading, interpreting, analysing and reporting of legal materials – all skills that are vital for professional progression in my industry.

I received the Dean's International Award which helped towards my tuition costs."

**BRIAN MIGOWE, FROM KENYA**
LLM HUMAN RIGHTS LAW

# Criminal Justice and Penal Change

LLM/MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Draw on a range of disciplinary approaches, to develop a rational and just response to crime
- Full-time, part-time and evening study options
- Learn from world experts in the fields of policy and practice

### Course Structure
**Compulsory Classes**
- Criminal Justice and Penal Decision-making
- Punishment and Processes of Penal Change
- Legal Research (LLM/MSc only)

**Optional Classes**
- Childhood and Crime
- Surveillance, Technology and Control
- Offender Supervision and Management
- Restorative Justice
- Homicide

Participants may also choose classes from other Law School Masters programmes, such as Human Rights Law, Internet Law and Policy, Mediation and Conflict Resolution.

**Masters Students Only**
- Dissertation

### Course Duration
**LLM/MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time
**PgCert:** 8 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in law, one of the social sciences, business or humanities. Entry may be possible with other qualifications and/or experience.

# Global Environmental Law and Governance

LLM/PgDip/PgCert

## Why study this programme at Strathclyde?

- Learn to critically appraise and creatively contribute to environmental regulation and governance
- Develop the skills and expertise to pursue a career in areas of transnational envirnomental law
- Specialise in thematic areas in environmental law

### Course Structure
**Compulsory Classes**
- International Environmental Law 1 & 2
- Global Environmental Law: Issues of Sustainability and Equity
- Legal Research (LLM only)

**Optional Classes**
- EU Environmental Law 1
- International Investment Law and Sustainable Development
- International Climate Change Law
- Oceans Governance and the Law of the Sea
- Global Water Policy
- Energy Resources and Policy
- Sustainable Energy Governance
- Fundamentals of Environmental Forensics

**Masters Students Only**
- Dissertation

### Course Duration
**LLM:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time
**PgCert:** 8 months part-time

### Entry Requirements
First- or second-class Honours degree, or overseas equivalent, in law or a environment-related discipline (some law content recommended). Entry may be possible with other qualifications and substantial professional experience in the area of environmental law, policy and/or management.

# Human Rights Law
LLM/PgDip/PgCert

## Why study this programme at Strathclyde?

■ Learn from academic experts and leading legal
and public sector practitioners
■ Opportunity to undertake a 12-week field dissertation
within a government or non-government organisation
with an international focus, in the UK or overseas

### Course Structure
**Compulsory Classes**
■ European Human Rights Law
■ International Human Rights Law
■ Human Rights Protection in the UK
■ Legal Research (LLM/PgDip)

**Optional Classes**
Optional classes may change from year-to-year but
may include:

■ International Migration Law
■ Privacy, Crime and Security
■ Punishment and Processes of Penal Change
■ Childhood and Crime
■ International Climate Change Law
■ Mediation, the Law and Policy
■ Business and Human Rights

**Masters Students Only**
■ Dissertation or field dissertation

### Course Duration
**LLM:** 12 months full-time; 24 months part-time
**LLM with field dissertation:** 15 months full-time;
30 months part-time
**PgDip:** 9 months full time; 18 months part time
**PgCert:** 8 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas
equivalent, in any discipline (some law content is
recommended). Entry may be possible with other
qualifications, especially where the applicant has relevant
work experience.

# International Commercial Law
LLM/PgDip/PgCert

## Why study this programme at Strathclyde?

■ Explore how international commercial law deals with
real-world challenges
■ Opportunity to undertake a 12-week field dissertation
within a government or non-government organisation
with an international focus, in the UK or overseas

### Course Structure
**Compulsory Classes**
■ The Law of the World Trade Organisation
■ Law of International Business
■ Legal Research (LLM/PgDip)

**Optional Classes**
Students also choose classes from other Law Masters
programmes from a list which may include:

■ Business and Human Rights
■ Labour Law in the Global Economy
■ Intellectual Property Law
■ E-Commerce
■ International Investment Law
■ International Banking Law
■ Financial Regulation and Compliance
■ Comparative Company Law and Regulation
■ Comparative Law of Obligations
■ Cybercrime
■ Competition Law of the UK and EU

**Masters Students Only**
■ Dissertation or field dissertation

### Course Duration
**LLM:** 12 months full-time; 24 months part-time
**LLM with Field Dissertation:** 15 months full-time;
30 months part-time
**PgDip:** 9 months full-time; 21 months part-time
**PgCert:** 8 months part-time

### Entry Requirements
First- or second-class Honours degree, or overseas
equivalent, in a related discipline (some law content
is recommended). Entry may be possible with other
qualifications, especially where the applicant has
relevant work experience.

# Internet Law and Policy/IT and Telecommunications Law

LLM/PgDip/PgCert (part-time online)

## Why study this programme at Strathclyde?

- Gain a dual-named qualification which is reocgnised internationally
- Experience areas of legal specialisation with international reach and strong employment prospects
- Benefit from part-time online study mode

### Course Structure
The programme is delivered fully online through Strathclyde's virtual learning environment. Classes will be taught through a combination of podcasts, lectures, forums and tutorials.The course structure and class choices are almost identical for both pathways; for the IT and Telecommunications Law pathway, it is necessary to take the class Telecommunications Law and also to write a dissertation in a telecoms-related subject.

### Compulsory Class
- Legal Research (LLM and PgDip only)

### Optional Classes
- E-Commerce Law
- Intellectual Property Law
- Privacy, Crime and Security
- Telecommunications Law (compulsory for IT and Telecommunications pathway)

Participants may also choose classes from other Law School Masters programmes, such as Human Rights Law, Criminal Justice and Penal Change and Mediation and Conflict Resolution.

### Masters Students Only
- Dissertation of 15,000 words

### Course Duration
**LLM:** 24 months part-time online study mode
**PgDip:** 21 months part-time online study mode
**PgCert:** 8 months part-time online study mode

### Entry Requirements
A good Honours degree, or overseas equivalent, in Law or a degree with a substantial legal content. We also recognise other qualifications, especially where the applicant's work experience is in a field relevant to the subject of the course.

# Law

LLM/PgDip/PgCert

## Why study this programme at Strathclyde?

- Benefit from flexibility and choice to construct your own programme of law studies
- Opportunity to participate in masterclasses and teaching by guest speakers
- Develop your interest in a particular specialist area

### Course Structure
**Compulsory Classes**
- Legal Research (LLM only)
- Dissertation

### Optional Classes
Students also choose classes from other Law Masters programmes from a list which may include:

- International Environmental Law 1 and 2
- E-Commerce
- Cybercrime and Society
- Employment Mediation
- Competition Law and Policy in the EU
- EU Environmental Law 1
- Intellectual Property Law
- International Banking Law
- Sustainable Energy Governance
- Terrorism and the Law
- Telecommunications Law
- World Trading System: Law and Policy
- European Human Rights Law
- International Human Rights Law
- International Migration Law
- Human Rights Protection in the UK

### Course Duration
**LLM:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time
**PgCert:** 8 months part-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent. Entry may be possible with other qualifications, especially where the applicant has relevant work experience.

# Law and Finance

LLM

## Why study this programme at Strathclyde?

- Benefit from interdisciplinary teaching by the Strathclyde Business School and the Law School
- Gain insight into the rapidly-changing area of regulation
- Apply to work in the Small Business Law Unit within the student-run Law Clinic

### Course Structure

For those without a background in accounting and finance, there will be an optional, non-credit bearing class available to provide all you need to know in order to understand the core classes.

### Compulsory Classes

- Principles of Finance
- Accounting and Financial Analysis
- International Banking Law
- Advanced Corporate Finance and Applications
- Financial Regulation and Compliance
- Law Project

### Optional Law Classes

- Contemporary Employment Relations
- Labour Law in the Global Economy
- Comparative Company Law
- World Trade Law
- EU Environmental Law 1
- Law of International Business
- International Investment Law
- E-Commerce
- Arbitration Law
- Intellectual Property Law
- Business and Human Rights
- Competition Law and Policy in the EU

### Course Duration

12 months full-time

### Entry Requirements

First- or upper second-class Honours degree, or overseas equivalent, in Law, Accounting, Finance or Banking. Entry may be possible with other qualifications, especially where the applicant has relevant and substantial work experience.

# Law of the Sea, Sustainable Development and International Law

LLM/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain the knowledge and skills to understand the international law of ocean governance
- Focus on opportunities and challenges of blue growth
- Delivered as blended learning via a combination of distance learning and residential study periods

### Course Structure

#### Compulsory Classes

- Oceans Governance and Other Areas of International Law
- Developments and Challenges in the Law of the Sea
- Fisheries Law and Sustainability
- Blue Growth and Maritime Law
- International Dispute Resolution and Oceans Governance
- Protection of the Marine Environment

#### Masters Students Only

- Dissertation

### Course Duration

**LLM:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time
**PgCert:** 8 months part-time

### Entry Requirements

First- or upper second-class Honours degree, or overseas equivalent, in law or an environment-related discipline (some law content is recommended). Entry may be possible with other qualifications, especially where the applicant has relevant work experience.

# Mediation and Conflict Resolution

LLM/MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- A unique combination of practical skills and a thorough academic foundation – the only such course in the UK
- Accredited by Scottish Mediation
- Gain real-world experience through the Mediation Clinic
- Full-time, part-time/distance learning study options

### Course Structure
Students may graduate with LLM or MSc depending on the topic of their final dissertation.

### Compulsory Classes
- Theory and Principles of Conflict Resolution (online)
- Mediation in Practice
- Legal Research (LLM/MSc only)

### Optional Classes (three to be chosen)
- Mediation, the Law and Policy
- Negotiation
- Employment Mediation
- Advanced Mediation (online)
- Legal Process and the Law of Contract and Other Obligations

Students may also choose a class from other Law School Masters programmes.

### Masters Students Only
- Dissertation

### Course Duration
**LLM/MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time
**PgCert:** 8 months part-time

### Entry Requirements
A degree, or overseas equivalent, and/or relevant practical experience.

"I've learned so much about the what, the why, and a real in depth understanding of mediation and negotiation. I've been able to share and exchange so much academically and personally with my peers from all around the world.

I feel confident that this course has and will continue to open many doors for my future career choices."

**CHRISTINA TAY, FROM NEW ZEALAND**
MSc MEDIATION & CONFLICT RESOLUTION

# Professional Legal Practice
Diploma (full-time/part-time)

## Why study this programme at Strathclyde?

- Required for entry to the legal profession in Scotland
- Experience a unique method of learning the practical application of legal principles
- Work collaboratively in firms and apply professional skills to legal simulations

### Course Structure
The course starts with an intensive week-long Foundation Course for full-time and part-time students which serves as an introduction to practical legal skills and collaborative learning.

The first semester involves the core subjects as required by the Law Society, as follows:

- Professional Practice and Ethics
- Business and Financial Awareness
- Conveyancing
- Private Client
- Civil Litigation
- Criminal Litigation
- Personal Injury Claims Handling

In the second semester, students choose five from the following optional classes:

- Advanced Criminal Advocacy
- Advanced Private Client
- Business Accounting for Legal Professionals
- Commercial Contracts and IP
- Commercial Conveyancing
- Company Law
- Employment Law in Practice
- Family Business
- Family Law
- Mediation and Mediation Advocacy
- Practical Public Administration
- Work-based Learning Module in Legal Practice

### Course Duration
Nine months full-time; 24 months part-time

### Entry Requirements
LLB degree (or equivalent) which meets the requirements and outcomes of the Law Society of Scotland's foundation programme.

# Professional Legal Practice
LLM (distance learning only)

## Why study this programme at Strathclyde?

- Build on previous study and focus on a particular area of professional legal practice
- Gain a deeper knowledge and understanding of a particular area of professional legal practice
- Full-time flexible distance learning study

### Course Structure
The course is only available full-time on a flexible, distance-learning basis. Students will normally receive credit for approved prior learning (from their Diploma studies) which will count towards the LLM award. Students therefore, typically complete a compulsory Research Methods class (which is fully online) and a 15,000-word dissertation on their chosen area of legal practice.

### Compulsory Class
- Legal Research Skills and Methods

### Course Duration
12 months full-time distance learning

### Entry Requirements
First- or upper second-class LLB Honours degree and a qualifying Postgraduate Diploma in Legal Practice/ Professional Legal Practice from a Scottish university.

Where demand for places exceeds availability, performance of applicants during their studies (ie generally the relative performance of applicants in specified LLB classes and over the duration of their Diploma studies) will be taken into consideration.

# Law (Graduate Entry)
LLB (full-time & part-time)

## Why study this programme at Strathclyde?

- Accreditation from the Law Society of Scotland
- Accelerated two-year programme for graduates from other disciplines
- Develop your legal skills as a member of Scotland's largest student-run Law Clinic

### Course Structure
The following is a typical course of study incorporating compulsory classes which meet the requirements of the Law Society of Scotland's foundation programme for progression to the Diploma in Professional Legal Practice. For more information on the structure of the part-time course, please contact the Law School.

### Compulsory Classes
- (Scots) Domestic Relations
- (Scots) Criminal Law
- Public Law 1 & 2 (Scots)
- Legal Methods
- Law and Society
- Legal Process
- Voluntary Obligations: Contract and Promise
- (Scots) Property, Trusts and Succession
- (Scots) Involuntary Obligations: Delict and Unjust Enrichment
- Commercial Law
- EU Law

### Clinical LLB
Scots Law students who apply and gain entry to the Law Clinic are eligible to transfer to the Clinical LLB in which they use their clinical training and cases to develop the skills and ethical values required for legal practice. They take all the LLB classes (replacing Law and Society with Legal Theory), along with four compulsory clinical classes and gain credit for all their work undertaken in the Clinic.

### Course Duration
**Full-time:** two years (Pass degree); three years (Honours)
**Part-time:** four years (graduate entrant); five years (adult returner)

### Entry Requirements
Second-class Honours or Pass/Ordinary degree. Applicants who do not meet these requirements may also be considered. Applicants whose first language is not English must possess a recent English qualification, eg IELTS 7.0, or equivalent.

# Law (Graduate Entry Scots & English)
LLB

## Why study this programme at Strathclyde?

- Undertake a dual-qualifying law degree recognised in England/Wales by the Solicitors Regulation Authority and by the relevant regulatory authorities in Northern Ireland and Scotland
- Benefit from flexibility in your future career

### Course Structure
Students on this degree follow broadly the same curriculum as students on the Graduate Entry Scots Law degree (see left), with the addition of English law classes, some of which are taken on a concentrated basis in the summer between Years 1 and 2. The Clinical LLB stream is not available to Scots & English law students.

### Summer School Classes
- English Law of Tort
- English Law of Contract and Restitution
- English Law of Property and Land

### Year 2 Compulsory Classes
Students take the same list of classes as for Scots Law (see left), replacing the optional choice with:

- English Criminal Law and Evidence
- English Law of Equity and Trusts

Subject to satisfactory performance, students can continue to a third year to complete an Honours degree.

### Course Duration
Pass degree: two years; Honours degree: three years

### Entry Requirements
Second-class Honours degree in any discipline. Lower, or alternative qualifications will be considered on a case-by-case basis. Applicants whose first language is not English must possess a recent English qualification, e.g. IELTS 7.0, or equivalent.

# School of Psychological Sciences and Health

**RESEARCH DEGREES**
MPhil, PhD

**Contact for Research Degrees**
**e:** hass-postgrad@strath.ac.uk

**TAUGHT COURSES**
Clinical Health Psychology
Counselling and Psychotherapy
Psychology with a Specialisation in Business
Research Methods in Psychology
Physical Activity in NCD prevention and Control

**Contact for Taught Courses**
**e:** hass-pgt-enquiries@strath.ac.uk

The School of Psychological Sciences and Health focuses its research on being useful to society by employing research insights and understandings to address the problems that face society today.

We offer courses accredited/approved by the British Psychological Society, the Royal College of Speech and Language Therapists, the Health and Care Professions Council, and the British Association for Counselling and Psychotherapy.

The School provides a vibrant, friendly environment for outstanding research and teaching that brings together internationally-recognised academic staff with a diverse range of interests.

Our staff engage in research and undertake undergraduate and postgraduate teaching across four subject disciplines:

- Psychology
- Speech and Language Therapy
- Physical Activity for Health
- Counselling

**Research Areas**
The four subject groups within the School have two overall research themes:

- Children and Young People (including social and cognitive development, educational psychology, child and family wellbeing, developmental disorders and disabilities)
- Health (clinical and public health interventions of many kinds across the lifespan, including research on the aetiology of disease, and on the development of improved clinical, research and policy interventions)

Recognising that these topics often generate complex, multidisciplinary, and global research problems, staff collaborate across the four disciplines within the School and with a wide range of colleagues internationally.

To see the full breadth of research activity within the School, potential research students are encouraged to consult individual staff profiles on our website. MPhil, PhD and DEdPsy applicants are welcome to contact staff in the School to discuss possible topics and supervision arrangements.

# Clinical Health Psychology

MSc

## Why study this programme at Strathclyde?

- Combine clinical, health and neuropsychology classes with professional practice and research skills
- Undertake a placement within an applied setting
- Benefit from our purpose-built experimental labs and facilities

### Course Structure

**Research Methods:** two classes covering qualitative and quantitative analyses

**Applied:** Three classes covering theoretical issues and practical skills relevant to medical conditions from a clinical, health and neuropsychological perspective. Specific techniques covered include interpersonal communication, cognitive-behavioural therapy, health behaviour change techniques and neuropsychological assessment.

**Professional Practice and Placement:** provides students with the professional skills required in a workplace setting. Students will undertake a placement linked to a real-world issue, in a setting such as a pain clinic.

**Dissertation:** a supervised research dissertation on a topic related to the course themes.

### Course Duration

12 months full-time; 24 months part-time

### Entry Requirements

First- or second-class Honours degree, or overseas equivalent, in psychology.

Applicants whose first language is not English require IELTS 7.0.

Membership of the Protecting Vulnerable Groups Scheme or update of existing membership is required for placement work with vulnerable groups.

"My course offers the perfect combination of research and applied psychology to enable me to choose either field for my future career.

I've had the opportunity to apply theoretical knowledge in a practical setting and to develop my counselling skills and a wide range of professional knowledge which will improve my work with clients."

**NIHARIKA MEHTA, FROM INDIA**
MSc CLINICAL HEALTH PSYCHOLOGY

# Counselling and Psychotherapy
MSc

## Why study this programme at Strathclyde?

- Focus on person-centred therapy throughout the course
- Learn to apply one of the leading therapeutic approaches to mental health and wellbeing
- Opportunity to undertake work placements with clients in a range of health treatment settings

### Course Structure
Compulsory Classes
- The Therapeutic Relationship
- Personality Theory
- The Therapeutic Process
- Counselling Care Formulation
- Personal and Professional Development
- Counselling Practicum
- Counselling Research Dissertation

### Course Duration
12 months full-time

### Entry Requirements
First- or upper second-class Honours degree, or an equivalent qualification; COSCA Certificate in Counselling Skills.

# Psychology with a Specialisation in Business
MSc (online distance learning)

## Why study this programme at Strathclyde?

- Route to Graduate Basis for Chartered Membership with the British Psychological Society.
- Gain knowledge of the core domains of psychology
- Develop an understanding of the applications of psychology to real life, particularly business contexts

### Course Structure
The programme is delivered entirely online.

Psychology Classes
- Social and Developmental Psychology
- Conceptual and Historical Issues in Psychology and Individual Differences
- Psychobiology and Cognitive Psychology
- Research Design and Analyses in Psychology

Business Classes
- Organisational Psychology
- Leadership in Organisations
- Foundations of Risk
- Psychometrics in Organisations

A research project and dissertation are also undertaken.

### Course Duration
12 months full-time/24 months part-time online distance learning

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in law, social sciences or related disciplines, or a Masters degree; in some cases a qualification deemed to be equivalent may be considered.

Psychology Honours graduate (without Graduate Basis for Chartered Membership of the BPS) with lower second-class degree (or international equivalent).

# Research Methods in Psychology
MSc

## Why study this programme at Strathclyde?

- Learn the skills and theory for conducting research
- Undertake a substantial research project, with one-to-one supervision
- Enhance your academic profile for doctoral funding applications or for research assistant posts

### Course Structure
**Compulsory Classes**
- Quantitative Research Methods
- Qualitative Research Methods
- Principles of Social Research
- Research Design

Students also undertake an individual research project under the supervision of a member of staff. Supervision by active researchers with international track records is available across a wide range of topics.

