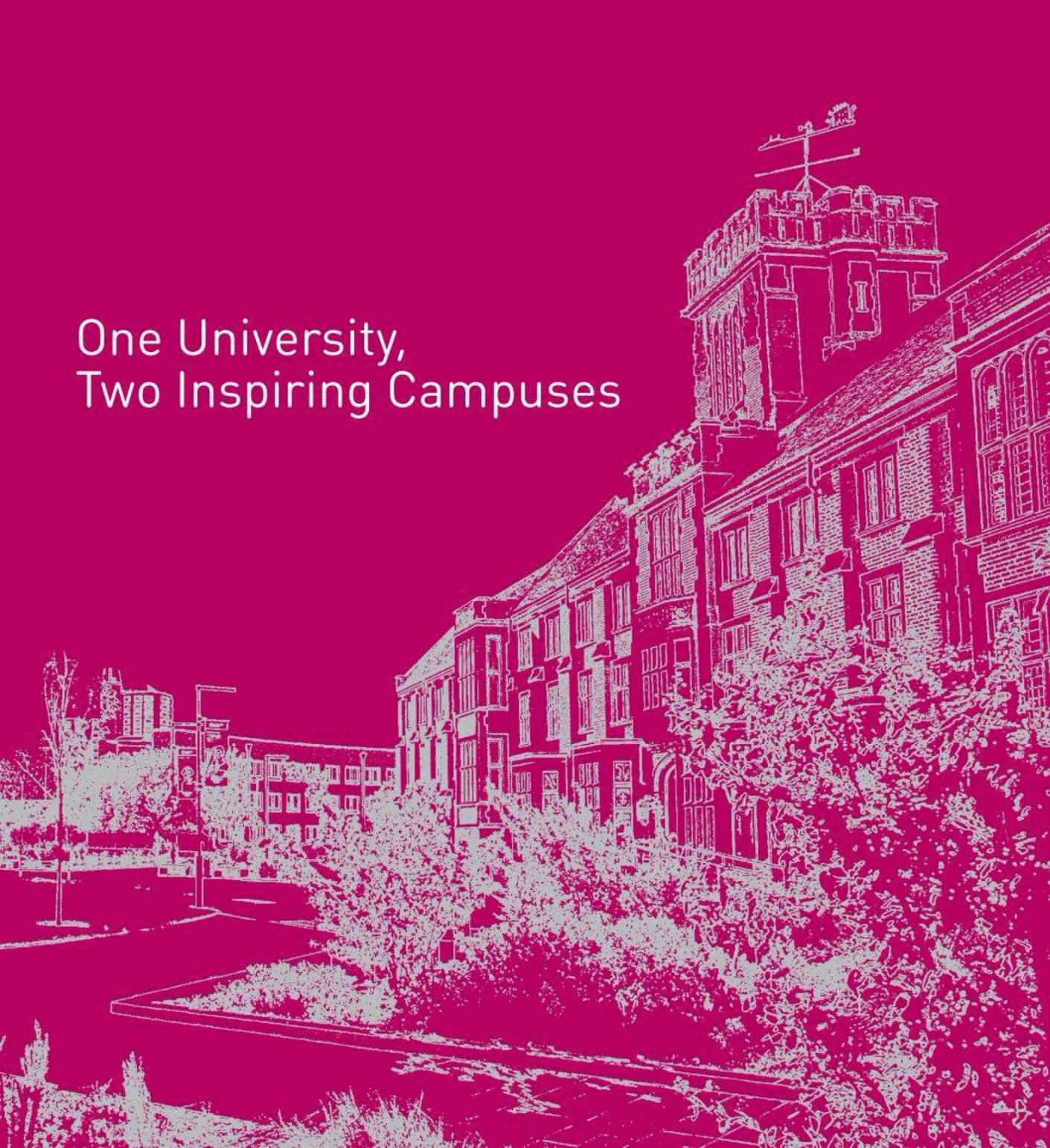
## Postgraduate Prospectus 2017



Inspiring Winners since 1909



GUARDIAN UNIVERSITY GUIDE 2017





SUPPORT FOR GRADUATE START-UP BUSINESSES IN THE STUDIO

BEST STUDENTS'
UNION IN THE
WHATUNI?
STUDENT CHOICE
AWARDS
2014 / 2015 / 2016

RATED IN THE INTERNATIONAL QS STARS SCHEME





## Welcome from the Vice-Chancellor

Loughborough is one of the country's leading universities. Our world-class research and innovation, unparalleled sporting achievement and excellent student experience offer students something truly special.

Our interdisciplinary approach to research and teaching is driven by society's need to address real-world issues. As a postgraduate student at Loughborough you will learn from influential thought leaders, pioneering researchers and creative innovators who are making a real difference in the world.