### Course Duration
12 months full-time

### Entry Requirements
First- or upper second-class degree in Psychology, or overseas equivalent.

# Physical Activity in Non-Communicable Disease Prevention and Control
MSc

## Why study this programme at Strathclyde?

- Small group, research-led teaching
- Provides a global perspective
- Gain award in optional specialisation – eg diabetes, obesity, population/child health, health policy
- Opportunity to progress to a PhD

### Course Structure
**Compulsory Classes**
- Introduction to Physical Activity for Health
- Physical Activity Behaviour Change
- Physical Activity and Mental Health
- Contemporary Debates in Physical Activity and Health
- Quantitative Methods
- Physical Activity in Special Populations
- Research Project

For the Research Project, students undertake an extended piece of research, which we would hope to publish, in a topic of their choosing, supported through a combination of individual tutorials, small group sessions and online discussion. It is anticipated that some international students may wish to complete the research project in their home country.

### Course Duration
12 months full-time

### Entry Requirements
Honours degree in a relevant discipline, or other relevant degree, eg medical degree.

# School of Social Work and Social Policy

MPhil, PhD

**Contact for Research Degrees**
**e:** hass-postgrad@strath.ac.uk

**TAUGHT COURSES**
Social Policy
 Social Policy (Research Methods)
Criminology (Research Methods)
Social Work
Social Work (Research Methods)
 Mental Health Social Work
Advanced Residential Child Care
Child and Youth Care Studies

**Contact for Taught Courses**
**e:** hass-pgt-enquiries@strath.ac.uk

The School of Social Work and Social Policy carries out high quality, world-leading research across a broad range of theoretical and empirical areas. The School provides a lively postgraduate environment.

We offer a range of both academic and professional courses for postgraduate students. Our academic courses include the MScs in Social Policy, Social Policy (Research Methods), Criminology (Research Methods), and Social Work (Research Methods).  All of these courses can be taken on a full-time or part-time basis.

We also offer a range of vocational or professional courses, including the Postgraduate Certificate in Mental Health Social Work, the MSc in Advanced Residential Child Care, the MSc in Child and Youth Care Studies, and the Master in Social Work (MSW).  The Postgraduate Certificate in Mental Health Social Work and the MSc in Advanced Residential Child Care are both part-time programmes.  The MSc in Child and Youth Care Studies is a part-time programme delivered through distance learning.  The Master in Social Work (MSW) is a full-time course spread over two years.

**Research Areas**
The School has four main research areas:

**Children, Young People and Families**
Research topics include improvement in services for children and young people; marginalised youth and social inequalities; children and young people's rights; migrant children; evidence-based practice and sustainable change in policy and practice. We work with a range of funders and partners, including the Scottish Government, local authorities and related voluntary sector organisations and international partners. Many of our team are based within the Centre for Youth and Criminal Justice (CYCJ) and the Centre for Excellence for Looked After Children in Scotland (CELCIS).

**Health and Wellbeing**
Our research ranges from historical studies of health and morbidity and the conceptualisation of health and wellbeing to the role played by information technology in the provision of health services and the interface between health and social care. We support health and wellbeing research and policy work within a number of centres including CELCIS, the Centre for Youth and Criminal Justice and the Centre for the Social History of Health and Healthcare. We also play a key role in the University-wide Centre for Health Policy.

Our external partners include Scotland's Commissioner for Children and Young People and Contact a Family, a voluntary organisation supporting families with disabled children across the UK. Our international partners include the World Health Organisation and New York and Yale Universities.

Research topics include conceptualisations of wellbeing; historical changes in height, health, sickness and mortality; risk and protection in adult social work; stigma and discrimination; human rights and citizenship; health promoting palliative care; evidence-based health policy; tele-care; personal outcomes in health and social care.

**Criminal and Social Justice**
Our researchers work on applied research and consultancy on issues of criminal and social justice, penal and social policy and practice. We have strong links with the Scottish Government, Scottish Prison Service, Criminal and Youth Justice Social Work Services, and related voluntary sector and penal reform organisations. The School of Social Work and Social Policy is a partner in the Scottish Centre for Crime and Justice Research (SCCJR), which is a consortium of the Universities of Edinburgh, Glasgow, Stirling and Strathclyde.

The SCCJR is the leading Criminology research centre in Scotland, producing high quality and internationally recognised research in relation to crime and criminal justice..Research topics include crime and desistance; risk, regulation and reintegration; prisons, imprisonment and re-entry; punishment and penal practices; co-production in community justice; ethnicities, migration and social justice; children, young people and crime and justice; knowledge mobilisation, transfer and exchange.

**Citizenship and Communities**
Our research in this area covers a range of historical and contemporary topics associated with the study of citizenship and communities in Scotland and the UK, and across the world. Our interests include the history of mutual aid and philanthropy, social investment and inclusive growth, the enhancement of citizenship rights and social cohesion, the development of welfare-to-work programmes and the impact of devolution on UK social policy, the impact of migration and resettlement on culture and identity, citizenship and health policy, 'smart cities', and the future of city centres.

# Social Policy/Social Policy (Research Methods)

MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Choose a research-based or 'generic' pathway
- Benefit from core disciplinary training and individualised study in an area of personal interest
- Extend your understanding of the factors which shape social needs and how societies have responded to these

This course has both a 'generic' and a 'research methods' pathway.  The generic pathway is for students who wish to update their existing knowledge and skills and improve their understanding of a broader range of substantive topics. The research methods pathway draws on many of the same classes while offering you a specific opportunity to develop your research skills. Both pathways enable you to undertake an independent research project. The Research Methods pathway is recognised by the ESRC (Economic and Social Research Council) and is particularly appropriate for those seeking to undertake postgraduate research.

The programmes are suitable for those who have studied social policy at undergraduate level, as well as graduates of other disciplines.

### Course Structure
Each pathway includes compulsory and optional classes. In addition, MSc students complete a 15,000-word dissertation.

### Compulsory Classes
- Principles of Research Design
- Quantitative Methods*
- Qualitative Methods*
- Welfare Concepts and Ideas
- Approaches to Welfare: Past, Present and Future
- Dissertation (MSc only)

*students on the generic pathway take one or other

# Criminology (Research Methods)

MSc/PgDip

## Why study this programme at Strathclyde?

- Benefit from advanced training in research skills and methods
- Develop criminological expertise using a range of innovative research methods
- Benefit from teaching by world-leading experts

## Optional Classes

Social Policy is an interdisciplinary field of study which draws inspiration from many areas. We currently offer the opportunity to choose options from a number of disciplines across the Faculty. Examples of classes available include:

- Advanced Project Class
- Comparative Public Policy
- Perspectives on Social Research
- Policy Analysis
- International Regimes and Institutions

## Research Methods Pathway

Student on the Research Methods pathway will also have the opportunity to pursue more individualised programmes which reflect the specialist research interests of our social policy staff. These include such issues as:

- history of social policy in the UK
- the 'mixed economy of welfare'
- citizenship
- domestic violence and gender
- migration
- child poverty
- contemporary health policy
- social investment
- technology and welfare

## Course Duration

12 months full-time; 24 months part-time

## Entry Requirements

First- or second-class Honours degree, or overseas equivalent, in Social Policy or a related discipline.

## Course Structure

### Compulsory Classes

- Contemporary Issues in Criminology
- The Contexts of Criminal Justice Research
- Perspectives on Social Research
- Evaluation and Policy research
- Qualitative methods
- Quantitative methods
- Dissertation (MSc only)

## Course Duration

12 months full-time; 24 months part-time

## Entry Requirements

First- or upper second-class Honours degree, or equivalent, in a social science or related discipline.

# Social Work
MSW/PgDip

## Why study this programme at Strathclyde?

- An initial qualifying programme in social work validated by the Scottish Social Services Council
- Placements of 85 days in each year of the course in a range of social work service settings
- Gain a qualification recognised outside the UK

### Course Structure
**Year 1 Classes**
- Human Development and Functioning
- The Context of Social Work
- Social Work Theory and Practice 1
- Professional Practice 1

Note: Unless otherwise exempt, students are required to pass a Certificate in ICT Competence to progress into Year 2.

**Year 2 Classes**
- The Organisational Context
- Harm, Risk, Care and Protection
- Social Work Theory and Practice 2
- Professional Practice 2

**Placements**
Placements of 85 days from January to May are provided across the statutory and voluntary sectors, eg in childcare, community care and criminal justice services, hospitals, health centres and day centres, residential care, prisons and special projects for offenders.

### Course Duration
Two years

### Entry Requirements
Upper second-class Honours degree, preferably in a social science discipline but graduates in other disciplines with an understanding of social sciences are welcome. Applicants who not do have a first degree may be considered if they have extensive professional experience and can demonstrate academic ability at postgraduate level.

A minimum of six months of directly-relevant experience in social work, social care, community work or a closely-related activity is essential.

### How to Apply
Application must be made through UCAS (www.ucas.ac.uk).

# Social Work (Research Methods)
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Develop research skills to use in a professional social work setting or as a basis for further research in the field
- Learn to think in depth about a range of methodological and ethical issues
- Benefit from lectures by 'users' of social work research

### Course Structure
**Compulsory Classes**
- Perpsectives on Social Research
- Context of Social Work Research
- Use of Evidence in Social Work Research
- Evaluation and Policy Research
- Qualitative Methods
- Quantitative Methods
- Dissertation

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
Upper second-class Honours degree, or equivalent, in a social science or related discipline.

# Mental Health Social Work
PgCert (part-time)

## Why study this programme at Strathclyde?

- Gain a qualification to contribute positively to the care and treatment of those experiencing mental disorder
- Undertake practice experience with your employing local authority
- Benefit from the specialist input from guest lecturers

### Course Structure
The course is offered by a partnership which includes the University of Strathclyde, Glasgow Caledonian University and 13 local authorities in the west of Scotland, represented by the Scottish Social Services Council Learning Network West.

#### Compulsory Classes
- Mental Health Officer Theory and Practice 1
- Mental Health Officer Theory and Practice 2

#### Work Placement
Two blocks of practice experience – September to December and February to May are undertaken in your employing local authority, supervised by a suitably-qualified member of staff, and supported by the course team.

### Course Duration
30 days of teaching/contact time during term time. You will need to commit to a minimum of 600 hours of study, practice learning and assessment over the course of the academic year.

### Entry Requirements
Applicants must be nominated and supported by their employing local authority, and be provided with appropriate learning opportunities. A minimum of two years post-qualifying experience is normally expected and you should be able to demonstrate that you have improved and extended your level of competence since qualification.

A professional social work qualification recognised by the Scottish Social Services Council (SSSC) is required. Suitable qualifications include BA (Honours) Social Work, Diploma in Social Work, Certificate of Qualification in Social Work (CQSW) and its predecessor qualifications, Certificate in Social Service. If you trained abroad, a letter of comparability with the CQSW or a letter of verification issued by SSSC (or another registering Council in the UK) will be required.

# Advanced Residential Child Care
MSc/PgDip/PgCert (part-time)

## Why study this programme at Strathclyde?

- Only course in the UK devoted entirely to residential child care
- Develop knowledge and abilities for optimal practice
- The MSc/PgDip meet the management requirement for registration with the Scottish Social Services Council

### Course Structure
The course is modular and requires attendance at the University for six days per module; there are four modules in Year 1 and two modules in Year 2. A further six months is allocated for completion of a practice-based dissertation.

#### Compulsory Modules
- Critical Perspectives on Residential Child Care
- Understanding and Assessing in Children's Life-spaces
- Ethical Leadership and Management in Residential Child Care
- Skilled and Reflective Use of Self in Residential Child Care
- Intervening Effectively in Residential Child Care
- Methods: Effective and Ethical Research in Residential Child Care
- Professional Enquiry in Residential Child Care: Dissertation

### Course Duration
24 months part-time

### Entry Requirements
Degree (minimum 360 SCQF credit points) or equivalent qualifications and experience.

Students with professional or academic qualifications other than social work will be considered.

No charges apply to students employed in residential child care settings in Scotland. Fees for this programme are paid through a Scottish Government grant (subject to continued funding) to CELCIS.

# Child and Youth Care Studies

MSc/PgDip/PgCert (online distance learning)

## Why study this programme at Strathclyde?

- The only Child and Youth Care Masters-level programme delivered entirely online with no attendance required
- Develop theoretically informed, practice-based understanding of issues related to the social, political and cultural contexts of children and youth

### Course Structure
Classes involve a range of individual and group tasks in addition to live online sessions when the student group participates in online seminars.

### Compulsory Classes
- Globalised Childhood: Theoretical and Policy Contexts
- Child Development in the Lifespace
- Management and Leadership
- Critical Reflection and Relational Practice
- Interventions
- Research Methods
- Masters Research Project (incorporating dissertation)

### Course Duration
36 months part-time distance learning

### Entry Requirements
A first degree or relevant professional qualification, or a combination of qualifications and experience demonstrating capacity for postgraduate study.

Participants will also require sufficient access to child care settings through which they can evidence practice requirements. However, these requirements are broad enough to allow those in external management, supervisory and training positions to do so.

You will need to have access to a computer with sufficient processing capability, an excellent broadband connection and the ability to run applications such as Adobe Connect, Adobe Reader, Flash Player, Java and Windows Media Player.

# Centre for Lifelong Learning

**TAUGHT COURSES**
Genealogical, Palaeographic and Heraldic Studies
Safety and Risk Management

### Contact for Taught Courses
**e:** hass-pgt-enquiries@strath.ac.uk

For more than 40 years, the Centre for Lifelong Learning has contributed to the University's founding principle to be a 'place of useful learning open to all'.

Through providing a range of learning opportunities for adults of all ages, the Centre encourages participation in learning throughout life, whether for personal or professional development. Its online postgraduate programmes are renowned for being practitioner-focused, ensuring students emerge with skills of direct relevance to their lives, work and career ambitions.

# Genealogical, Palaeographic and Heraldic Studies

MSc/PgDip/PgCert (part-time/full-time distance learning)

## Why study this programme at Strathclyde?

- Gain a grounding in the theory and practice of genealogical research, records, archives and heraldry
- Focus on the sources available to genealogists and family historians
- Study online by distance learning

### Course Structure
**Compulsory Classes**
- Professional Practice and Methodologies
- Repositories, Geography and Administration
- Civil and Church Records
- Family History Studies and Overseas Records
- Property, Law and Inheritance
- Heraldry and Latin
- Methods of Professional Enquiry and Research Project
- Genealogy, Heraldry and Social History 2
- Documents, Paleography and Research Studies

**Masters Students Only**
- Professional Enquiry and Development and dissertation

### Entry Requirements
**PgCert:** Normally a degree or similar evidence of study skills is required however non-standard educational or professional qualifications will be considered, particularly the Open Studies Certificate in Genealogical Studies offered by the University. Some experience in genealogical (or other relevant) research is also required.
**PgDip:** Entry is normally by successful completion of the Postgraduate Certificate.
**MSc:** Entry to the part-time MSc by dissertation is by successful completion of the Postgraduate Diploma and invitation.

Entry to the full-time MSc normally requires an undergraduate degree and some experience in genealogical (or other relevant) research.

The course is delivered online, so you will require computer access at home. You should be familiar with the use of computers in genealogy and the course is standardised on Microsoft Windows. You will also need to subscribe to or pay for certain online databases and services.

# Safety and Risk Management

MSc/PgDip/PgCert (part-time online distance learning)

## Why study this programme at Strathclyde?

- Study from anywhere by distance learning
- Accredited by the Institution of Occupational Safety and Health for Graduate Membership
- Gain practical knowledge of direct use in the workplace via practitioner-led support

### Course Structure
**Compulsory Classes**
- Benchmarking Safety and Risk Management
- Assessing Hazards, Risks and Dangers
- Optimising Safety and Risk Management
- Psychology of Workplace Activities
- Ergonomic Factors in Work Activities
- Corporate Risk Management
- Methods of Professional Enquiry

**Masters Students Only**
- Research project with 12,000-word dissertation

### Entry Requirements
**PgCert:** Foundation-level certificate in occupational health and safety and a university degree (or equivalent preparation for postgraduate study). Relevant work experience will also be taken into account.
**PgDip:** Successful completion of the University of Strathclyde Certificate in Safety and Risk Management. Applicants who have gained other qualifications and experience equivalent to GradIOSH may be accepted on to the Diploma, subject to certain conditions.
**MSc:** Direct entry to the MSc is is available to students who hold a Postgraduate Diploma in a Safety-related discipline.

"

I studied both an undergraduate degree and a Masters degree at Strathclyde. After working in industry for six months, I was given the opportunity to do a PhD at the University as part of an exciting project, working with both the chemistry and bioscience departments. I always felt challenged, but within a supportive and encouraging environment.

I can't recommend studying at Strathclyde highly enough. For me, the University has always seemed a welcoming and inclusive place to study.

**JENNIFER WALLACE**
**BSc (HONS) IMMUNOLOGY & PHARMACOLOGY**
**MSc PHARMACEUTICAL ANALYSIS**
**PhD PURE & APPLIED CHEMISTRY**

"

# FACULTY OF SCIENCE

We offer our students high-quality teaching, informed by innovative research, within one of the UK's leading schools of science

**We provide a dynamic, supportive and friendly place to study. The Faculty offers a wide range of postgraduate taught courses and research opportunities designed to offer you advanced skills relevant in today's global workplace.**

With the largest number of research students in the University, we investigate the challenges and possibilities of the natural and technological world – from drug discovery and public health to environmental concerns, tackling cybercrime and understanding space. Multimillion-pound funding from research councils, the EU, the National Health Services, charities and industry ensures our research is relevant and of national and international importance. Based on the REF2014 Grade Point Average scores, the Times Higher Education ranked Strathclyde as number one in the UK for Physics research.

Delivered by world-class researchers, our Masters programmes provide the opportunity to gain an invaluable postgraduate qualification which will enhance your career prospects.

There are opportunities for cross-disciplinary research and study, both within the Faculty, or across other University faculties and centres.

In choosing to study science at Strathclyde you will become part of an international community of staff and students from more than 40 countries.

Our facilities are excellent, with well-equipped, modern laboratories and teaching rooms, plus 24-hour access to an advanced computer information network and a sophisticated virtual e-learning environment.

### Contact
Faculty of Science Office
**t:** +44 (0)141 548 3765
**e:** science-enquiries@strath.ac.uk

# Department of Computer & Information Sciences

**RESEARCH DEGREES**
MPhil, PhD

**Contact for Research Degrees**
**t:** +44 (0)141 548 3189
**e:** enquiries@cis.strath.ac.uk

**TAUGHT COURSES**
Advanced Computer Science
Advanced Computer Science with Big Data
Advanced Software Engineering
Digital Health Systems
Enterprise Information Systems
Information and Library Studies
Information Management
Information Management with Industrial Placement
Software Development
Quantitative Finance (offered in collaboration with the Departments of Mathematics & Statistics and Accounting & Finance, see pg 121 for course entry)

**Contact for Taught Courses**
**t:** +44 (0)141 548 3623/+44 (0)141 574 5147
**e:** science-masters@strath.ac.uk

The Department of Computer and Information Sciences is an interdisciplinary school providing an innovative teaching and research environment. Research interests span the whole spectrum of computer and information sciences theory and application, from fundamental algorithms to information behaviour. Research is funded by the Research Councils (EPSRC, ESRC and AHRC), the EU, and various government agencies and industry bodies. We have a strong record of industrial and professional engagement and collaboration including partnerships with Microsoft, Rolls-Royce Marine and the European Space Agency.

The Department is home to one of the top 50 information schools in the world; it is the largest and oldest provider of postgraduate instructional and research training in Library and Information Studies in Scotland, and is a member of the iSchools group, a coalition of the world's leading information schools.

**Research Areas**
Research activities are structured around six groups:

**Strathclyde iSchool Research Group**
The group investigates arising socio-techno phenomena and evolving information systems and behaviours. In pursuit of a literate and informed society, much of our work is societal in nature. We investigate human information need and use, and we are informing future interactive information system design. Our work is theoretically underpinned by internationally-recognised expertise in:

- interactive information retrieval
- information behaviour
- information law and ethics
- information engagement

We bridge theory and practice, working collaboratively with a number of partners including the National Health Service in Scotland, Glasgow City Libraries and Barnardo's Scotland.

We have a large and internationally-diverse PhD group and are members of the AHRC Information Science Doctoral Scheme Consortium and the Scottish Informatics and Computer Science Alliance.

**Digital Health and Wellbeing**
Research interests and work of the group include looking at the full development lifecycle of truly person-centered digital health and wellness services and products. We have extensive experience of designing with, and for, patients, consumers, citizens, and health and social care professionals. We are working on several projects with charities, the NHS, industry and public sector bodies to develop usable and effective digital health and wellness products and services to reduce inequalities, improve people's lives and transform the way health and care is delivered and accessed globally.

**Mathematically Structured Programming**
The group is researching programming languages to provide solutions to problems in important areas such as concurrency and distribution, program verification, multi-core architectures, domain specific languages, security, web programming and mobile apps. Researchers use ideas from category theory, type theory and functional programming to achieve their goals.

## Combinatorics Group

Combinatorics is one of the underpinnings of theoretical computer science, which provides much of the motivation for research in the field. The group's research spans a wide spectrum, with recent emphasis on permutation patterns, combinatorics on words, graph theory and applications to physics and biology.

## Computer Security

The increasing use of computer-based systems throughout industry, commerce and leisure gives rise to many issues concerning security. These issues range from techniques for protecting system and network integrity, strategies for securing the information used, generated and stored by such services and the development of robust network services.

The research interests of the group cover a wide spectrum of such issues, from intrusion detection techniques, malware characteristics, textual steganography, trusted systems and the role of human factors in enterprise security in general and usable authentication in particular.

## Data Analytics, Software Systems and Interaction Research Group (DASSI)

Understanding large volumes of heterogeneous data is key to much business, science and societal support. However, that data must be used in ways that are understandable and must be handled securely by complex stable software systems. The DASSI group at Strathclyde investigates these three connected research themes in the area of data science or big data. Together they cover our research into intelligently handling complex data and software systems. This can both lead to better accurate understandings and predictions, and can also be used to inform decisions or to improve user interaction.

The group has research and knowledge exchange competencies in many aspects of data analytics, software systems, cyber security, usability, interactive systems design and evaluation of software and its usability.

# Advanced Computer Science
MSc

## Why study this programme at Strathclyde?

- Pursue a tailored programme through a flexible structure of optional classes
- Opportunity to follow a specialist pathway leading to a specific named award
- Skilled computer science professionals are in demand

## Course Structure
### Compulsory Classes
- Legal, Ethical and Professional Issues for the Information Society
- Research Methods

### Optional Classes
Students have the flexibility to build their own specialist pathway by selecting five classes from the following list:

- Software Architecture and Design
- Advanced Topics in Software Engineering
- Designing Usable Systems
- Distributed Information Systems
- Mobile Software and Applications
- Information Systems Architecture
- Evolutionary Computing for Finance
- Business Analysis
- Information Retrieval
- Big Data Technologies
- Machine Learning for Data Analytics
- Project Management

### Dissertation
Students also undertake an individual research project.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in computer science or a closely-related mathematical or engineering discipline.

# Advanced Computer Science with Big Data
MSc

## Why study this programme at Strathclyde?

- Gain skills to meet the challenges posed by the advent of the big data revolution
- Understand how classical statistical techniques are applied in modern data analysis
- Work on a research project with our industrial partners

### Course Structure

**Compulsory Classes**
- Legal, Ethical and Professional Issues for the Information Society
- Distributed Information Systems
- Big Data Technologies
- Machine Learning for Data Analytics
- Research Methods

**Optional Classes** (two to be chosen)
- Advanced Topics in Software Engineering
- Mobile Software Applications
- Evolutionary Computing for Finance
- Information Systems Architecture

**Dissertation**
Students also undertake an individual research project.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in computer science or a closely-related mathematical or engineering discipline.

# Advanced Software Engineering
MSc

## Why study this programme at Strathclyde?

- Develop the skills to design and deploy sophisticated modern software systems
- Enhance your existing practical software engineering skills
- Learn new theories of software development

### Course Structure

**Compulsory Classes**
- Legal, Ethical and Professional Issues for the Information Society
- Research Methods

**Optional Classes** (five to be chosen)
- Advanced Topics in Software Engineering
- Software Architecture and Design
- Designing Usable Systems
- Distributed Information Systems
- Mobile Software and Applications
- Information Systems Architecture
- Project Management

**Dissertation**
Students also undertake an individual research project.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in computer science or a closely-related mathematical or engineering discipline.

# Digital Health Systems
MSc

## Why study this programme at Strathclyde?

- Become a leader in the field of health IT
- Learn how to manage and analyse data collected from personal devices and large-scale health systems
- Develop software development and management skills to support planning and delivery of better care systems

### Course Structure
**Compulsory Classes**
- Information Systems Architecture
- Database Fundamentals
- Research Methods
- Health Information Governance
- Decision Support and Health Analytics
- Digital Health Implementation
- Design of Usable Health Systems
- Health Literacy

**Dissertation**
Students also undertake an individual research project.

### Course Duration
12 months full-time; students also have the opportunity to study the course part-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in computer science, business, health or statistics. Applicants with other qualifications in relevant disciplines may also be considered.

# Enterprise Information Systems
MSc

## Why study this programme at Strathclyde?

- Enhance your existing skill base to operate at the enterprise level
- Develop skills in strategic planning, architectural design and large-scale data management and retrieval
- Become familiar with enterprise architecture frameworks

### Course Structure
**Compulsory Classes**
- Distributed Information Systems
- Information Systems Architecture
- Project Management
- Business Analysis
- Legal, Ethical and Professional Issues for the Information Society
- Big Data Technologies
- Machine Learning for Data Analytics
- Information Retrieval
- Research Methods

**Dissertation**
Students also undertake an individual research project.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in computer science or a closely-related mathematical or engineering discipline.

# Information and Library Studies
MSc

## Why study this programme at Strathclyde?

- Accredited by the Chartered Institute of Library and Information Professionals, incorporating international reciprocal agreements with professional bodies in the US, Canada, Australia and New Zealand
- Benefit from practical experience of a placement

### Course Structure
**Compulsory Classes**
- Information Retrieval and Access
- Information Law
- Research Methods
- Library Technology and Systems
- Strategic Planning
- Organisation of Knowledge
- Libraries, Information and Society
- Human Information Behaviour

**Dissertation**
Students also undertake an individual research project.

### Placement
Students will have a placement one day per week in semester 1 or 2, and providers include Glasgow Life, the National Library of Scotland, the BBC, Scottish Enterprise, NHS Scotland, as well as university and special libraries.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent. Consideration may also be given to those holding other qualifications in relevant disciplines.

# Information Management/Information Management with Industrial Placement
MSc

## Why study this programme at Strathclyde?

- Accredited by the Chartered Institute of Library and Information Professionals and recognised by the Chartered Management Institute
- Opportunity to gain practical business analysis experience via an industrial engagement project

### Course Structure
**Compulsory Classes**
- Information Systems Architecture
- Database and Web Systems Development
- Information Law
- Research Methods
- Business Analysis
- Information Retrieval
- Big Data Technologies
- Machine Learning for Data Analytics

**Dissertation**
Students also undertake an individual research project.

### Industrial Placement Stream
Students on the industrial placement stream undertake a three-month placement to apply the practical skills gained on the course in a partner organisation. Support is provided by the department to arrange the placement.

### Course Duration
12 months full-time (15 months full-time with Industrial Placement)

### Entry Requirements
Second-class Honours degree, or overseas equivalent. Consideration may also be given to those holding other qualifications in relevant disciplines.

## Software Development

MSc

---

### Why study this programme at Strathclyde?

- Provides a pathway into one of the most in-demand professional job sectors for graduates without a computing science background
- Focus on programming skills for software engineering, mobile and web applications, and computer security

---

#### Course Structure
**Compulsory Classes**
- Introduction to Programming Principles
- Object Oriented Programming
- Mobile Application Development
- Software Engineering
- Computer Security Fundamentals
- Database Fundamentals
- Database Development

**Dissertation**
Students also undertake an individual research project.

**Course Duration**
12 months full-time

**Entry Requirements**
Second-class Honours degree, or overseas equivalent, in any discipline other than Computer Science.

"The programme is a great mix of business and computer science, developed with input from industry to meet the innovations in technology and business. I've had the opportunity to gain specialised knowledge and skills in information law, business analysis, web and database systems development, and data analytics/machine learning tools and techniques – each of which could become a career path."

**JOSHUA HUNTE, FROM GRENADA**
MSc INFORMATION MANAGEMENT

# Department of Mathematics & Statistics

The Department of Mathematics and Statistics is one of the largest of its kind in Scotland, with an international reputation in the use of mathematical analysis for real-world problems. The Department has collaborative links with researchers in other universities, from other disciplines and from the industry, business and government sectors, in the UK, Europe, the USA and China.

Funding comes from a range of sources including the Engineering and Physical Sciences Research Council, the Carnegie Trust, University Scholarship Awards, UK industry and the EU.

## Research Areas
We have major research themes in the areas of industrially-relevant mathematics, numerical algorithm development, statistics for the health sciences, modelling of marine systems, and the development of novel techniques for stochastic and network analysis.

Research activities are focused in five interdependent groups:

### Applied Analysis
Research focuses on the development of rigorous analytic and constructive methods for solving differential and integral equations arising from the applied sciences. The group has collaborations with other groups in the department and with researchers from a range of other disciplines – from physicists, chemists and engineers to social scientists. There is a particular focus on nonlinear evolutionary processes, operator theory for the study of differential and integral equations, and the analysis of networks.

### Continuum Mechanics and Industrial Mathematics
Research focuses on the development of accurate mathematical theories of physical materials and the use of these theories in the mathematical modelling of industrial processes – from the flow of the tiny amount of liquid that is contained in the display in your mobile phone to how ultrasound waves travel through engineering structures to detect cracks. This research is multidisciplinary – group members have expertise in continuum theories, material science, fluid dynamics and mathematical modelling in general, and collaborations with physicists, engineers, chemists and many industrial companies.

We have key groups in liquid crystal theory, fluid dynamics and non-destructive testing, with international links to similar research groups around the world.

### Numerical Analysis and Scientific Computing
This group is one of the largest in the UK. It has an international reputation for research excellence in the construction and analysis of methods for the numerical solution of nonlinear differential and integral equations, and in the computational solution of problems of practical interest and several aspects of numerical linear algebra. Research activities are focused on:

- numerical solutions of partial differential equations
- stochastic computation
- numerical linear algebra
- computational physics and engineering

## Population Modelling and Epidemiology

Research focuses on the epidemiology of infectious diseases, ecological complexity, marine and fisheries modelling, and mathematical cell biology. The group encompasses a wide range of expertise from statistics, informatics and image processing to dynamical systems and time series analysis.

The overarching theme of the group is the use of modelling techniques to extract information from complex data sets with an emphasis on practical problems.

Research activities are focused on:

- marine population modelling
- mathematical biology
- epidemiology and statistical informatics

Current projects are modelling the epidemiology of measles, mumps and rubella to assess the spatial risk of the disease and potential effects of low MMR-vaccination uptake and implementing spatial models for air pollution in central Scotland to investigate the link between atmospheric sulphur dioxide and health problems.

## Stochastic Analysis

Research is ongoing across a broad range of stochastic mathematics including discrete-state space Markov processes, stochastic differential equations, stochastic geometry, point processes and time series. Application areas include modelling in population biology, agricultural epidemiology, biochemistry, quantum optics, telecommunication systems, finance and financial econometrics.

Group members have formed a widely distributed network of national and international collaborators, in academia and the business world. Research interests cover:

- Stochastic Differential Equations
- Stochastic Computation
- Time Series
- Probability Theory
- Image Analysis

# Actuarial Science
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain an understanding of actuarial theory and analysis
- Prepare for a career in the financial services industry with a quantitative and data facing role
- Learn about the nature and functioning of financial markets and institutions

## Course Structure

This cross-faculty programme is delivered in collaboration with Strathclyde Business School.

**Compulsory Classes**
- Foundations of Probability and Statistics
- Principles of Finance
- Inference and Regresson Modelling
- Fundamentals of Macroeconomics
- Fundamentals of Microeconomics

**Optional Classes** (six to be chosen)
- Behavioural Finance
- Security Analysis
- Portfolio Theory and Management
- Risk Management for Banks
- Financial Econometrics
- Financial Stochastic Processes
- Quantitative Risk Analysis
- Quantitative Business Analysis
- Risk Analysis and Managment

**Research Project**
Students also undertake an individual research project which may involve working with one of our industrial collaborators. An industry-based project can be based in the UK or abroad and may take the form of a paid internship.

## Course Duration

**MSc:** 12 months full-time
**PgDip:** nine months full-time
**PgCert:** six months full-time

## Entry Requirements

Second-class Honours degree, or international equivalent in engineering, physics, chemistry, computing science, business studies, accounting, economics. Applications are also welcome from those with appropriate professional qualifications or those who can demonstrate relevant practical experience.

# Applied Statistics

MSc

## Why study this programme at Strathclyde?

- Conversion course for those with a background in a broad range of disciplines
- Gain skills in problem-solving, big data and use of statistical software packages
- Learn to interpret and report the result from data analyses

### Course Structure

Train as an applied statistician without previously having studied statistics. This course is taught by academics who also work for the Government and the National Health Service.

### Compulsory Classes

- Foundations of Probability and Statistics
- Data Analytics in R
- Applied Statistical Modelling
- Statistical Inference
- Data Analytics in Practice

### Optional Classes

- Quantitative Risk Analysis
- Survey Design and Analysis
- Bayesian Spatial Statistics
- Effective Statistical Consultancy
- Financial Econometrics
- Financial Stochastic Processes
- Business Analytics
- Risk Analysis and Management
- Optimisation for Analytics

### Research Project

You undertake a research project in which you will work on a real-life data set, putting the theoretical skills you have learned into practice.

### Course Duration

12 months full-time; part-time study available – contact us to discuss options

### Entry Requirements

Second-class Honours degree, or international equivalent; mathematical training to A Level or equivalent standard.

# Applied Statistics in Health Sciences

MSc

## Why study this programme at Strathclyde?

- Designed for those with a background in a broad range of disciplines
- Learn about probability and how to analyse data
- Gain skills in problem-solving, big data and use of statistical software packages

### Course Structure

The course is run in collaboration with the Animal and Plant Health Agency (APHA), an Executive Agency of the Department for Environment, Food and Rural Affairs. It is taught by academics who also work for the Government and the National Health Service.

### Compulsory Classes

- Foundations of Probability and Statistics
- Data Analytics in R
- Applied Statistical Modelling
- Medical Statistics
- Bayesian Spatial Statistics
- Effective Statistical Consultancy
- Quantitative Risk Analysis
- Survey Design and Analysis

### Research Project

You undertake a research project in which you will work on a real-life data set, putting the theoretical skills you have learned into practice. It is possible to work with APHA and the National Health Service on one of their policy-driven problems.

### Course Duration

12 months full-time; part-time study available, please contact us

### Entry Requirements

Second-class Honours degree, or overseas equivalent. mathematical training to A Level, or equivalent standard.

Applications from prospective students with relevant experience or appropriate professional qualifications are also welcome.

# Quantitative Finance

MSc

## Why study this programme at Strathclyde?

- Gain an understanding of financial theory and analysis, financial markets, numerical methods in finance and programming for financial applications
- Designed with input from the finance industry
- Opportunity to undertake industry-based project

### Course Structure
This cross-faculty programme draws on expert input from three departments – Accounting & Finance, Mathematics & Statistics, and Computer & Information Sciences.

**Compulsory Classes**
- Foundations of Mathematical and Statistical Finance
- Principles of Finance
- International Financial Markets and Banking
- Big Data Technologies

**Optional Classes** (one to be chosen from each list)
**List A**
- Behavioural Finance
- Security Analysis
- Portfolio Theory and Management
- Derivatives and Treasury Management

**List B**
- Database and Web Systems Development
- Machine Learning for Data Analytics
- Evolutionary Computation for Finance

**List C**
- Financial Stochastic Processes
- Financial Econometrics
- Networks in Finance

### Research Project
Students also undertake an individual research project which may involve working with one of our industrial collaborators.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in engineering, physics, chemistry, computing science, business studies, accounting, economics; mathematical training to A Level or equivalent standard. Applications are also welcome from those with appropriate professional qualifications, or those who can demonstrate relevant practical experience.

"My course at Strathclyde equipped me with analytical, problem-solving and data analysis skills. I also gained insight into the fixed income and equity markets. The opportunity to work on real-life projects developed the skill set I need in my current role which involves providing financial advisory services and raising sources of funds for the Project and Structured Finance Unit of a bank.

Studying a course which combines maths, finance and computer programming was the perfect opportunity to advance my career."

**MARYAM ABDUL-RAHMAN, FROM NIGERIA**
MSc QUANTITATIVE FINANCE GRADUATE

# Department of Physics

**RESEARCH DEGREES**
MRes, MPhil, PhD
EngD in Applied Photonics
Centre for Doctoral Training in Diamond Science
and Technology

**Contact for Research Degrees**
**t:** +44 (0)141 548 4134
**e:** pgstudies@phys.strath.ac.uk

**TAUGHT COURSES**
Advanced Physics
Applied Physics
Nanoscience
Optical Technologies

**Contact for Taught Courses**
**t:** +44 (0)141 548 3623/+44 (0)141 574 5147
**e:** science-masters@strath.ac.uk

The Department is engaged with exciting projects at the forefront of Physics research, from teasing out the fundamental properties of the Universe to spearheading market-driven device-oriented interdisciplinary projects. Based on the REF 2014 GPA scores, the Times Higher Education ranked Strathclyde as number one in the UK for Physics research.

We are developing disruptive technologies from basic physics that have the potential to revolutionise healthcare in the future, or solve the energy crisis. Many of our researchers have received national and international recognition of their contributions to science.

Recent major developments include the establishment of, and leading role for the Department in, an international Max Planck Partnership in Measurement at the Quantum Limit, and the first UK Fraunhofer Research Centre, the Centre for Applied Photonics.

The Department is a member of SUPA (the Scottish Universities Physics Alliance), a research collaborative initiative across Scottish Physics departments and a pan-Scotland Graduate School in Physics.

The Department is also a major player in the recent UK initiative to exploit quantum technologies. It is the only Department in the UK to be involved in all four of the Quantum Hubs that were established in 2015. In addition, the Department is playing a key role in the management of the scientific direction of the National Physical Laboratory (NPL), a world-renowned body for physical standards.

## Research Divisions
### Nanoscience
The Nanoscience division reflects the broad range of scientific areas in which nanotechnology is destined to make an impact on our lives. The division comprises:

- Biomolecular and Chemical Physics Group – researchers are interested in the building blocks of life such as molecules, proteins, nanoparticles or microorganisms, which have relevance from the molecular basis of health to life in the sea as well as super-resolution and nonlinear microscopy.
- Semiconductor Spectroscopy and Devices Group – combines studies of optical processes in advanced semiconductor materials and the realisation of practical optoelectronic devices

### Optics
The Optics division concentrates on quantum optics, both experimental and theoretical, and the expertise that has been attracted to the division is being used to form both international and UK-wide research links through the Max Planck Partnerships, the Quantum Hubs and the University's management of NPL. Central to this is our work in the understanding and exploitation of the foundations of quantum optics. The division includes a theoretical research group – Computational Nonlinear and Quantum Optics, and an experimental group – Experimental Quantum Optics and Photonics:

- Computational Nonlinear and Quantum Optics – investigates problems associated with the fundamentals of light-matter interactions, many-body physics, simulations of nonlinear optical devices, non-equilibrium dynamics of quantum gases
- Experimental Quantum Optics and Photonics – researchers explore the entire research field from the fundamental interactions of single atoms and photons, through to applied research in spectroscopy and application of our techniques to new quantum technologies

### Plasmas

The Plasmas division is the largest centre for plasma physics research in Scotland. It is the location for the Scottish Centre for the Application of Plasma-based Accelerators and was a partner in the EPSRC Centre for Doctoral Training in Next Generation Accelerators.
The Plasmas division comprises:

- Atoms, Beams and Plasmas Group – research is broadly based on free electron physics, accelerator science, plasma physics and atomic and molecular spectroscopy; current topics include free electron physics, particle accelerator technology, plasma physics, atomic and molecular spectroscopy
- Strathclyde Intense Laser Interaction Studies Group – investigates radiation-beam-plasma interactions at large field intensities for the production of high-energy particle beams (electrons, protons, ions) and high brightness radiation pulses (X-rays, gamma-rays, THz)

### Institute of Photonics

The Institute's key objective is to bridge the gap between academic research and industrial application and development through excellence in commercially-relevant research and its exploitation. It is closely linked to the recently-established UK Fraunhofer Research Centre for Applied Photonics. We seek to establish ongoing relationships with companies, providing research capabilities which both complement and supplement their internal research activities. Current research themes are:

- laser and LED sources
- solid-state lasers
- diamond Raman lasers
- VECSELs
- microLED and nanoLED arrays
- hybrid organic-inorganic photonics
- optogenetics and biophotonics

We are a research-intensive unit and postgraduate student training is one of our core activities. As a result of the multidisciplinary nature of photonics, many of our students are jointly supervised with academic colleagues from other departments, such as Pure and Applied Chemistry or Biomedical Engineering. The Institute provides a friendly and supportive environment for a large number of postgraduate students.

"I've had the support of my supervisor from the day I decided to change career and start doing research in physics. The research community starts with your supervisor and colleagues and grows to include other groups in the department.

We also collaborate with some of the best research groups in the field of quantum optics, and enjoy events with people from all over the world".

**ARACELI VENEGAS-GOMEZ, FROM SPAIN**
PHYSICS PhD STUDENT

# Advanced Physics

MSc

## Why study this programme at Strathclyde?

- Focus on topics such as theoretical physics, quantum information, plasma physics and solid state physics
- Choose taught elements relevant to your career interests
- Gain transferable, problem-solving and numeracy skills
- Opportunity to choose classes relevant to your interests

### Course Structure
**Compulsory Class**
- Research Skills

**Optional Classes**
- Introductory Nanoscience
- Advanced Nanoscience 1 & 2: Imaging and Microscopy/ Solid State Nanoscience
- Topics in Photonics: Laser and Nonlinear Optics
- Advanced Topics in Quantum Optics
- Experimental Quantum and Atom Optics
- Advanced Topics in Photonics: Ultrafast Physics and Plasmas
- Photonics Materials and Devices
- Advanced Photonics Devices
- Theoretical Quantum Information
- Quantum Optics, Nonlinearity and Open Quantum Systems
- Advanced Topics In Theoretical Physics
- Advanced Topics In Electromagnetism and Plasma Physics

**Research Project**
Students also undertake an individual research project.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in physics or a related subject.

Other qualifications, including industrial experience, may be considered. Candidates may be invited for interview.

# Applied Physics

MSc

## Why study this programme at Strathclyde?

- Acquire knowledge of the techniques, practices and theoretical background within applied physics and its interdisciplinary applications
- Specialise in subjects such as microwave technology, laser-based acceleration and applied solid-state physics

### Course Structure
**Compulsory Class**
- Research Skills

**Optional Classes**
- Introductory Nanoscience
- Advanced Nanoscience 1 & 2: Imaging and Microscopy/ Solid State Nanoscience
- Topics in Photonics: Laser and Nonlinear Optics
- Optical Design
- Experimental Quantum and Atom Optics
- Advanced Topics in Photonics: Ultrafast Physics and Plasmas
- Photonics Materials and Devices
- Advanced Photonics Devices
- Quantum Optics, Nonlinearity and Open Quantum Systems
- Advanced Topics In Electromagnetism and Plasma Physics

**Research Project**
Students with interest in an industrial placement and appropriate qualification will be supported to find a internship at one of our industrial partners to work on their project in an industrial R&D environment.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in physics or a related subject.

# Nanoscience

MSc

## Why study this programme at Strathclyde?

- Master state-of-the-art research and methods in nanoscience in an interdisciplinary course connecting physics and chemistry
- Become equipped for a research-based career in industry or to progress to a PhD

### Course Structure
**Compulsory Classes**
- Research Skills
- Project Training
- Conversion Course
- Introductory Nanoscience
- Advanced Nanoscience 1; Imaging and Microscopy
- Advanced Nanoscience 2: Solid State Nanoscience
- Advanced Nanoscience 3: Chemical and Biomedical Nanoscience

**Research Project**
Students undertake a research-intensive project in a relevant nanoscience topic. Projects take place primarily in research labs associated with nanoscience located in the University's physical science departments; there may also be opportunities for relevant industrial placements.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in physics, chemistry or a related subject.

Other qualifications, including industrial experience, may be considered. Candidates may be invited for interview.

# Optical Technologies

MSc

## Why study this programme at Strathclyde?

- Gain hands-on experimental research experience using modern instrumentation
- Suitable for those with a science or engineering background wanting to gain a vocational degree
- Establish a foundation for an optics-related PhD

### Course Structure
**Compulsory Class**
- Research Skills
- Project Training

**Optional Classes**
- Introductory Nanoscience
- Topics in Photonics: Laser and Nonlinear Optics
- Optical Design
- Experimental Quantum and Atom Optics
- Advanced Topics in Photonics: Ultrafast Physics and Plasmas
- Advanced Topics in Quantum Optics
- Photonics Materials and Devices
- Advanced Photonics Devices
- Theoretical Quantum Information
- Quantum Optics, Nonlinearity and Open Quantum Systems
- Optical Communication (Photonic Systems)

**Research Project**
Students with interest in an industrial placement and appropriate qualification will be supported to find a internship at one of our industrial partners to work on their project in an industrial R&D environment.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in physics or a related subject.

Other qualifications, including industrial experience, may be considered.

# Department of Pure and Applied Chemistry

**RESEARCH DEGREES**
MPhil, PhD

**Contact for Research Degrees**
**t:** +44 (0)141 548 2672
**e:** pg-application.chemistry@strath.ac.uk

**TAUGHT COURSES**
Forensic Science

**Contact for Taught Courses**
**t:** +44 (0)141 548 3623/+44 (0)141 574 5147
**e:** science-masters@strath.ac.uk

The Department of Pure and Applied Chemistry has one of the largest research schools in the UK, with expertise ranging from analytical chemistry to materials science, and from biological chemistry to organic and inorganic synthesis. It also has a strong forensic science research base. Research in the Department is supported by industry, government, research councils, the EU and charitable foundations.

WestCHEM, the joint research school of the Universities of Strathclyde and Glasgow, brings together the strengths of these two major chemistry departments to offer outstanding facilities and opportunities within a diverse and expanding chemistry research environment. The result from the 2014 UK-wide Research Excellence Framework (REF) consolidated WestCHEM's position as one of the leading chemistry research schools in the UK, with 94% of its research rated as internationally excellent or internationally leading. Based on the results of REF 2014, the Times Higher Education ranked WestCHEM fourth in the UK for research power.

## Research Areas
You can study for a PhD or MPhil in any of our key research areas:

### Bionanotechnology and Analytical Chemistry
Research in bionanotechnology and analytical chemistry is broad-ranging. Our bionanotechnology research is focused on the application of nanoscience to solve biological problems, most notably with applications in health care. There is significant critical mass in the study and the application of surface-enhanced Raman scattering and functionalisation of nanoparticles to create new clinical diagnostics. Our analytical research is focused on process analytical chemistry, environmental chemistry, and conservation science. Atomic and molecular spectrometry, chemometrics, chromatography, materials analysis, radioanalytical techniques, and optical spectroscopies are used extensively in the development of these areas.

### Catalysis and Synthesis
Our projects include the design of new reactions and mechanistic studies, the synthesis of complex natural products, metal-free reagents and metal-based transformations, and the emerging area of synergistic bimetallic chemistry. We have strong international links and partnerships with more than 25 companies, including GlaxoSmithKline, Merck and Huntsman.

### Chemical Biology and Medicinal Chemistry
Research in chemical biology and medicinal chemistry encompasses a broad spectrum of interests from the delivery of chemical tools to underpin and advance basic biology to the application of knowledge in drug discovery. Our links with Strathclyde Institute of Pharmacy and Biomedical Sciences have developed our outstanding track record in innovation and delivery at all stages of the drug discovery pipeline. Molecular and biological sciences are fully integrated with the medical and veterinary sciences across several institutions in Glasgow including the University of Strathclyde, the University of Glasgow and the Beatson Institute for Cancer Research.

### Materials and Computational Chemistry
Research within the group covers a diverse range of interests with an emphasis on applied, multidisciplinary projects. The group has a strong track record of working with industry in areas such as energy, lighting, displays, polymer science, bionanotechnology, biophysical chemistry, sensors and the food industry. Activities encompass inorganic and organic synthetic chemistry for the development of functional materials and devices. The work is complemented by substantial characterisation facilities and pioneering research into structure-property relationships.

### Centre for Forensic Science

The Centre for Forensic Science (CFS) is internationally recognised as a centre of excellence in forensic science education, research, policy and practice. In addition to undergraduate and postgraduate education, the Centre has provided training in forensic science to the police and scientists worldwide.

The Centre is a recognised leader in research in forensic science and works in close collaboration with partners in operational forensic science laboratories. CFS members have published extensively in peer-reviewed journals in the forensic science domain.

Research within the Centre has an emphasis on the development of techniques for solving current and future forensic science-related problems with an end-user operational focus. The biology-based research includes aspects of DNA analysis including recovery and analysis of degraded DNA, and the use of RNA and DNA to explore aspects of body fluid identification and ageing.

Further research strengths include the application of novel electrochemical methods to samples of forensic science relevance, and the development of policy relating to the effective use of forensic science and the interface of science and law. This encompasses the social and legal aspects of forensic science and the effective use of forensic science in major and volume crime.

"Strathclyde was my first choice when looking for a forensic science course, as the University offered a wider aspect of forensics rather than concentrating on a specific stream.

The location of the University, its global accreditation, excellent student satisfaction, affordable living costs, and modern infrastructure helped my decision-making.

The course balances practical aspects in the form of crime scene exercises and experience of the role of an expert witness with exams on theoretical aspects."

**MARIA DIVYA SAHAYASELVAN, FROM INDIA**
MSc FORENSIC SCIENCE

# Forensic Science
MSc

## Why study this programme at Strathclyde?

- Longest running MSc Forensic Science course in the UK
- Accredited by the Chartered Society of Forensic Sciences
- Ranked no 2 in the UK in the Complete University Guide 2019
- Participate in a major practical crime scene exercise
- Input by forensic practitioners and professional scientists

### Course Structure

**Semester 1**

The first semester covers core aspects of forensic science including:

- crime scene investigation
- legal procedures and the law
- interpretation and statistical evaluation of evidence
- forensic analysis of a range of biological and chemical evidence types

**Semester 2**

You can choose to specialise in either forensic biology or forensic chemistry, studying a range of topics including:

**Forensic Biology**
- investigation of assaults and sexual offences
- biological trace evidence
- DNA profiling

**Forensic Chemistry**
- analysis of fires and explosives
- drugs of abuse
- alcohol and toxicology

**MSc Project**

The three-month project may be undertaken in the university research laboratories. There are also opportunities for some students to be based externally at a forensic science laboratory, in a company or at another university, in the UK or overseas.

### Course Duration

12 months full-time

### Entry Requirements

Second-class Honours degree, or overseas equivalent, in a relevant science subject such as chemistry, biology, biochemistry, pharmacy, zoology or botany. Candidates with operational experience are also welcome to apply.

"Strathclyde was highly recommended to me by professionals in the forensics field. The course covers the general applications of forensic science, with the opportunity to specialise in biology or chemistry so I've been able to dig deeper into the topics I'm most interested in.

My time at Strathclyde has been a stepping stone to my future career. I've learned techniques not covered in my undergraduate degree that I can carry forward and use in the workplace. "

**CAITLIN HYKEL, FROM CANADA**
MSc FORENSIC SCIENCE GRADUATE

# Strathclyde Institute of Pharmacy & Biomedical Sciences

## RESEARCH DEGREES
MRes, MPhil, PhD, DPharm

### Contact for Research Degrees
**t:** +44 (0)141 548 2135
**e:** sipbs-postgrad@strath.ac.uk

## TAUGHT COURSES
Advanced Biochemistry/Immunology/Pharmacology
Advanced Clinical Pharmacy Practice
Advanced Drug Delivery
Advanced Pharmaceutical Manufacturing
Biomedical Sciences
Cancer Therapies
Clinical Pharmacy
Industrial Biotechnology
Molecular Microbiology
Pharmaceutical Analysis
Pharmaceutical Quality and Good Manufacturing Practice
Pharmacy Practice – Clinical

### Contact for Taught Courses
t: +44 (0)141 548 3623/+44 (0)141 574 5147
e: science-masters@strath.ac.uk

The Strathclyde Institute of Pharmacy and Biomedical Sciences (SIPBS) is a major research centre with a focus on two principal areas – Biomedical Science and Pharmacy. Our research involves the use of modern biological and chemistry-based approaches to inform on fundamental biological processes of relevance to health and disease. We integrate biological sciences, medicinal chemistry, pharmaceutical sciences and pharmacy practice to develop new and better medicines which enhance human health and wellbeing. This basic science approach underpins translational research related to clinical practice and industry engagement.

SIPBS is supported by major grant funding from many sources. All our postgraduate programmes are fully embedded in the Institute giving our students excellent access to world-class research and teaching. The education and training in SIPBS provides students with a wide range of skills and knowledge for careers in academia, the pharmaceutical industry, Health Service research and biotechnology enterprises.

The Institute houses the following:

- The Industrial Biotechnology Innovation Centre (IBioIC)
- CMAC – EPSRC Centre for Innovative Manufacturing in Continuous Manufacturing and Crystallisation
- The Cancer Research UK Formulation Unit
- Scottish Government Cancer Medicines Outcomes Programme
- The Farr Institute @Scotland Pharmacoepidemiology Programme
- Scottish Centre for the Application of Plasma-based Accelerators (SCAPA)

## Research Areas
Research is focused around our Institute strap-line of 'New Medicines, Better Medicines and Better Use of Medicines' and is undertaken in our five research groups:

### Cellular and Molecular Basis of Disease
The group is focused on understanding the fundamental processes involved in biological systems including normal health and how this changes in disease. Determining how the body functions under both physiological and patho physiological conditions will further enhance our understanding of disease conditions. This helps us to: identify potential novel therapeutic targets that can be probed using available in vitro and in vivo techniques.

Within this grouping we also look for new treatments and new disease targets working with the other research groups using a combination of molecular and cell biology, medicinal chemistry, chemical biology, radiobiology and regenerative therapeutic approaches to improve treatment of diseases or develop research tools to increase understanding of disease mechanisms.

Our research incorporates a broad range of activities in cancer, cardiovascular disease, inflammatory disease, neurodegenerative disease, neuroscience, parasitology and rare conditions that can be investigated through multiple target pathways in humans.

### Microbiology and Industrial Biotechnology
The group focuses on several research areas in microbiology and Industrial Biotechnology.

**Drug Discovery**
- Exploring the boundaries of specialised metabolites for targeted drug discovery
- Exploring the boundaries of specialised discovery
- Understanding microbial Interactions for informed bioprospecting
- Understanding replication of specialised metabolite-producing actinobacteria
- Minor groove binding antibiotics

**Microbial Biochemistry**
- Bacterial membrane transporter characterisation in Escherichia coli
- Drug resistance in Mycobacterium tuberculosis

**Microbial Genetics**
- Microbial genetics and signalling by bacterial enhancer binding proteins in actinobacteria
- DNA replication and end patching of bacterial linear chromosomes

**Microbial Genomics**
- Pseudomonas aeruginosa pathogenicity
- Pseudomonas aerugiactinobacteria for drug discovery
- Corynebacterium and Nocardia phylogeny and epidemiology

**Industrial Biotechnology**
Working with Industry partners from concept to adoption, enabling bio-based growth (www.ibioic.com).

**Drug Discovery, Formulation and Delivery**
We have drug discovery and medicinal chemistry programmes with the other research groups in diseases including cancer, immunology, cardiovascular and infectious disease. Our research is underpinned by assay cascade development to assess target engagement in vitro and in vivo in chemical biology and hit-to-lead optimisation programmes. This work is underpinned by research across the institute in target identification, lead optimization and in vivo interrogation.

Our pharmaceutical programmes also focus on formulation science and involve research into areas such as development of novel drug formulations covering all platforms and delivery routes and reformulation of old and new drugs and combinations. We are also interested in creating drug formulation for specialist groups such as paediatric and geriatric patients. SIPBS hosts the Cancer Research UK Formulation Unit. We are also interested in creating research and prepare experimental anti-cancer drugs and much of our research is in Partnerships with industry/academia and the third sector.

Our drug delivery research looks at optimising formulation for drug, nucleic acid and nanoparticle delivery drug delivery focusing on delivery of drugs, genes and vaccines including controlled release formulations for a range of diseases. We also research and develop novel materials and devices for drug delivery and our researchers are currently primary Investigators in the international academics/clinical Industry and patient group collaborative –"Children's Brain Tumour Drug Delivery Consortium".

**Pharmaceutical Materials and Manufacture**
This group undertakes high-quality basic and applied research relating to the development and manufacture of drug substances and products. Research builds on expertise in physical and material science, pharmaceutical technology, and formulation and advanced processing to translate new and existing chemical entities into safe, effective and high-quality medicines. The main areas of focus are: pharmaceutical science, formulation and drug delivery and Continuous Manufacturing and Crystallisation.

**Pharmacoepidemiology and Health Care Research**
Within this theme, our aim is to maximise the use of Scotland's rich health informatics datasets, including the new individual-level prescribing dataset, to support stratified medicine approaches and investigate the impact of interventions on public health. The programme focuses on medicine adherence, clinical outcomes, and toxicities in real-world clinical practice.

We lead the Farr Institute pharmacoepidemiology programme. This focuses on cardiovascular and immunological therapies and we have complementary programmes in respiratory disease, cancer and infection.

# Doctor of Pharmacy
DPharm

## Why study this programme at Strathclyde?

- Undertake the programme at your place of work
- Gain the skills to undertake research within the NHS
- Suitable for practising pharmacists in hospital clinical and community practice, and technical services
- Link your research to your role as a pharmacist

### Course Structure
You take taught classes in the first year of the programme. The remainder of the time is spent on a research project in your area of practice.

### Compulsory Classes
- Clinical Skills
- Research Skills
- Literature Review

### Course Duration
36 months full-time; 48 months part-time

### Entry Requirements
First- or second-class Honours degree in Pharmacy, or overseas equivalent. For recent Pharmacy graduates, this will be the degree of MPharm with merit or distinction. Applications will also be considered from candidates holding other qualifications.

Candidates are normally required to be registered with the General Pharmaceutical Council as a pharmacist in the UK; or with the relevant professional body in the EU (including EEA countries); or may be registered as a pharmacist in a country outside the EU.

All candidates must have identified and secured an area of practice in which to conduct their research prior to applying.

For students with appropriate qualifications and experience, credit for prior learning may be awarded. Applicants who think that they may be suitable for this should contact the Institute.

# Master by Research Programmes
MRes

## Why study this programme at Strathclyde?

- Gain laboratory-based training in research methods
- Contribute to research-oriented activities in the biomedical industries, the health sector or academia
- Develop skills in discipline-specific research, statistics, ethics and communication

### Course Structure
The programme is mainly focused on research. You will spend approximately two-thirds of your time undertaking a laboratory-based research project, supervised by an academic member of staff, in one of the following areas:

- Biomedical Sciences
- Microbiology
- Immunology
- Pharmacology
- Biochemistry

### Compulsory Classes
- Biomedical and Pharmaceutical Research Skills
- Advanced Techniques and Topics in one of our research areas
- Research Project

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in a biology/pharmaceutical-related subject. Other qualifications may also be considered.

# Advanced Biochemistry/Immunology/Pharmacology
MSc

## Why study this programme at Strathclyde?

- Specialise in one of three fundamental research areas
- Develop a range of current and relevant laboratory skills
- Benefit from teaching by active researchers and practising clinical professionals
- Gain in-depth understanding of the life sciences

## Course Structure
**Compulsory Classes**
- Generic Skills for Biomedical & Pharmaceutical Students
- Entrepreneurship
- Postgraduate Studies in Advanced Biochemistry/Advanced Immunology/Advanced Pharmacology
- Advanced Topics in Biomedical Research
- Advanced Techniques in Biomedical Research

**Optional Classes**
- *In Vivo* Biology
- Drug Discovery
- Postgraduate Studies in Haematology
- Postgraduate Studies in Clinical Biochemistry/Clinical Immunology/Pharmacology
- Postgraduate Studies in Applied Biochemistry/Applied Immunology/Applied Pharmacology

**Research Project**
In addition, students undertake a three-month research project which is assessed through a written thesis.

## Course Duration
12 months full-time

## Entry Requirements
Second-class Honours degree, or equivalent, in a biological or chemical discipline.

# Advanced Clinical Pharmacy Practice
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Choose classes that address specific practice and personal development needs
- The Independent Prescribing qualification is included as an optional element in the course
- Study in a small peer-group learning environment

## Course Structure
Classes are chosen from within the following themes:

**Therapeutics Toolkit**
- Advanced Clinical Assessment and Consultation Skills
- Advanced Therapeutics and Health Innovation
- Clinical Practice Attachment

**Health Service Quality Improvement Toolkit**
- Pharmacist Independent Prescribing
- Clinical Service Development
- Quality Improvement Methodology

**Research Toolkit**
- Research Skills
- Research Project

The Independent Prescribing (IP) qualification is included in the course as an optional class; practitioners who have already completed the IP qualification will receive 30 credits for prior learning and the requirements for each award will be reduced correspondingly.

## Course Duration
A maximum of five years is allowed from the point of first registration to complete the award of an MSc.

## Entry Requirements
A degree in Pharmacy from a UK university or an equivalent qualification, and registration with the General Pharmaceutical Council.

# Advanced Drug Delivery

MSc

## Why study this programme at Strathclyde?

- Develop understanding of the biology of specific targets for drug-based intervention
- Learn about and apply the principles of design and formulation of drug dosage systems
- Gain specialist research skills and practical experience

### Course Structure
**Compulsory Classes**
- Skills for Pharmaceutical Students
- Pharmaceutical Formulation and Clinical Pharmaceutics
- Chemical and Spectroscopic Methods
- Pharmaceutical Project Management
- Novel Therapeutics and Biopharmaceuticals
- Advanced Topics in Drug Delivery

**Research Project**
In addition, students undertake a 10-week research project which is assessed through a written thesis.

### Course Duration
12 months full-time

### Entry Requirements
Second-class Honours degree, or equivalent, in a biological or chemical discipline.

# Advanced Pharmaceutical Manufacturing

MSc

## Why study this programme at Strathclyde?

- You will be equipped to take up jobs in the food, chemical and pharmaceutical industries
- Undertake a 10-week research project
- Learn about key aspects of manufacturing approaches for pharmaceuticals and high-value chemicals

### Course Structure
**Compulsory Classes**
- Generic Biomedical and Pharmaceutical Research Skills
- Continuous Manufacturing of Pharmaceutical Particles and Products
- Crystallisation and Formulation for Manufacture
- Industrial Pharmacy
- Pharmaceutical Project Management
- Process Analytical Technology and Quality by Design in Continuous Pharmaceutical Manufacturing

**Research Project**
In addition, students undertake a 10-week research project, either at the University or at an external company or organisation, and submit a thesis.

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, ;in science or engineering.

# Biomedical Sciences

MSc

## Why study this programme at Strathclyde?

- Opportunity to select a clinically-oriented or basic life science research pathway
- Develop skills in statistics, communication, ethics, science writing and experimental data analysis
- Gain experience in the research funding process

### Course Structure
**Compulsory Classes**
- Generic Skills for Biomedical and Pharmaceutical Students
- Entrepreneurship
- Advanced Techniques in Biomedical Research
- Advanced Topics in Biomedical Research

**Optional Classes**
- *In Vivo* Biology (practical class)
- Drug Discovery (practical class)
- Postgraduate Studies in Pathology
- Postgraduate Studies in Haematology
- Postgraduate Studies in Clinical Biochemistry/ Clinical Immunology/Clinical Pharmacology/ Clinical Microbiology

**Research Project**
In addition, students undertake a 10-week research project which is assessed through a written thesis.

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in a biological or chemical discipline.

# Cancer Therapies

MSc

## Why study this programme at Strathclyde?

- Focus on anti-cancer treatment therapies, with a particular emphasis on personalised medicine
- Gain the skills to contribute to the global drive to advance cancer treatment
- Learn about cancer drug discovery development

### Course Structure
**Compulsory Classes**
- Biomedical and Pharmaceutical Research Skills
- Entrepreneurship
- Advanced Techniques in Biomedical Research
- Entrepreneurship, Innovation and Commercialisation
- Development and Design of Anti-Cancer Drugs
- Targeted Cancer Therapies for Personalised Medicine
- Radiobiology and Radiation Oncology: from beam to bedside
- Drug Discovery and Development in Cancer
- Scientific Writing

**Research Project**
In addition, students undertake a 10-week research project which is assessed through a written thesis.

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent in science or a health-related subject.

# Clinical Pharmacy
MSc

## Why study this programme at Strathclyde?

- Teaching is mostly by GPhC-registered pharmacists
- Undertake experiential learning in a variety of clinical practice environments
- Benefit from advanced training to become a safer and more effective practitioner of pharmaceutical care

### Course Structure
**Semester 1**
Classes introduce key concepts and skills associated with the delivery of clinical pharmaceutical care, including pharmaceutical care planning, communication skills, the role of evidence-based practice and clinical research.

**Semester 2**
Classes focus on specific areas of clinical therapeutics with a focus on polypharmacy, medicine reconciliation and the application of clinical guidelines to clinically manage patients with multiple or complex morbidities.

**Research Project**
In addition, students undertake a three-month individual research project investigating a specific clinical topic. Project output will be written in the format of a clinical research paper.

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
MPharm or an overseas equivalent of a degree in Pharmacy at the same academic level. Minimum 12 months of clinical experience post-qualification as a practising pharmacist.

# Industrial Biotechnology
MSc

## Why study this programme at Strathclyde?

- The course is designed to respond to industry needs and is at the forefront of developments in biotechnology
- Undertake a 10-week placement and research project
- Benefit from the expertise of staff from academic institutions across Scotland and industry partners

### Course Structure
**Compulsory Classes**
- Bioprocessing
- Applied Biocatalysis
- Synthetic Biology
- Introduction to Bioinformatics for Life Scientists
- Introduction to Scientific Programming
- Downstream Processing

**Optional Classes**
- Introduction to Industrial Biotechnology and its Governance
- Blue Biotechnology
- Renewable Energy Technologies
- Resource Efficient Formulation
- Case Studies in Supply Chain Management
- Advanced Project Management

**Research Project**
In addition, students undertake a 10-week placement, typically hosted in one our industry partners, working on an industrially-relevant project on which they write and present a formal report.

### Course Duration
12 months full-time; 24 months part-time

### Entry Requirements
Upper second-class Honours degree, or overseas equivalent, in biology, biotechnology, chemistry, chemical engineering or a related subject.

Other qualifications and industrial experience may be considered.

# Molecular Microbiology

MSc

## Why study this programme at Strathclyde?

- Develop knowledge and skills in areas such as genomics, molecular genetics and synthetic biology
- Gain transferable skills in statistics, communication, ethics, science writing and critical analysis of data
- Design experiments and analyse complex datasets

### Course Structure

**Compulsory Classes**

- Generic Skills for Biomedical and Pharmaceutical Students
- Entrepreneurship
- Postgraduate Studies in Microbiology
- Advanced Microbiology
- Advanced Topics in Biomedical Research
- Advanced Techniques in Biomedical Research

**Optional Classes**

- *In Vivo* Biology
- Drug Discovery
- Postgraduate Studies in Clinical Microbiology
- Postgraduate Studies in Applied Microbiology

**Research Project**

In addition, students undertake a three-month molecular microbiology-related research project, with practical experience in the laboratory, which is assessed through a written thesis.

### Course Duration

12 months full-time; 24 months part-time

### Entry Requirements

Second-class Honours degree, or equivalent, in a biological or chemical discipline.

# Pharmaceutical Analysis

MSc

## Why study this programme at Strathclyde?

- Gain skills in the analytical techniques used to detect, identify and quantify drugs and related substances
- Examine strategies for analytical research and development
- Gain experience in instrumentation and techniques

### Course Structure

**Compulsory Classes**

- Chemical and Statistical Analysis
- Spectrophotometric and Spectroscopic Methods
- Chromatography
- Bioanalysis, Biotechnology and Quality Management (lab class)
- Chemical and Spectroscopic Methods (lab class)
- Chromatographic and Bioanalytical Methods

**Research Project**

In addition, students undertake a laboratory-based research project either in house or at an external collaborative partner.

### Course Duration

12 months full-time or 24 months part-time, depending on entry qualifications

### Entry Requirements

Second-class Honours degree, or overseas equivalent, in an appropriate science.

# Pharmaceutical Quality and Good Manufacturing Practice

MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain an understanding of the pharmacology and chemistry of medicinal products
- Benefit from a unique collaboration with NSF Health Sciences, leading experts in the pharmaceutical and medical devices industries

### Course Structure
**Compulsory Classes**

The training, based on the European-approved study guide, is provided in a unique collaboration with NSF Pharma-Biotech who organise the classes. The theoretical elements are usually held at a venue in York and the practical element at the University of Strathclyde.

- Pharmaceutical Law and Administration
- Medicinal Chemistry and Therapeutics
- Pharmaceutical Formulation and Processing
- Pharmaceutical Microbiology
- Active Pharmaceutical Ingredients
- Mathematics and Statistics
- Analysis and Testing
- Pharmaceutical Packaging
- Quality Management Systems
- Investigational Medicinal Products
- The Role and Professional Duties of a QP
- Practical (at the University of Strathclyde)

**Research Project**

Students undertake a research project, normally at their workplace.

### Course Duration
24 months part-time

### Entry Requirements
Relevant first degree in a pharmaceutical, biological or chemical discipline, or equivalent and, preferably, experience in the pharmaceutical industry.

Registration with NSF Pharma-Biotech (www.nsf.org/services/by-industry/pharma-biotech) and payment of their fee for each module is essential, in addition to registration with the University.

# Pharmacy Practice – Clinical

MSc

## Why study this programme at Strathclyde?

- Gain an overview of pharmacy practice in the UK
- Spend 50% of your time in professional experiential learning
- Develop understanding of contemporary clinical pharmacology and pharmacokinetics

### Course Structure

There are two parts to the course – one half will be spent on campus undertaking taught classes and the other in the National Health Service.

**Compulsory Classes**
- Essential Clinical Therapeutics
- Health Service: Quality Improvement
- Pharmaceutical Services
- Clinical Pharmacy Management
- Advanced Clinical Therapeutics

**Experiential Learning**

This part of the course is mainly delivered in NHS hospitals, with specialist material delivered in community pharmacies. It is assessed as a single class but underpins the teaching and learning in the other classes.

### Course Duration
18 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in Pharmacy.

"

I chose Strathclyde, partly because of its reputation and also on the advice of friends who have studied here. I've found the course to be of a high quality with the right mix of theoretical and practical classes.

University in Italy is very different to Scotland. Here there are many group projects which allow you to exchange opinions and points of view with your classmates. In Italy there are mostly exams.

I've found Strathclyde extremely welcoming and Glaswegians are so friendly that in a short space of time you consider Glasgow your second home.

**MARA TORRES, FROM ITALY**
**MSc HUMAN RESOURCE MANAGEMENT**

"

AACSB ACCREDITED

ASSOCIATION OF MBAs ACCREDITED

EFMD EQUIS ACCREDITED

# STRATHCLYDE BUSINESS SCHOOL

Founded in 1948, Strathclyde Business School
is a socially-progressive academic organisation
within a leading international technological university

**Strathclyde Business School has held triple accreditation from the three main business school accreditation bodies – AMBA, EQUIS and AACSB – since 2004. We were the first business school in Scotland to achieve triple accreditation.**

We have a reputation for research excellence. We develop theory-led, policy-relevant research through collaboration with industry, government, business and the third sector. Our industry-facing research centres of excellence, which work with industry partners, include the Fraser of Allander Institute, the Scottish Centre for Employment Research, the Strathclyde Institute for Operations Management and the Centre for Financial Regulation and Innovation. Based on the REF (Research Excellence Framework) 2014 GPA scores, the Times Higher Education ranked us No 1 in Scotland and in the top 10 business schools in the UK for our research.

Our departments and programmes hold internationally-recognised industry accreditations.

Our departments are accredited by expert professional bodies such as CIMA, ICAS and CIPD.

Strathclyde is also the first business school in Scotland, and one of only five in the UK, to be awarded the Small Business Charter Gold Award. This award recognises our world-leading support for scaling Scottish firms through innovation, internationalism and leadership.

Strathclyde Business School is a signatory of the UN's Principles for Responsible Management Education. This commits us to supporting the transformation of management education, research and thought leadership by developing learning communities and promoting awareness of the UN's Sustainable Development Goals.

## Contact
SBS Student Recruitment and Marketing Unit
**t:** +44 (0)141 553 6118/9
**e:** sbs.admissions@strath.ac.uk

# Research & Faculty Degrees

## Research Methodology in Business and Management
MRes/PgDip/PgCert

### RESEARCH DEGREES
MRes, MPhil, PhD, DBA

### TAUGHT COURSES
Research Methodology in Business and Management
Master of Business Administration (MBA)

Strathclyde Business School offers an impressive portfolio of general and specialised business degrees. The following programmes attract teaching and academic input from across the School, and from other partner institutions.

### Research Degrees Training and Support
Research degrees (MRes, MPhil, PhD and DBA) are offered in all academic departments (see departmental sections for key research themes). The Research Methodology programme provides a grounding in research methodologies in management disciplines. Candidates undertake a set of core research methodology classes, generally in their first year of study; other classes in research skills and training are available. In addition, the University's Researcher Development programme provides workshops, courses and events to enhance professional and personal development.

### Research Funding
The University offers a variety of fully-funded studentships, all of which are competitive and tenable for three years' full-time study. They cover applicable fees, plus an annual stipend of approximately £14,000. Candidates should hold a first-class Honours undergraduate degree, or a Masters degree with Distinction, in a relevant business and management or related discipline.

### Doctor of Business Administration (DBA)
The DBA degree is offered in all departments of the Business School. It combines advanced instructional elements with original research at doctoral level. With a focus on researching in a practical context, it will appeal to experienced managers; projects will be defined by their interest in the real-time dynamic processes and practices of organisation and management. Instructional elements include classes in Research Methods, Research Philosophy and specialist topics relevant to your research. Research elements comprise literature review, pilot study, and supervised research leading to a thesis which is based on original research, typically 50,000 - 60,000 words, examined by viva.

### DBA Entry Requirements
Masters or Honours degree, or equivalent overseas qualification, and business and management experience appropriate to the research being undertaken.

## Why study this programme at Strathclyde?

- Suitable as a foundation course for a PhD in business and management
- Study full-time or part-time
- Choose from classes across the Business School
- Research training following ESRC and EPSRC guidelines

### Course Structure
**Compulsory and Optional Classes**
- Research Philosophy
- Research Methods
- Interdisciplinary Collaborative Research
- Introduction to Quantitative Methods: Survey Design and Analysis
- Advanced Quantitative/Qualitative Methods
- Research Colloquium
- Writing and Presenting Research
- Choice of classes from across the Business School

### Masters Dissertation
Masters students submit a dissertation of around 20,000 words.

### Programme Duration
**MRes:** 12 months full-time
**PgDip:** 9 months full-time
**PgCert:** 4 months full-time

The course is offered on a full-time or part-time basis. Classes run for two to five consecutive days once a month from October to May. Students studying part-time will be able to complete their programme over two academic years.

### Entry Requirements
Masters degree or a first- or upper second-class Honours degree, or overseas equivalent, in business and management.

### Contact for Research Degrees
e: sbs.admissions@strath.ac.uk

# Master of Business Administration

MBA

## Why study this programme at Strathclyde?

- Gain an internationally-recognised qualification
- Learn in a cross-cultural environment
- Study strategy with internationally-acclaimed academics
- Develop confidence as a manager and leader
- Improve your career prospects or change career direction

## Study Themes and Classes

### The Reflective Practitioner

- The Learning Manager
- Comparative Corporate Governance
- Entrepreneurial Management and Leadership

### Making the Business Work

- Finance and Financial Management
- Financial and Management Accounting
- Operations Management
- Marketing Management
- Analytical Support for Decision-making
- Managing People in Organisations

### Strategic Management for Sustainable Success

- Exploring the International Business Environment
- Strategy Analysis and Evaluation
- Making Strategy
- Technology and Innovation

### Personal Development

- Strategic Consulting in Practice – you work as part of a team for a client on an organisational issue; the client will have significant input into the evaluation of the class and your team's performance
- Elective classes – choose from more than 25 classes taught by subject specialists; alumni can choose one additional elective each year for three years post-graduation at no additional cost

## MBA Project

The MBA project provides an opportunity to examine in depth a managerial, organisational or environmental issue of your choice over an extended period of time. It can be done on an individual basis or as part of a group. The project enables you to put into practice the knowledge and skills you have developed throughout the programme. We have close links with industry and can offer a number of company-sponsored projects many of which can lead to internships.

## Professional Development Journey

As part of our MBA career support we offer a Career and Professional Development Programme, designed to establish career development and job search skills. Workshops and seminars are offered on key career skills such as interviews, presentations, networking and CV building. Our students have access to an accredited careers and leadership coach to work on personal career strategies. All students and alumni have access to our online Career Management Site.

## Flexible Study Options

The Strathclyde MBA is very flexible; study options include:

- full-time (12 months intensive study in Glasgow)
- part-time/executive (evening classes in Glasgow over two to three years or at the Business School's eight international centres)
- flexible learning (combination of off-campus study combined with intranet tutor support and attendance at intensive seminars in Glasgow, three to five years)

We also offer an MBA with a specialism in Leadership Studies, in association with the Leadership Trust Foundation, which is provided via our flexible learning route.

## Entry Requirements

A good first degree is expected and applicants must be at least 24 years old, have a minimum of three years' postgraduate managerial/professional experience and be able to demonstrate career progression.

Applicants who hold non-degree/professional qualifications, are expected to have at least five years' varied management/professional experience with demonstrable career progression.

Candidates with no formal qualifications require extensive and varied managerial/professional experience of 10 years or more, with sustained career progression.

For applicants whose first language is not English, an IELTS minimum overall band score of 6.5 (with no individual test score below 5.5).

Strong verbal reasoning and numerical abilities are critical for the MBA and we may ask for a GMAT result (min 600).

Candidates will be interviewed.

## Contact

**t:** +44 (0)141 553 6118/9
**e:** sbs.admissions@strath.ac.uk

# Department of Accounting and Finance

**RESEARCH DEGREES**
DBA in Accounting or Finance
PhD in Accounting or Finance

**Contact for Research Degrees**
**Accounting:** Dr Julia Smith
**t:** +44 (0)141 548 4958
**e:** julia.smith@strath.ac.uk

**Finance:** Dr Chandra Thapa
**t:** +44 (0)141 548 3891
**e:** chandra.thapa@strath.ac.uk

**TAUGHT COURSES**
Finance
International Accounting and Finance
International Banking and Finance
Investment and Finance
Finance and Management
Financial Technology (FinTech)
Economics and Finance (in collaboration with the Department of Economics, see pg 150)
Global Energy Management (in collaboration with the Department of Economics, see pg 150)
Quantitative Finance (in collaboration with the Departments of Mathematics & Statistics and Computer & Information Sciences)

**Contact for Taught Courses**
SBS Student Recruitment and Marketing Unit
**t:** +44 (0)141 553 6118/9
**e:** sbs.admissions@strath.ac.uk

MSc Finance, MSc International Accounting and Finance, MSc International Banking and Finance and MSc Investment and Finance have all been accepted into the Chartered Financial Analyst (CFA) Institute University Recognition Program. This status is granted to institutions whose degree programme(s) incorporate at least 70% of the CFA Programm Candidate Body of Knowledge (CBOK), and which provide students with a solid grounding in the CBOK and positions them well to sit for the CFA exams.

The Department has been ranked No 1 in the UK for Accounting and Finance by the Complete University Guide 2019, and also No 1 in the 2018 Times Good University Guide. It is one of the UK's major centres of research in finance and has an international profile.

**Research Areas**
We cover all areas of accounting and finance, with particular expertise in corporate finance, treasury management, derivative markets, bond markets, portfolio performance, volatility in financial markets, international banking, critical accounting, management accounting, social, environmental and public sector accounting, issues relating to privatisation and regulation of utilities, development finance and small business finance and accounting.

Our research activities are supported by subscription to an extensive set of comprehensive databases, internal workshops, seminar series and financial support for conference participation.

**Accounting**
Research topics include:

- economic, political and social impact of accounting on our everyday lives
- financial reporting standard for smaller entities
- assessment of environmental risk in the financial sector

**Finance**
Research topics include:

- investment strategies
- corporate finance
- risk management
- corporate governance
- financial econometrics

**Facilities for Research Students**
Students have access to the Datastream (global economic, financial and accounting data) which includes IBES earnings forecasts, SDC Platinum, Thomson One, Compustat, Execucomp, CRSP (Centre for Research in Securities Pricing), London Business School Share Price Database data and Bloomberg.

**Entry Requirements for Research Degrees**
**PhD in Accounting:** Honours degree and Masters degree in accounting (or equivalent). Qualified and part-qualified accountants with first degree in social sciences or humanities are also encouraged to apply.
**PhD in Finance:** Masters degree or equivalent, particularly in finance, economics, accounting or mathematics.

# Finance
MSc/PgDip

## Why study this programme at Strathclyde?

- Accredited by the Chartered Institute of Management Accountants
- Develop understanding of financial theory and analysis
- Learn about financial markets and institutions
- Specialise in finance for developing countries

### Course Structure
**Compulsory Classes**

- Principles of Finance
- Accounting and Financial Analysis
- Quantitative Methods for Finance
- International Financial Markets and Banking
- Advanced Corporate Finance and Applications
- Derivatives and Treasury Management

**Optional Classes** (two to be chosen)
- Portfolio Theory and Management
- Empirical Methods in Finance
- Behavioural Finance
- Management Accounting
- Security Analysis

**Dissertation or three research projects (MSc only)** – supported by an academic supervisor, you will either work on a series of research projects or a dissertation. Topics can be chosen from the broad range of issues covered on the programme. You will be assessed on your ability to select and apply relevant theory and research methods. This work may be linked to an issue raised by, or a problem to be solved for, an employer.

Diploma students who achieve an appropriate standard may transfer to the MSc.

### Duration of Programme
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
Honours degree, or overseas equivalent, in accounting, economics, business studies or a subject area with a strong quantitative bias.

The programme requires no prior knowledge of finance.

"I've been working for private and public organisations in Thailand and I chose Strathclyde for an MSc in Finance because of the University's rankings and its student focus. My professors are very helpful and approachable whenever I've had any questions.

Developing my knowledge, particularly in the field of finance, will give me an advantage in my future career when I return to my home country."

**NING JITTANONDA, FROM THAILAND**
MSc FINANCE

# International Accounting and Finance
MSc/PgDip

## Why study this programme at Strathclyde?

- Accredited by the Chartered Institute of Management Accountants
- Gain awareness of international accounting standards
- Study financial management and securities markets
- Learn to apply analytical techniques in practice

### Course Structure
**Compulsory Classes**
- Principles of Finance
- Accounting and Financial Analysis
- Quantitative Methods for Finance
- International Financial Markets and Banking
- Advanced Corporate Finance and Applications
- Advanced Accounting
- Management Accounting

**Optional Classes** (one to be chosen)
- Security Analysis
- Portfolio Theory and Management
- Empirical Methods in Finance
- International Accounting

**Dissertation or three research projects (MSc only)** – supported by an academic supervisor, you will either work on a series of research projects or a dissertation. Topics can be chosen from the broad range of issues covered on the programme. You will be assessed on your ability to select and apply relevant theory and research methods. This work may be linked to an issue raised by, or a problem to be solved for, an employer.

Diploma students who achieve an appropriate standard may transfer to the MSc.

### Duration of Programme
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
Upper second-class Honours degree, or overseas equivalent, in accounting, economics, business studies, maths, statistics or computing.

# International Banking and Finance
MSc/PgDip

## Why study this programme at Strathclyde?

- Accredited by the Chartered Institute of Management Accountants
- Understand financial theory and analysis
- Learn about financial markets and institutions
- Use accounting information in financial decision-making

### Course Structure
**Compulsory Classes**
- Principles of Finance
- Accounting and Financial Analysis
- Quantitative Methods for Finance
- International Financial Markets and Banking
- Topics in Corporate Finance
- Financial Management for Banks
- Derivatives and Treasury Management
- Risk Management for Banks

**Optional Classes** (one to be chosen)
- Security Analysis
- Portfolio Theory and Management
- Empirical Methods in Finance
- Management Accounting
- Behavioural Finance

**Dissertation or three research projects (MSc only)** – supported by an academic supervisor, you will either work on a series of research projects or a dissertation. Topics can be chosen from the broad range of issues covered on the programme. You will be assessed on your ability to select and apply relevant theory and research methods. This work may be linked to an issue raised by, or a problem to be solved for, an employer.

Diploma students who achieve an appropriate standard may transfer to the MSc.

### Duration of Programme
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
An Honours degree, or overseas equivalent, in accounting, economics, business studies or a subject area with a strong quantitative bias.

The programme requires no prior knowledge of finance or banking.

# Investment and Finance

MSc/PgDip

## Why study this programme at Strathclyde?

- Accredited by the Chartered Institute of Management Accountants
- Gain understanding of derivatives
- Learn to develop investment strategies
- Understand quantitative analysis used in finance

## Course Structure

**Compulsory Classes**
- Principles of Finance
- Accounting and Financial Analysis
- Quantitative Methods for Finance
- International Financial Markets and Banking
- Topics in Corporate Finance
- Derivatives and Treasury Management
- Security Analysis
- Portfolio Theory and Management

**Optional Classes** (one to be chosen)
- Empirical Methods in Finance
- Behavioural Finance

**Dissertation or three research projects (MSc only)** — supported by an academic supervisor, you will either work on a series of research projects or a dissertation. Topics can be chosen from the broad range of issues covered on the programme. You will be assessed on your ability to select and apply relevant theory and research methods. This work may be linked to an issue raised by, or a problem to be solved for, an employer.

Diploma students who achieve an appropriate standard may transfer to the MSc.

## Duration of Programme

**MSc:** 12 months full-time
**PgDip:** 9 months full-time

## Entry Requirements

An Honours degree, or overseas equivalent, in accounting, economics, business studies or a subject area with a strong quantitative basis. Applications are also considered from those with appropriate professional qualifications and relevant practical experience.

# Finance and Management

MSc

## Why study this programme at Strathclyde?

- Gain knowledge of financial and management principles
- Understand how organisations work
- Develop technical and analytical skills
- Opportunity to study at Toulouse Business School
- Undertake a project in each subject area

## Course Structure

The programme is offered jointly by the Departments of Accounting & Finance and Strategy & Organisation.

**Compulsory Classes**
- Principles of Finance
- Accounting and Financial Analysis
- International Financial Markets and Banking
- Professional Management Practice

**Optional Classes** (minimum of one to be chosen)
**Finance**
- Behavioural Finance
- Topics in Corporate Finance
- Security Analysis
- Managerial Accounting
- Derivatives

**Management** (minimum of one to be chosen)
- Global Business Environment
- Project and Programme Management
- Developing Effective Consulting Skills
- Managing in Europe (at Toulouse Business School, France)
- Marketing Management

**Masters Project**
Students complete a research project in each subject and take classes in Business Strategy and Project Methodology.

## Duration of Programme

12 months full-time

## Entry Requirements

An upper second-class Honours degree, or overseas equivalent, in economics, accounting, business studies, maths, statistics, computing, related subjects, or an equivalent professional qualification.

# Financial Technology (FinTech)
MSc/PgDip

## Why study this programme at Strathclyde?

- Combine the study of theory with intensive practice and industrial engagement.
- Understanding how the use of technology improves the efficiency of financial transactions
- Opportunity to undertake client-based project

### Course Structure
The programme is offered jointly by the Departments of Accounting & Finance and Management Science.

**Compulsory Classes**
- Principles of Finance
- Regulations and Technology
- Quantitative Business Analysis
- Big Data Fundmentals
- Business Analytics
- Business Information Systems
- Security Analysis
- Risk Management for Banks
- Becoming an Effective Technology Analyst

**Optional Classes** (choose one from each subject area)
**Accounting & Finance**
- Portfolio Theory and Management
- Derivatives
- Financial Management for Banks

**Management Science**
- Stochastic Modelling for Analytics
- Business Simulation Modelling
- Risk Analysis and Management

**Computer Science**
- Big Data Tools and Techniques
- Fundamentals of Machine Learning for Data Analytics

**Masters Project**
Students complete a FinTech-focused research project.

### Duration of Programme
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time

### Entry Requirements
An Honours degree, or overseas equivalent, in accounting, economics, business studies, or a subject area with a strong quantitative bias. No prior knowledge of finance required.

# Quantitative Finance
MSc

## Why study this programme at Strathclyde?

- Prepare for a career in financial engineering and risk mangement, hedge fund manager or financial analyst
- Understand numerical methods in finance
- Study programming for financial applications
- Undertake an industrial-based project

### Course Structure
This one-year cross-faculty programme draws on expert input from three departments – Accounting & Finance, Mathematics & Statistics, and Computer & Information Sciences.

**Compulsory Classes**
- Foundations of Mathematical and Statistical Finance
- Principles of Finance
- International Financial Markets and Banking
- Big Data Technologies

**Optional Classes** (one to be chosen from each list)
**List A**
- Behavioural Finance
- Security Analysis
- Portfolio Theory and Management
- Derivatives and Treasury Management

**List B**
- Database and Web Systems Development
- Machine Learning for Data Analytics
- Evolutionary Computation for Finance

**List C**
- Financial Stochastic Processes
- Financial Econometrics
- Networks in Finance

### Duration of Programme
12 months full-time

### Entry Requirements
Second-class Honours degree, or overseas equivalent, in engineering, science subjects (physics, chemistry, computing science), business subjects (business studies, accounting, economics; mathematical training to A Level or equivalent standard.

Applications are also welcome from those with appropriate professional qualifications, or those who can demonstrate relevant practical experience.

"As an MSc Financial Technology student, I'm absorbing knowledge about different aspects of technology. I am a member of the Decentralised Society which was created by a group of fellow students on the FinTech course with the aim of raising awareness of and driving forward the decentralised technologies including blockchain and cryptocurrencies. The role that I am undertaking in the society is outreach with a project called "Women in FinTech" allowing technology to be more accessible to different backgrounds and genders, especially females."

**IRIS JIANG**
MSc FINANCIAL TECHNOLOGY

"My course at Strathclyde equipped me with analytical, problem-solving and data analysis skills. I also gained insight into the fixed income and equity markets. The opportunity to work on real-life projects developed the skill set I need in my current role which involves providing financial advisory services and raising sources of funds for the Project and Structured Finance Unit of a bank.

Studying a course which combines maths, finance and computer programme was the perfect opportunity to advance my career."

**MARYAM ABDUL-RAHMAN, FROM NIGERIA**
MSc QUANTITATIVE FINANCE GRADUATE

# Department of Economics

The Department is one of the leading UK centres for internationally-recognised policy and business-relevant economics research. We have a diverse mix of staff involved in both fundamental academic research and commissioned projects for businesses and policy-makers. This creates a highly productive and supportive environment for learning.

Our staff are engaged in collaborations with economists throughout the UK and overseas. We are members of the Scottish Institute for Research in Economics and jointly organise (with Johannes Kepler University Linz) the European Trade Study Group, the world's largest conference on international trade. We are also a founding partner in the new Economic Statistics Centre of Excellence for the UK Office for National Statistics (ONS).

Recent and current research activity is supported by a highly diverse range of prestigious sources, including the ESRC, the EPSRC, the Scottish Government, the UK statistics department, the UK Energy Research Centre, and the Scottish Funding Council.

The Department is also home to the Fraser of Allander Institute (FAI), which has for more than 40 years been Scotland's authority on economic policy and the Scottish economy. Our students have a variety of opportunities to engage with the FAI during their studies, including sponsored dissertations with businesses, summer internships in the Institute and a vibrant practitioner seminar series.

The Department is an active participant in the Scottish Graduate Programme in Economics and the Scottish Graduate School of Social Science.

## Research Areas

### Applied Microeconomics
Our research analyses the market behaviours of consumers and businesses. We apply them to areas such as industrial organisation and international trade. Research areas include international trade theory and policy, public economics, and strategic behaviour in markets.

### Applied Econometrics
We apply statistical and mathematical theories to economics in order to test ideas and forecast regional, national and global trends. Our research covers fields such as big data methods in macroeconomics, multiple imputation methods for cross-country panel data, foreign direct investment and economic growth, time series econometrics and spatial econometrics for environmental and criminological applications.

### Applied Macroeconomics
Our research, led out of the Fraser of Allander Institute, examines how the economy performs and evolves at a national level, with a particular focus on applications to real-world challenges facing policy-makers and business. Areas of research include macro-modelling of the UK and Scottish economies, developing new data measures of the modern economy, spatial econometrics and econometric nowcasting, policy evaluation, and fiscal analysis.

### Energy Economics
We look at the economics of renewable energy in response to the policy and practical interests of both the Scottish and UK governments. Research interests cover fields such as energy-economy-environmental modelling, energy efficiency, local, regional and national impacts of new renewable technologies, carbon markets and environmental standards, sustainable cities, energy policy and regulation, economics of climate change, environmental policy and accounting.

### Entry Requirements for Research Degrees
**PhD and MPhil** – a strong first degree in economics, or a degree in which economics was a major part, and a Masters degree in economics that includes core classes in Microeconomics, Macroeconomics, Econometrics, a range of other relevant classes and a dissertation.

**DBA** – MBA degree from an AMBA-accredited institution or a Masters degree containing a significant amount of Economics. You will also have a significant amount of work experience as a manager or consultant and we expect you to continue in a senior practice role throughout the programme. Ongoing support from your employer is also required.

# Applied Economics

MSc/PgDip

## Why study this programme at Strathclyde?

- Gain skills in data analysis and economic modelling
- Learn to apply economic techniques to real-world problems in business and policy
- Develop ability to interpret and understand key economic and financial statistics and information

### Course Structure

**Compulsory Classes**

- Fundamentals of Microeconomics
- Fundamentals of Macroeconomics
- Professional Development for Economists
- Analysis of Economic Data
- Economic Appraisal and Eocnomic Modelling
- Topics in Public Economics
- International Macroeconomics

**Optional Classes** (four to be chosen – two may be substituted with classes offered elsewhere in the Business School and the School of Government and Public Policy) Optional classes offered in Economics normally include:

- International Development
- Games of Strategy
- Environmental Economics
- Energy Economics
- International Trade

**Dissertation**

Students can write their dissertation on any of the broad range of topics covered on the programme. A number of business-sponsored dissertation topics are also available each year, with the opportunity to work on a project with a private, public or third sector organisation. Students can also apply to undertake their dissertation as part of an internship with the Fraser of Allander Institute.

Preparation for the dissertation will include participation in the Economics and Finance Forum, where students can learn from the experience of leading economics and finance professionals from business and government.

### Duration of Programme

12 months full-time; 24 months part-time

### Entry Requirements

A good Honours degree, or overseas equivalent.

"I first came to Strathclyde to study the MSc in Applied Economics which led into a PhD in the Department of Economics. My thesis focuses on wage setting behaviour and its impact on the market economy.

I work with two supervisors who are always available for constructive discussions. Their feedback on my work helps me to develop my ideas.

The Department is friendly and the diversity of research topics allows you to learn – even from entirely different areas of research."

**MARCO FONGONI, FROM ITALY**
PhD ECONOMICS

# Economics and Finance

MSc

## Why study this programme at Strathclyde?

- Enhance your knowledge and skills in a range of economics, finance, analysis and quantitative methods
- Learn to analyse, understand and explain complex economic and financial issues
- Develop specialised skills through choice of options

### Course Structure

The programme is jointly offered by the Department of Economics and the Department of Accounting & Finance.

**Compulsory Classes**

- Foundations of Business Economics
- Macroeconomic Policy and Applications
- Analysis of Economic Data
- Topics in Public Economics
- Principles of Finance
- Accounting and Financial Analysis
- International Macroeconomics
- Quantitative Methods

Plus either

- Advanced Corporate Finance and Applications OR Derivatives and Treasury Management

OR

- Topics in Corporate Finance, and Derivatives

**Optional Classes**

Students will be able to choose two classes offered across the Departments of Economics and Accounting & Finance.

**Dissertation**

Students undertake a challenging problem-focused or policy-relevant analysis and project. Preparation for this component will include participation in the Economics and Finance forum, which includes opportunities to benefit from the experience of economics and finance professionals from business, academia and government.

**Duration of Programme**

12 months full-time; 24 months part-time

**Entry Requirements**

Upper second-class Honours degree, or overseas equivalent, in economics, finance, business studies and management science. Applications are also welcome from candidates with strong career experience in a relevant field.

# Global Energy Management

MSc

## Why study this programme at Strathclyde?

- Acquire in-depth knowledge of global energy systems
- Benefit from practical training in the management of energy-related issues
- Gain practical insights from leading energy experts
- Accredited by the Energy Institute

### Course Structure

**Compulsory Classes**

- Global Energy Issues, Industries and Markets
- Global Energy Technologies, Impacts and Implementation
- Global Energy Policy, Politics, Business Structures and Finance
- Global Energy Forum
- Energy Economics
- Microeconomics OR Macroeconomics

**Optional Classes**

Choose from classes available in the Business School, Faculty of Engineering and the Faculty of Humanities & Social Sciences.

**Summer Project**

The summer project can take two forms – the research route and the industrial route. Both routes help students gain more problem-focused experience of relevance to the energy sector. In addition, both routes will enable and require students to apply knowledge gained on the course.

**Duration of Programme**

12 months full-time; 24 months part-time

**Entry Requirements**

Upper second-class Honours degree, or overseas equivalent. Applications are also welcome from candidates with significant high-calibre industry or government experience.

# Hunter Centre for Entrepreneurship

The Hunter Centre for Entrepreneurship is a research-oriented academic department with a focus on developing a better understanding of how entrepreneurs and their organisations can more successfully create new value for business and society. Research is conducted by nationally and internationally-recognised experts in high-growth, international, corporate, technology, family, rural, social and female entrepreneurship.

The Centre is a partner in the ESRC co-funded Enterprise Research Centre (in collaboration with Warwick, Aston and Imperial Business Schools).

We are at the heart of the Global Entrepreneurship Monitor (GEM) research programme, an annual assessment of levels of entrepreneurial activity in dozens of economies. The Centre has played a significant role in the international organisation of GEM since 2000 and is responsible for the Country Report for Scotland and, jointly with Aston Business School, the UK Report.

Researchers participate in a range of projects which are funded by the EU (business start-up, technology commercialisation, and growth rates), as well as funding councils in Norway (enterprise diversity, farm-based innovation, and family business succession) and in New Zealand (social entrepreneurship).

The Centre's international research impact is also evidenced through invited reviews for and editorial contributions to internationally-ranked entrepreneurship research journals, including the *Journal of Business Venturing*, *Entrepreneurship Theory and Practice*, *Small Business Economics*, and the *International Small Business Journal*.

Academic staff and PhD students regularly present their work at international conferences such as the Babson Kauffman Entrepreneurship Research Conference, the ECSB Research in Entrepreneurship and Small Business conference, the European Academy of Management conference and the US Academy of Management conference.

The international character of the Centre is also reflected in the heritage of many of our academic staff (Germany, Greece, Italy, Ireland, Bulgaria, US and Kenya) and of our PhD students (Botswana, Canada, Germany, Ireland, Kazakhstan, Portugal, Russia, Poland, Greece, Indonesia, Switzerland, the US and the Netherlands).

Our academic staff and PhD students regularly engage in university research exchanges in the US, Germany, France and New Zealand and also enjoy visiting posts (Norway, France, Finland, New Zealand).

## Research Themes
- Enterprise policy, education and economic development
- Growing innovative enterprises
- Global and international entrepreneurship
- Entrepreneurial management and leadership
- Enterprise and diversity
- Social enterprise, CSR and philanthropy
- Family business and enterprising households
- Entrepreneurial networking, social capital and society
- Entrepreneurial finance
- Entrepreneurship and the collaborative economy

# Entrepreneurship, Innovation and Technology

MSc

## Why study this programme at Strathclyde?

- Combine theoretical knowledge with practical skills
- Study a practical, career-focused programme
- Undertake a virtual incubation project to develop an innovative business opportunity
- Participate in entrepreneurship and innovation prizes

### Course Structure

**Compulsory Classes**
- Creativity and Opportunity Development
- Accountin and Financial Analysis
- Issues and Trends in Entrepreneurship, Innovation and Technology
- Data Lab
- Design Lab
- Sales Lab
- New Venture Creation
- Entrepreneurial Leadership and Resource Management
- Internationalisation and Growth Lab

**Optional Classes** (two to be chosen)
- Start-up Selling
- Entrepreneurial Management and Leadership
- Brand Management and Strategy
- Games of Strategy
- Managing Talent and Succession Planning
- Work, Wellbeing and Technology
- Circular Economy

**Virtual Incubator Project**
You work on a real-world innovation challenge. Using an innovative virtual platform, participants will collaborate with the UK ecosystem and go through a stage-gate model of developing and pitching their solution to potential investors.

### Duration of Programme
12 months full-time

### Entry Requirements
First- or second-class Honours degree, or overseas equivalent, in any discipline.

---

# Entrepreneurial Management and Leadership

MSc

## Why study this programme at Strathclyde?

- Large firms are looking for leaders and managers who can apply entrepreneurial thinking in a corporate setting
- Learn how to manage disruptive change processes resulting from new technologies
- Apply your learning in a hands-on summer project

### Course Structure

**Compulsory Classes**
- Creativity and Innovation Development
- Issues and Trends in Entrepreneurship, Innovation and Technology
- Managing People in Organisations
- Leadership for Change and Innovation
- Technology and Organisational Change
- Introduction to Entrepreneurial Finance
- Advanced Entrepreneurial Finance
- New Venture Creation
- Start-up Selling
- Entrepreneurial Management and Leadership

**Optional Classes** (two to be chosen)
- Entrepreneurial Leadership and Resource Management
- Brand Management and Strategy
- Games of Strategy
- Managing Talent and Succession Planning
- Work, Wellbeing and Technology
- Circular Economy

**Virtual Incubator Project**
You work on a real-world innovation challenge. Using an innovative virtual platform, participants will collaborate with the UK ecosystem and go through a stage-gate model of developing and pitching their solution to potential investors.

### Duration of Programme
12 months full-time

### Entry Requirements
First- or second-class Honours degree, or overseas equivalent, in any discipline.

# Department of Management Science

**TAUGHT COURSES**
Business Analysis and Consulting
Data Analytics
International Master in Industrial Management
Internationa Master in Project Mangement
Operational Research (distance learning)
Supply Chain and Logistics Management/Procurement
Management/Sustainability Management (offered
jointly with the Department of Design, Manufacture
and Engineering Management)

The Department of Management Science is one of the
leading Operational Research (OR) departments in the
UK. Research interests of staff span the spectrum of
management science activity. Many are internationally-
known – through their academic output and applied work
with government and business organisations. Through
applied research and consultancy, staff collaborate with
major organisations on new ways of dealing with complex
decisions.

We engage in a range of methodological approaches
to research including both qualitative and quantitative
methods. Our interests are in providing holistic decision
support and developing approaches to problem structuring,
model development, data analysis, model inference and
decision support.

We develop our methods to meet the needs of users
with a variety of applications. In the UK, we work with 15
universities and collaborate internationally with academics
from 45 universities. Currently, we are working on funded
research projects with academics from each of the other
departments within Strathclyde Business School, as well
as the Engineering and Science faculties.

## Research Areas

### Health Systems

The health systems research cluster is interested in
the applications of management science in healthcare
organisation and delivery. Our work has close links with
health economics, optimisation, operations management
and demography. On-going projects include health
technology assessment and programme evaluation,
healthcare performance targets and variations in practice,
process improvement for hospital services, pharmacy
automation, process improvement for hospital services,
and radiation treatment planning.

### Optimisation

The optimisation group is developing theory and solution
methods for challenging optimisation problems stemming
from various applications. Current projects cover
network optimisation: telecommunication networks
and evacuation modelling, production planning in
manufacturing, optimisation for transportation and
energy markets, offshore windfarm installation logistics
optimisation, and optimisation in radiation treatment
planning.

### Risk and Uncertainty

Our interest in risk relates to decision-making under
uncertainty. We are engaged in all aspects of the decision
support process from problem structuring through data
analysis and model building to recommendations. We work
closely with industry, applying methods primarily from
statistics, probability and decision analysis, to real-world
problems.

### Knowledge

Our research group covers a wide range of knowledge
modelling. We explore the fundamentals of knowledge,
problems, creativity, intuition, levels of expertise, risk,
perception of risk, and subjective probabilities. We do most
of our work in applied contexts, structuring problems and
modelling expert knowledge in order to support decision-
makers and decision-takers in their organisations. Our
research also served as basis for developing a number of
software packages used for knowledge modelling.

### Operations Management and Supply Chain Management

Our interest in operations and supply chain management
covers a wide range of topics, including operations strategy,
service operations management, innovation in operation,
project management, performance measurement,
enterprise resource planning, logistics optimisation
and supply chain risk modelling.

# Business Analysis and Consulting
MSc/PgDip/PgCert (full-time, part-time, distance learning)

## Why study this programme at Strathclyde?

- Gain practical, evaluative and analytical skills
- Learn how to use business models to develop strategy for organisations
- Opportunity to undertake a three-week work placement
- Work on a project for a leading organisation

### Course Structure
**Compulsory Classes**
- Foundations of Operational Research and Business Analysis
- Quantitative Business Analysis
- Managing Business Operations
- Spreadsheet Modelling and Demand Forecasting
- Strategy Modelling and Management
- Becoming an Effective Business Analyst

**Optional Classes** (three to be chosen)
- Business Simulation Methods
- Risk Analysis and Management
- Business Information Systems
- Performance Measurement and Management
- Business Analytics

**Work Placement**
The apprenticeship scheme offers the opportunity to compete for a three-week placement in a private or public sector organisation.

**Dissertation**
MSc students undertake a three-month project, typically for an external organisation.

### Duration of Programme
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time
**Online Distance Learning** (minimum durations):
PgCert: 13 months; PgDip: 20 months; MSc: 26 months

### Entry Requirements
**MSc:** Second-class Honours degree, or overseas equivalent, in business, economics, engineering or the social sciences. Applications from those with other degrees are welcome.
**PgDip:** Minimum of a Pass degree, or equivalent, in an appropriate subject. Subject to performance students may transfer from the Diploma course to the MSc course.

# Data Analytics
MSc/PgDip

## Why study this programme at Strathclyde?

- Gain a comprehensive skill set and expertise through input from three contributing departments
- Use data analytics techniques within business contexts to become rounded problem-solvers
- Choose from a range of optional classes for specialisation

### Course Structure
**Compulsory Classes**
- Big Data Fundmentals
- Big Data Tools and Techniques
- Data Analytics in R
- Business and Decision Modelling
- Optimisation for Analytics
- Data Analytics in Practice

**Optional Classes** (choose from at least two departments)
**Computer Science**
- Database Fundamentals
- Evolutionary Computation for Finance 1 & 2
- Legal, Ethical and Professional Issues for the Information Society
- Fundamentals of Machine Learning for Data Analytics

**Mathematics & Statistics**
- Financial Econometrics
- Bayesian Spatial Statistics
- Networks in Finance
- Mathematical Introduction to Networks

**Management Science**
- Stochastic Modelling for Analytics
- Business Simulation Modelling
- Risk Analysis and Management
- Business Information Systems

**Dissertation**
MSc students undertake a three-month project, either as a research project or for an external organisation.

### Duration of Programme
**MSc:** 12 months full-time; **PgDip:** 9 months full-time

### Entry Requirements
**MSc:** Second-class Honours degree, or overseas equivalent, in mathematics, the natural sciences, engineering, or economics/finance. Degrees in other areas are welcome.

"I was looking for a course relevant to my interests and expertise and studying at Strathclyde has very much lived up to my expectations.

I've had the chance to experience real-world challenges in an academic environment, gaining practical knowledge, improving my team work abilities and acquiring time management skills. I've also enjoyed the friendly and easy communication style in between students, staff and lecturers."

**BAHARAH DOROUDIAN**
MSc BUSINESS ANALYSIS & CONSULTING

"Studying online was a great option. It allowed me to continue to work and be with my family.

Course lecturers were very responsive and I was able to apply my new knowledge in the workplace which helped to keep me motivated."

**PAUL HECTOR**
DISTANCE LEARNING STUDENT

# International Master in Industrial Management

MSc

## Why study this programme at Strathclyde?

- Benefit from international academic experience at three institutions
- Gain an understanding of essential business and management skills for industrial management
- Bridge the gap between university and industry through tackling industrial problems

### Course Structure

The programme is delivered in English in collaboration with the MiP Politecnico di Milano, Milan, Italy.

**Semester 1 (September – January: University of Strathclyde)**
- Accounting for Engineers
- Marketing Management
- Manging People in Organisations
- Business Strategy
- Risk Analysis and Management
- Business Simulation Methods

**Semester 2 (February – July: MiP Politecnico di Milano)**
- Operations Management and Improvement in the Digital 4.0 Era
- Industry 4.0 Integrated Operations and Supply Chain Planning
- Quality and Maintenance Management
- Service Management 4.0
- Global Supply Chain Management
- Industrial management consulting

Elective classes delivered online are chosen from Quantitative Business Analysis, Spreadsheet Modelling and Demand Forecasting, Innovation and Commercialisation, and Big Data Fundamentals.

**Semester 3 (September – January: International Study)**
Students spend semester 1 of their second year at an approved partner institution completing international study

**Project (January – March)**
Final project work or research project can be based in the UK, Italy or overseas, depending on available opportunities.

### Duration of Programme
**MSc:** 18 months full-time

### Entry Requirements
Bachelor degree (or an equivalent academic degree) of at least three years full-time study (180 ECTS) ideally in a technical or science discipline.

# International Master in Project Managment

MSc

## Why study this programme at Strathclyde?

- Gain understanding of project management as a process to deliver change
- Examine recent approaches in project management with a cross-sectoral and intercultural perspective
- Benefit from the academic expertise of two institutions

### Course Structure

The programme is delivered in English in collaboration with the MiP Politecnico di Milano, Milan, Italy.

**Semester 1**
**(September to January – MiP Politecnico di Milano)**
- Strategy and Organisation Management
- Project Management Fundamentals
- Innovation Management
- Project Accounting
- Project Finance
- Project Risk Management

**Semester 2**
**(February to June – Strathclyde Business School)**
- Project Portfolio Management
- Leadership for Change and Innovation
- Issues and Trends in Entrepreneurship, Innovation and Technology
- Commercial Management
- Strategic Procurement Management
- Consulting in Practice
- Elective choice (20 credits) from the Postgraduate Spring School or the MBA Summer School

During the semester at Strathclyde, you also have the opportunity to attend one elective (non-mandatory) offered on campus or in one of the School's International centres.

**Project (July to February)**
Final project work or research project can be based in the UK, Italy or overseas, depending on available opportunities.

### Duration of Programme
**MSc:** 18 months full-time

### Entry Requirements
Bachelor degree (or an equivalent academic degree) of at least three years duration and 180 ECTS credits in any discipline. Candidates should have a minimum of second-class Honours degree or equivalent CGPA.

# Operational Research
MSc/PgDip/PgCert (distance learning)

## Why study this programme at Strathclyde?

- Develop a rigorous understanding of advanced analytical methods
- Learn how to play an effective role in providing model-based support to managers for better decisions
- Benefit from a flexible distance learning study mode

### Course Structure
**Compulsory Classes**
- Foundations of Operational Research and Business Analysis
- Quantitative Business Analysis
- Managing Business Operations
- Spreadsheet Modelling and Demand Forecasting
- Operational Research Methods
- Becoming an Effective OR Modeller (PgDip/MSc only)

**Optional Classes** (one for PgCert; three for PgDip)
- Business Simulation Methods
- Risk Analysis and Management
- Business Information Systems
- Advanced OR Modelling with Specialised Software Tools

**Dissertation**
MSc students undertake a six-month project, typically integrated with their employment and under the guidance of a personal mentor.

### Duration of Programme
**Online Distance Learning** (minimum durations):
PgCert: 13 months; PgDip: 20 months; MSc: 26 months

### Entry Requirements
**MSc/PgDip:** A degree in an area such as mathematics, the natural sciences, engineering, or economics/finance. Applications from other degrees are also welcome.
**PgCert:** Minimum of a Pass degree, or equivalent.

# Supply Chain & Logistics Management/ Procurement Management/Sustainability Management MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Gain an in-depth understanding of the strategic and operational issues relating to supply chain management
- Contribute towards making organisations competitive
- Accredited by the Chartered Institute for Procurement and Supply

### Course Structure
The programme is delivered in collaboration with the Department of Design, Manufacture and Engineering Management.

**Compulsory Classes**
- Strategic Supply Chain Management
- Supply Chain Operations
- Enterprise Resource Planning
- Advanced Project Management
- Case Studies in Supply Chain Management
- People, Organisation and Technology
- Performance Measurement Management
- Masters Project

**Specialist Classes by Theme**
- Logistics Management – Management of Total Quality and Continuous Improvement, Lean and Green Logistics, Spreadsheet Modelling and Demand Forecasting
- Procurement Management – Strategic Procurement Management, Spreadsheet Modelling and Demand Forecasting, Organisation Buying Behaviour and Structures
- Sustainability Management – Sustainable Product Design and Manufacturing, Lean and Green Logistics, Remanufacturing

### Duration of Programme
**MSc:** 12 months full-time; 24 months part-time
**PgDip:** 9 months full-time; 21 months part-time

### Entry Requirements
**MSc:** First- or second-class Honours degree, or overseas equivalent, in any discipline.
**PgDip:** Degree, or good HND plus relevant industrial experience, may be considered for entry to the Postgraduate Diploma. Depending on satisfactory progress, students may transfer from the Diploma to the Masters course.

# Department of Marketing

**RESEARCH DEGREES**
MRes, MPhil, PhD, DBA

**Contact for Research Courses**
Christina MacLean
**t:** +44 (0)141 548 4919
**e:** christina.maclean@strath.ac.uk

**TAUGHT COURSES**
Digital Marketing Management
Marketing
Innovation and Marketing Management
International Marketing
Tourism Marketing Management

**Contact for Taught Courses**
SBS Student Recruitment and Marketing Unit
**t:** +44 (0)141 553 6118/9
**e:** sbs.admissions@strath.ac.uk

The Department of Marketing at Strathclyde is one of the oldest and largest Marketing departments in Europe. It has an international reputation for the quality of its teaching and research. Staff act as advisers and consultants to private and public organisations and also hold senior posts in the Chartered Institute of Marketing, the Market Research Society and other professional associations, as well as national and International companies.

## Research Areas
Our academic staff are actively involved in research and have built a strong portfolio of publications in leading journals. Research expertise in the Department includes:

- Export marketing and international business
- E-business and e-marketing
- Customer relationship management
- Consumer behaviour
- Digital marketing
- Sports marketing
- International channel management
- Innovation and new product/service development
- Business-to-business networking and marketing
- International sourcing and strategic procurement management
- Marketing research
- Services marketing
- Hospitality and tourism management and marketing

### Marketing Management
Marketing Management research has attracted funding from several organisations, and the group's areas of interest include strategic marketing, franchising, strategic alliances, sustainable supply chains, corporate social resonsibility and green consumers, digital marketing, branding, marketing management within the b2b services and tourism contexts and sales management.

### Consumer and Social Marketing Research
Our research looks at furthering work on consumer culture theory through exploring consumer tribes/communities and celebrity culture, and cultural approaches towards the understanding of brand culture. Research themes include the impact of poverty on consumption and the implications of consumer disadvantage and consumer poverty for wellbeing and social exclusion, the importance of religion as an influence on consumption, culinary consumption and food cultures, tourism consumption, sustainable consumption and historical approaches to analysing consumption culture within the globalisation discourse.

### Researching Business Networking
This programme of research is developing knowledge and management practice regarding business networking and relationship management across a range of industry sectors.

### Digital Marketing
A number of staff and doctoral students are working on a series of projects relating to the use of Web 2.0, social networks and new media in the area of marketing. This touches on a number of the other specialist areas of research within the Department such as services marketing, marketing communications and consumer behaviour.

### Services Marketing
This research stream focuses on the linkages between corporate culture, performance measurement and service delivery personnel, corporate reputation, service branding, service differentiation and customer satisfaction. Also issues around the service profit chain concept, including customer (value) management, research on satisfaction and loyalty, complaining behaviour, retail marketing and relationship marketing.

### Hospitality and Tourism Management
Key areas covered include managerial relevance, human resource issues, tourism marketing and consumer behaviour and critical perspectives. Some projects have contributed to developing Scottish hospitality and tourism, for example, work to foster social inclusion through hospitality to counter marginalisation; and to tourism and transport policy-making through studies of leisure travel behaviour. The team has also been active in developing new methodologies and conceptualisations, for example, development of sociological impressionism.

# Digital Marketing Management

MSc/PgDip

## Why study this programme at Strathclyde?

- Gain an understanding of digital technologies and their application for business purposes
- Learn about digital marketing in practice with hands-on experience of established and emerging digital media
- Benefit from the involvement of industry partners

### Course Structure

**Compulsory Classes**

- Key Skills
- Cross-Cultural Buyer Behaviour
- Strategic Digital Marketing
- Marketing Research in a Digital Age
- eMarketing in Practice
- Supply chain Digitalisation
- Contemporary Consumers
- Integrated Marketing Communications
- Leadership for Change and Innovation
- Business Information Systems

**Digital Transforative Project**

You'll work with a business to develop bespoke solutions to their business challenges and create a digital transformative plan which will form the basis of your final project.

### Duration of Programme

**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements

First- or upper second-class Honours degree, or overseas equivalent, in marketing or business. Business-related degrees should include some marketing component.

"I chose Strathclyde because of the reputation of the University and the Department of Marketing.

In the research community you interact with colleagues in the same department as well as other departments in the Business School.

The University facilities are impressive – from the library, sports centre, and IT services to the international student team – everyone is friendly and helpful."

**PRAOSIRI CHARUSALAIPONG, FROM THAILAND**
PhD MARKETING

# Marketing
MSc/PgDip

## Why study this programme at Strathclyde?

- Suitable for non-business graduates who want to pursue a career in this area
- Develop an understanding of marketing in relation to individuals and organisations
- Undertake an industry consultancy project

### Course Structure
**Compulsory Classes**
- Consumer Behaviour
- Strategic Marketing Management
- International Marketing Research
- Brand Management and Strategy
- Key Skills
- Dissertation Skills

**Optional Classes** (four to be chosen)
- Contemporary Consumers
- Customer Management 1
- Customer Management 2: Digital Marketing
- Destination Marketing Management
- Export Marketing
- Integrated Marketing Communications
- International Culture and Heritage Marketing
- International Services Marketing
- Managing Tourism Resources
- Retail Marketing Management
- Sector Studies (this class is taken outside the UK)
- Sports Marketing in a Global Context

**Marketing Works: Applied Marketing Group Project**
Students work in small groups as consultants to a local or national company to tackle a real-life marketing problem.

**Dissertation: Individual Research Project**
The research project allows students to pursue an area of specific interest, providing scope for original thought, research and presentation.

### Duration of Programme
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in a non-marketing discipline. A business degree may be considered, if it does not contain significant marketing components.

# Innovation and Marketing Management
MSc/PgDip

## Why study this programme at Strathclyde?

- Only course in Europe that integrates marketing and engineering in a single course
- Understand how technology and innovation open the way to new business opportunities
- Opportunity to work on a group project within industry

### Course Structure
The programme is offered jointly with the Department of Design, Manufacture and Engineering Management.

**Compulsory Classes**
- Brand Management and Strategy
- Strategic Marketing
- Strategic Technology Management
- Design Management
- Product Costing and Financial Management
- Strategic Procurement Management

**Optional Classes** (two from each department to be chosen)
**Marketing**
- Marketing Research
- Export Marketing
- International Services Marketing
- B2B and Key Account Management

**Design, Manufacture & Engineering Management**
- Strategic Supply Chain Management
- Management of Total Quality and Continuous Improvement
- Design Methods
- Supply Chain Operations

**Marketing Works: Group Project**
Students work in small groups as consultants to tackle a real-life problem for a local or national company.

**Dissertation: Individual Research Project**
The research project allows students to pursue an area of specific interest, providing scope for original thought, research and presentation.

### Duration of Programme
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in business, economics, engineering or science.

# International Marketing

MSc/PgDip

## Why study this programme at Strathclyde?

- Specialist course reflecting current diversity in global marketing practice
- Acquire new skills and enhance your existing experience
- Benefit from industry collaboration
- Study within a student cohort from across the globe

## Course Structure

**Compulsory Classes**

- Cross-cultural Buyer Behaviour
- Strategic Global Marketing
- International Marketing Research
- Brand Management and Strategy
- Key Skills
- Dissertation Skills

**Optional Classes** (four to be chosen)
- Contemporary Consumers
- Customer Management 1
- Customer Management 2: Digital Marketing
- Destination Marketing Management
- Export Marketing
- Integrated Marketing Communications
- International Culture and Heritage Marketing
- International Services Marketing
- Managing Tourism Resources
- Retail Marketing Management
- Sector Studies (this class is taken outside the UK)
- Sports Marketing in a Global Context

**Marketing Works: Applied Marketing Group Project**
Students work in small groups as consultants to a local or national company to tackle a real-life marketing problem.

**Dissertation: Individual Research Project**
The research project allows students to pursue an area of specific interest, providing scope for original thought, research and presentation.

### Duration of Programme
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
First- or upper second-class Honours degree, or overseas equivalent, in marketing or a business-related degree including a marketing element.

# Tourism Marketing Management

MSc/PgDip

## Why study this programme at Strathclyde?

- Gain insight into the technologically-innovative nature of contemporary marketing in the context of tourism
- Benefit from skills-based teaching
- Enhance your leadership, teamwork and cross-cultural skills

## Course Structure

**Compulsory Classes**

- Consumer Behaviour
- Strategic Marketing Management
- International Marketing Research
- Brand Management and Strategy
- Destination Marketing Management
- Managing Tourism Resources
- International Services Marketing
- Key Skills
- Dissertation Skills

**Optional Classes** (one to be chosen)
- Contemporary Consumers
- Customer Management 1
- Customer Management 2: Digital Marketing
- Export Marketing
- Integrated Marketing Communications
- International Culture and Heritage Marketing
- Retail Marketing Management
- Sector Studies (this class is taken outside the UK)
- Sports Marketing in a Global Context

**Marketing Works: Applied Marketing Group Project**
Students work in small groups as consultants to a local or national company to tackle a real-life tourism marketing problem.

**Dissertation: Individual Research Project**
The research project allows students to pursue an area of specific interest, providing scope for original thought, research and presentation.

### Duration of Programme
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
First- or second-class Honours degree, or overseas equivalent.

# Department of Strategy and Organisation

**TAUGHT COURSES**
Business and Management
International Management
Project Management and Innovation
Finance and Management (in collaboration with the Department of Accounting and Finance, see pg 159)

With more than 40 years of experience in course development, the Department of Strategy and Organisation is regarded as a pioneer and major innovator in the field of business and management education. The Masters programmes on in the Department develop the key skills required for a successful career in management. Learning from leading academic experts, you will gain a multicultural and international perspective, and build experience of business by working with industry contacts.

Our researchers explore how organisations perform, and maintain the potential to perform, under ever-changing circumstances. We develop ways to help organisations change, innovate and remain successful. Research is clustered around several key topic areas including strategic management, leadership, organisational learning and change, innovation and creative practice, managing technology and the dynamics of power and identity construction.

Our work is based in a range of different types of organisations in the public, private and third sectors and includes micro-businesses, small and medium-sized enterprises, international and multinational enterprises and knowledge-intensive firms. We approach our research using a variety of qualitative and interpretivist methods.

The aim of the Department's research is to be relevant and useful and to generate impact for a range of end-users both within and beyond academia.

**Research Areas**
**Strategic Management**
We look at issues such as how the environment surrounding an organisation takes shape and how organisations build for recurrent success. Research themes include scenario thinking, high value manufacturing and project management.

**Leadership**
We focus on the creative dynamics of leadership and the changing needs for leadership development in an increasingly globalised world. Key areas include leadership as organisational practice, critical perspectives on leadership, and leadership development for the 21st century.

**International Business**
Our researchers concentrate on how firms survive and prosper in a variety of circumstances around the world. Key areas include foreign direct investment, international business strategy, emerging and transition economies and their multinational, identity within international partnerships, small and medium enterprises in the global context, and the development of international tourism.

# Master of Business and Management
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- The programme is accredited by the Association of MBAs as a Pre-Experience Masters in Management
- Experience a broad, yet specific exploration of general management
- Develop skills in management theories and practices

### Course Structure
**Compulsory Classes**
- Professional Management Practice
- Analytical Support for Decision-making
- Managing People in Organisations
- Leadership for Change and Innovation
- Managerial Accounting
- Marketing Management
- Business Operations
- Finance and Financial Management
- Business Strategy
- Managing Technology and Innovation
- Consultancy in Practice
- Project Methodology

**Optional Classes** (two to be chosen)
- Brand Management and Strategy
- New Venture Creation
- Games of Strategy
- Management Talent and Succession Planning
- Work, Wellbeing and Technology
- Leading Agile New Product Development
- Commercial Management in Projects
- Reflective Management Practice
- Lessons for Business from High Performance Sport
- Developing Effective Management Consulting Skills
- Digital Leadership: Strategy and Management
- Managing in Europe (taught at Toulouse Business School, France)

**Project**
The project provides the opportunity to apply your learning to a practical situation with an organisation.

**Duration of Programme**
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

**Entry Requirements**
First- or second-class Honours degree, or equivalent, in a non-business or management-related subject

# International Management
MSc/PgDip/PgCert

## Why study this programme at Strathclyde?

- Develop the knowledge and skills required by international managers and leaders to operate in a global environment
- Benefit from a practical focus on managing and leading in various organisational settings

### Course Structure
**Compulsory Classes**
- Professional Management Practice
- Managing Across Cultures
- Managing People in Organisations
- Marketing Management
- Global Business Environment
- Finance and Financial Management
- Project Methodology
- Business Strategy
- International Entrepreneurship
- Consultancy in Practice

**Optional Classes** (two to be chosen)
- Brand Management and Strategy
- New Venture Creation
- Games of Strategy
- Management Talent and Succession Planning
- Work, Wellbeing and Technology
- Leading Agile New Product Development
- Commercial Management in Projects
- Reflective Management Practice
- Lessons for Business from High Performance Sport
- Developing Effective Management Consulting Skills
- Digital Leadership: Strategy and Management
- Managing in Europe (taught at Toulouse Business School, France)

**Project**
The project provides the opportunity to apply your learning to a practical situation with an organisation.

**Duration of Programme**
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

**Entry Requirements**
First- or second-class Honours degree, or equivalent, in business or management, or a non-business degree, plus work experience in international trade or business.

# Project Management and Innovation

MSc/PgDip/PgCert

---

## Why study this programme at Strathclyde?

- Develop the skills to manage complex technology and innovation projects
- Be prepared for a career in industries ranging from manufacturing and services to the public sector
- Opportunity to work on a live issue for a business client

---

### Course Structure
**Compulsory Classes**
- Professional Management Practice
- Commercial Management in Projects
- Technology and Organisational Change
- Leadership for Change and Innovation
- Managerial Accounting
- Programme and Project Management
- Managing Innovation
- Business Operations
- Project Portfolio Management
- Project Methodology
- Business Strategy
- Managing Technology and Innovation
- Consultancy in Practice

**Optional Classes** (two to be chosen)
- Brand Management and Strategy
- New Venture Creation
- Games of Strategy
- Management Talent and Succession Planning
- Work, Wellbeing and Technology
- Leading Agile New Product Development
- Commercial Management in Projects
- Reflective Management Practice
- Lessons for Business from High Performance Sport
- Developing Effective Management Consulting Skills
- Digital leadership: Strategy and Management
- Managing in Europe (taught at Toulouse Business School, France)

**Project**
The project provides the opportunity to apply your learning to a practical situation with an organisation.

### Duration of Programme
**MSc:** 12 months full-time
**PgDip:** 9 months full-time

### Entry Requirements
First- or second-class Honours degree, or equivalent, in any discipline.

# Department of Work, Employment and Organisation

**RESEARCH DEGREES**
MRes, MPhil, PhD, DBA

**Contact for Research Degrees**
Jean Nelson
**t:** +44 (0)141 548 3287
**e:** jean.nelson@strath.ac.uk

**TAUGHT COURSES**
Human Resource Management (full-time/part-time)
Human Resources and International Management
International Human Resource Management

**Contact for Taught Courses**
SBS Student Recruitment and Marketing Unit
**t:** +44 (0)141 553 6118/6119
**e:** sbs.admissions@strath.ac.uk

The Department of Work, Employment and Organisation has a broad focus on human resources, organisational behaviour and industrial relations. We undertake research in a range of international and UK public, private and voluntary sector organisations. The Scottish Centre for Employment Research, one of the UK's leading contributors on workplace innovation, sits within the Department, as does the editorship of three leading international journals – *New Technology, Work and Employment*, *Employee Relations*, and the *Human Resource Management Journal*. The Department is a Chartered Instiute of Personnel and Development (CIPD) Approved Centre and provides programmes leading to professional membership of CIPD.

## Research Areas

### Skills, labour power and workplace innovation
Research focuses on how work is organised and the kind of skills are required by employers. Current themes include:

- skill ecosystems and occupational change
- skill utilisation, conversion and mismatch
- HR development and training, recruitment and selection
- employability, under-employment
- education, work, career transitions

### Regulation and restructuring of employment relations
Changing managerial regimes is a focus of our research, with a particular emphasis on issues such as employee participation and voice, union bargaining strategies and the management of performance and its effects on employee wellbeing. Current projects include:

- global value and commodity chains
- patterns of labour migration

- performance management
- lean working
- new managerial regimes in social care
- work reorganisation control and wellbeing
- union strategies and organising, industrial relations disputes

### Labour market disadvantage
Changes in employment and industry restructuring is a new focal point for our research. Project themes include:

- young people and work
- gender, careers and occupational segregation; monitoring of equal opportunities
- precariousness and insecurity
- migrant divisions of labour

### New and contested technologies at work
Themes include:

- social media, uses and abuses
- technology, sustainability and green jobs
- technological and organisational change, impacts on occupational boundaries

### Work, health and wellbeing
Research includes studies on employee experiences of, and attitudes towards, changing forms of work and management; employee involvement and participation; occupational health and safety; work-life boundaries; and experiences of unemployment and return to work. Current project themes include:

- sickness absence, presenteeism and employer practice
- work intensification, job strain and stress
- shiftwork, occupational safety behaviour and climate
- psychology of risk and trust in high-hazard/safety critical organisations
- ageing workforce, extending working life, health and capability

# Human Resource Management
MSc (full-time)

---

## Why study this programme at Strathclyde?

- Combine theory and practice in the study of organisations and the management of work
- Suitable for those preparing for a career in HR
- Gain professional membership of the Chartered Institute of Personnel and Development

---

### Course Structure
**Compulsory Classes**
- HRM in a Business Context
- Employee Relations
- Human Resource Development
- People Resourcing
- Managing Human Resources
- Employee Reward

**Optional Classes** (one to be chosen)
- Employment Issues and the Law
- Business Systems

### Integrated Dissertation and Research Report
Students complete a research project based on the analysis of a human resources issue in an organisation. Assistance is given by the Department to gain access to an organisation to complete the report. If access to an organisation is unavailable, students will use a case study approach.

### Duration of Programme
12 months full-time

### Entry Requirements
First- or second-class Honours degree, or overseas equivalent, in social science or a business-related discipline.

# Human Resource Management
MSc/PgDip (part-time)

---

## Why study this programme at Strathclyde?

- Develop an advanced level of knowledge related to HR
- Suitable for HR professionals or line managers with people management within their role
- Gain professional membership of the Chartered Institute of Personnel and Development

---

### Course Structure
**Compulsory Classes** (Year 1)
- HRM in a Business Context
- Human Resource Development
- People Resourcing

**Compulsory Classes** (Year 2)
- Managing Human Resources
- Employee Reward
- Employee Relations

In addition, one optional class is chosen (see left for list).

### Management Research Report
PgDip students complete a 7,000-word Management Research Report, on an HR issue within their place of work.

### Integrated Dissertation and Research Report
MSc students complete an Integrated Dissertation and Research Report, also based on a live human resources issue and usually based within their place of work.

### MSc (post-diploma)
Following the Postgraduate Diploma, students may continue to the MSc, participating in a series of research methods workshops and completion of a 15,000-word dissertation.

### Duration of Programme
**PgDip:** 24 months part-time; **MSc:** 24 months part-time
**MSc (post-diploma):** additional 12 months part-time

### Entry Requirements
**MSc/PgDip:** First degree or equivalent, plus HR or management experience; other qualifications may be considered
**MSc (post-diploma):** PgDip in HRM from Strathclyde or equivalent CIPD-approved qualification from another UK university. Candidates with a CIPD-awarded advanced qualification may also be considered.

# Human Resources and International Management

MSc

## Why study this programme at Strathclyde?

- Study a tailored programme of human resources and business classes
- Suitable for those looking to pursue a career in a management role within a global organisation
- Undertake a research project with an international focus

### Course Structure
**Compulsory Classes**
- HRM in a Business Context
- Managing Human Resources in Multinationals
- Comparative Employment Relations
- Labour and Diversity in a Global Context
- Professional Management Practice
- Global Business Environment
- Managing Across Cultures

**Optional Classes** (two to be chosen from a list which may include the following)
- Employment Issues and the Law
- Business Strategy
- People Resourcing
- Employee Reward
- Managing in Europe (taught at Toulouse Business School, France)
- Leadership for Change and Innovation
- Managing Talent and Success Planning

**Research Project**
The project provides the opportunity to apply your learning to a practical situation within an organisation.

### Duration of Programme
12 months full-time

### Entry Requirements
First- or second-class Honours degree, or overseas equivalent, in any discipline.

# International Human Resource Management

MSc

## Why study this programme at Strathclyde?

- Understand how multinational organisations can best mobilise a culturally-diverse workforce
- Prepare for an HR career in global organisations
- Gain professional membership of the Chartered Institute of Personnel and Development

### Course Structure
**Compulsory Classes**
- HRM in a Business Context
- Global Staffing
- Business Systems
- Comparative Employment Relations
- Labour and Diversity in a Global Context
- Research Methods for HR Professionals

**Optional Classes** (two to be chosen)
- Employee Reward
- Employee Relations
- People Resourcing
- Human Resource Development
- Employment Issues and the Law

**Integrated Dissertation and Research Report**
Students complete a research project based on the analysis of an international human resources issue in an organisation. Assistance is given by the Department to gain access to an organisation to complete report. If access to an organisation is unavailable, students will use a case study approach.

### Duration of Programme
12 months full-time

### Entry Requirements
First- or second-class Honours degree, or overseas equivalent, in any discipline.

# APPLICANT INFORMATION

If you are interested in postgraduate study at Strathclyde,
our recruitment team can provide the help and
advice you need to make your decision

Our Recruitment & International Office (RIO) can give you information about applying and courses, and information specifically relevant to you – whatever your circumstances, wherever you live.

If you live outside the UK, the University has agents and representatives in many countries around the world. To find a list, search for 'international students' at www.strath.ac.uk.

**Entry Requirements**
The University admits students with a range of both academic and professional qualifications. In addition to an appropriate academic qualification (generally a strong undergraduate degree, or equivalent qualification), some courses require relevant professional or work experience.

If you are unsure whether your qualification is acceptable to the University, please contact us: international@strath.ac.uk or pgenquiries@strath.ac.uk

**Applications**
There is no formal closing date for most postgraduate applications but we advise you to apply as soon as possible, preferably by the end of March for entry in September.

Applications are considered and decisions given on a rolling basis by most Departments; exceptions will be specified in the relevant course entry in this prospectus.

If you wish to be nominated by the University for any scholarship or funding, we recommend that you apply as early as possible.

**Taught Courses**
Most taught courses take one year of study and normally start in September at the beginning of the academic year. Taught courses involve a combination of lecture and/or seminars, with an emphasis on group work and individual study. Many courses conclude with a project. These courses are intended to provide advanced knowledge or techniques in specialised aspects of subjects you studied more generally at undergraduate level.

Some taught courses also serve as conversion courses for those who wish to change disciplines, upgrade their knowledge within a discipline or prepare for further study.

You will be assessed at various points throughout the academic year through examinations, assessed coursework, group work and seminars.

### Research Degrees

Registration for research degrees normally takes place in September, but it is possible to start at other times. A research degree provides training in an area of study through original research and experiment, culminating in the preparation of a thesis setting out the conclusions of your research. You will be working on your own under the guidance of an academic supervisor and your progress will be monitored through meetings and submission of your research findings.

### Study Modes

Many of our programmes can be undertaken full-time, part-time, or on a modular basis. Distance or open-learning options are also available on some courses. Please note that non-EEA (European Economic Area) international students are not eligible for part-time study programmes based in the UK due to visa restrictions.

### Careers and Work Experience

Your career development is an integral part of your postgraduate education. At Strathclyde you will benefit from one of the UK's best university careers services. Our Careers Service resources and advisers can help you to make the most of your qualification.

**International Students**

Each year, the University welcomes students from more than 100 countries. Students from countries outside the European Economic Area and Switzerland will normally require a Tier 4 Adult (General) Visa in order to study in the UK.

To apply for this visa students will require a Confirmation of Acceptance for Study (CAS) and also appropriate evidence of their funding. A CAS will be issued by the University when you accept our Offer, meet any conditions mentioned in the Offer, and pay a deposit. This deposit is offset against your tuition fees. If you have an official financial sponsor, for example your government or an international scholarship agency, you will not need to pay this deposit. Instead, you should send a copy of your sponsorship letter to the University's Finance Office for consideration.

UK Visas and Immigration have very specific requirements relating to the level and nature of funding for studies and the supporting evidence needed when applying for a visa. You must provide evidence that you have the required level of funds relating to fees and maintenance (living costs). For further details, search 'visas' at www.strath.ac.uk.

**International Study Centre**

In partnership with Study Group the University has established an International Study Centre which offers international students who do not meet direct entry requirements the option to complete a Foundation or Pre-Masters programme at the Centre with successful students transferring to the University's undergraduate and postgraduate degree courses. Visit http://isc.strath.ac.uk for information about the study plan options and pathways.

**English Language Requirements**

If English is not your first language, you must provide evidence of your proficiency. The UK government's preferred English Language test is IELTS. Strathclyde's standard English language requirements are as follows:

- IELTS: 6.5 with no individual component below 5.5
- PTE: 62 overall (minimum component score 51)

Some courses may have different English language requirements. Please refer to individual course information for details.

Students with alternative English Language qualifications or who have lived and studied in a majority English-speaking country may not be required to take the IELTS test. Please contact international@strath.ac.uk for further guidance.

**English Language Programmes**

Students who do not meet the English Language requirements for the programme that they wish to study may enroll on a pre-sessional English course at Strathclyde prior to beginning their degree programme. All of our pre-sessional English programmes are accredited by BALEAP (British Association for Lecturers in English for Academic Purposes), and are designed to prepare students for the real tasks and situations that students will encounter in their studies. Up to 44 weeks of tuition are available, and students may enter the programme with IELTS scores of 4.0 overall (no subtest less than 4.0) or above. (Note: students wishing to take a pre-sessional English programme must sit the IELTS for UKVI – Academic test).

One month of free pre-sessional English tuition is available to international students paying full overseas fees. Up to four hours of free in-sessional tuition is also available.

For further information, search 'English language teaching' at www.strath.ac.uk.

**Scholarships and Financial Help**
The University offers a range of scholarships for UK, EU and overseas students. Funding opportunities are also available through individual departments or tied to specific courses. Check with the department responsible for your course.

If you are a research student, you may be able to supplement your income by undertaking paid work within your department.

**Applying for Scholarships**
In order to apply for a scholarship, you must first have applied for a course of study. Information on how to apply for each scholarship is listed on the University's scholarship database or you can email us with any questions: scholarship.enquiries@strath.ac.uk.

**Other Sources of Funding**
**EU and European Economic Area (EEA) students**
Under arrangements in place at the time of going to print, EU nationals are eligible to apply for the same awards as Scottish students to cover tuition fees.

You may be eligible to receive maintenance support if you have been living in the UK for three years (excluding for study purposes) immediately prior to the study period. You should check the residence conditions with the Student Awards Agency for Scotland or Student Finance services.

You should consult the department you intend to study in to find out if funding is available for your course or research area. For general information, visit:

- prospects.ac.uk
- saas.gov.uk
- gov.uk/funding-for-postgraduate-study

**Other Sources of Funding**
**international (non-EU/EEA) students**
You should explore funding opportunities in your home country at the same time as applying for funding in the UK, eg Ministry or Department of Education, British Council Office, British Embassy or High Commission.

International agencies such as UNESCO, the World Bank and the World Health Organisation operate funding schemes and some voluntary organisations and charities award modest scholarships.

Details on scholarships and funding sources are available at:

- ukcisa.org.uk
- iefa.org/scholarships
- studentmoney.org
- acu.ac.uk
- internationalscholarships.com
- postgraduatestudentships.co.uk
- britishcouncil.org
- prospects.ac.uk
- marshallscholarship.org

**Funding Enquiries – UK students**
The University's Student Financial Support Team offers financial support and advice to UK applicants and students. Assistance is available through the Discretionary and Childcare funds for students experiencing financial hardship.

**Accommodation**
Applications for University accommodation are accepted from January. Places will be confirmed after firm offers of academic admission have been accepted by the applicant.

# WHERE WE ARE

Only a one-hour flight to London,
Glasgow also has great transport links
to the rest of the UK and Europe



1 Technology and Innovation Centre  2 Students' Union  3 James Weir Building
4 Strathclyde Business School  5 Strathclyde Sport  6 Lord Hope Building
7 Library  8 Strathclyde Institute of Pharmacy and Biomedical Sciences
9 Campus Village  10 Towards the Merchant City  11 Towards the City Centre

Our campus is a short walk from two mainline railway stations and the Underground to help you get around the city – and to visit the rest of the UK

SCOTLAND

Inverness

Aberdeen

Dundee

Edinburgh

Glasgow

NORTHERN IRELAND

Belfast

ENGLAND

Newcastle

REPUBLIC OF IRELAND

Leeds

Liverpool

Manchester

WALES

Birmingham

Cardiff

Bristol

London

FRANCE

# COURSES 2019

# T&CS

**Terms & Conditions**

All students will be required as a condition to abide by and to submit to the procedures and rules of the University's Statutes, Ordinances, and Regulations as found in the University Calendar, as amended from time to time.

The University will use all reasonable endeavours to deliver courses in accordance with the descriptions set out in this Prospectus. Matters such as industrial action and the death or departure of staff may adversely affect the ability of the University to deliver courses in accordance with the descriptions. Also, the University has to manage its funds in a way which is efficient and cost-effective, in the context of the provision of a diverse range of courses to a large number of students.

**The University therefore:**

**a)** reserves the right to make variations to the contents or methods of delivery of courses, to discontinue courses and to merge or combine courses, if such action is reasonably considered by the University in the context of its wider purposes. If the University discontinues any course, it will use its reasonable endeavours to provide a suitable alternative course.

**b)** cannot accept responsibility, and expressly excludes liability, for damage to students' property, transfer of computer viruses to students' equipment, and changes to teaching arrangements and similar activities.

This Prospectus, published in August 2018, is for use by those interested in entering the University in the academic year beginning in September 2019.

The contents of the Prospectus are as far as possible up-to-date and accurate at the date of publication. Changes are made from time to time and the University reserves the right to add, amend or withdraw courses and facilities, to restrict student numbers and to make any other alterations as it may deem necessary and desirable.

The descriptions of courses in this Prospectus are intended as a useful guide to applicants and do not constitute the official regulations which are available in the current edition of the University Calendar.

A guide to the admission requirements is given in each course entry, but please consult the University website (www.strath.ac.uk) for the most up-to-date information.

With thanks to individuals and departments throughout the University who have contributed to this prospectus.
Photography © University of Strathclyde, Study Group, Guy Hinks, Getty Images and Luigi Di Pasquale.

**University of Strathclyde**
**Glasgow**