We have extensive international partnerships with private, public and voluntary sector organisations that will provide you with

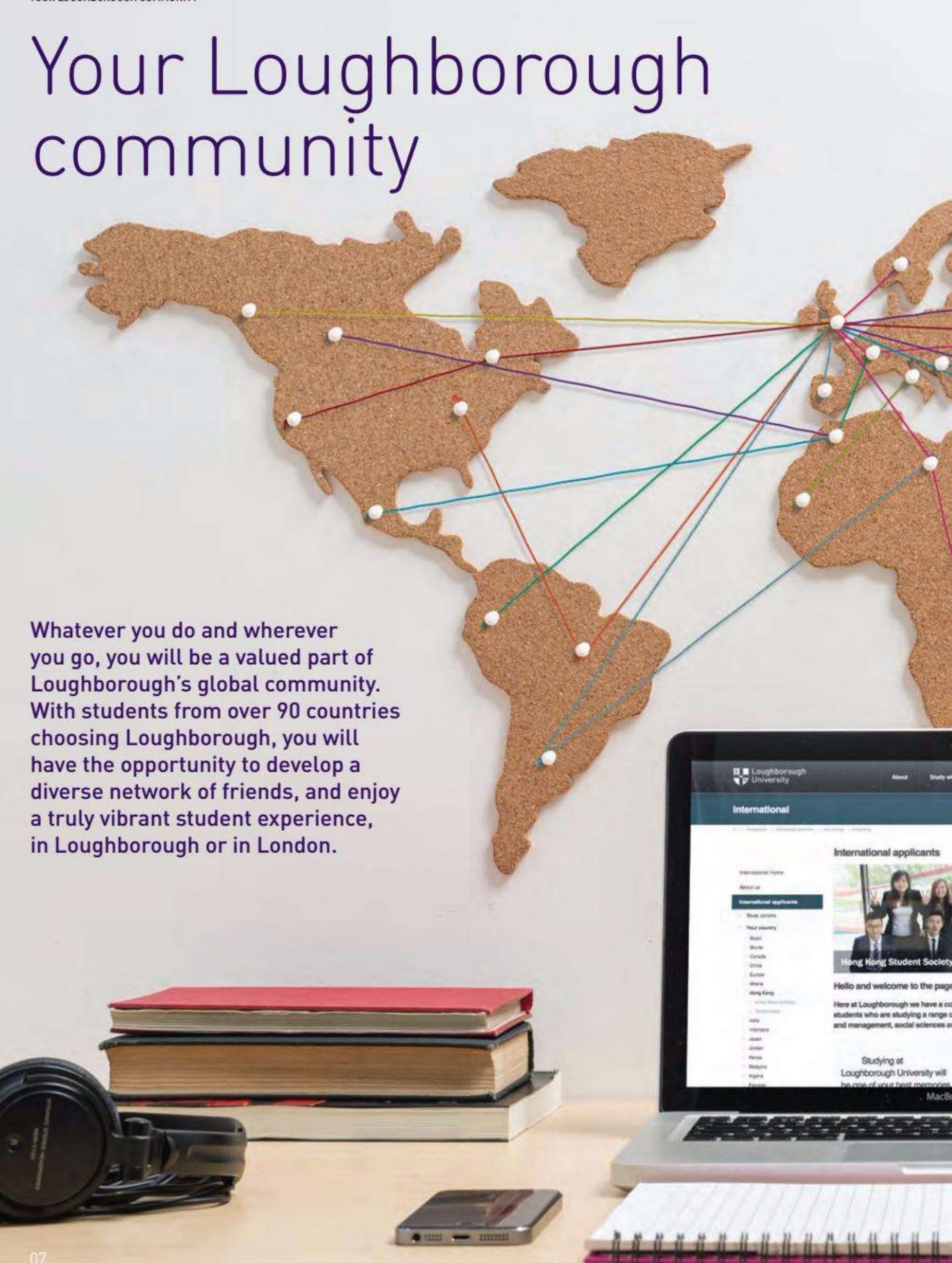
unrivalled opportunities with industry leaders and employers. Our enterprising outlook and friendly, supportive environment will help you to realise your potential in whatever you choose to do.

Our students are the heart of our vibrant, global family. If you decide to study with us you will be joining a truly outstanding university. I hope we will be welcoming you to Loughborough or London soon.

Professor Robert Allison Vice-Chancellor and President

## Contents

Your Loughborough community	07	Opportunities on the Loughborough campu	
Our research and impact	09	Aeronautical and Automotive Engineering	
Welcome to the Graduate School	13	Arts, English and Drama	
Your research degree	16	Business and Economics	
Teaching excellence	17	Chemical Engineering	
Your taught programme	18	Chemistry	
Careers and entrepreneurship	19	Civil and Building Engineering	
Your Loughborough family	22	Computer Science	
International students	26	Design	
One University, two inspiring campuses	33	Geography	143
		Materials	149
Find out more about our Loughborough cam		Mathematical Sciences	153
Loughborough campus	37	Mathematics Education Centre	159
Loughborough location	39	Mechanical, Electrical and	
Campus life	41	Manufacturing Engineering	
Your student experience	43	Physics	
Loughborough accommodation	51	Politics, History and International Relations	
Supporting you	53	Social Sciences	
Fees and financing your studies	57	Sport, Exercise and Health Sciences	
Find out more about our London campus		Opportunities on the London campus	
London campus location	63	MRes programmes	199
Exploring London	66	Design Innovation	
Olympic-class sports facilities	70	Digital Technologies	
Enterprise Through the Curriculum	73	Enterprise Development	
London accommodation	75	Sport Business	
Supporting you	78	Media and Creative Industries	
Fees and financing your studies	81	Diplomacy and International Governance	229
		How to apply for your master's degree	235
		How to apply for your PhD	
		Index	237
			CONTRACTOR OF THE PARTY OF THE









"In the Centre for Innovative and Collaborative Construction Engineering, we get to tackle contemporary and challenging technical problems. These include investigating new materials, helping protect existing infrastructure, and creating better ways of working in supply-chains. Right now, we're working on new solutions for buildings, motorways, railways and bridges."

Professor Jacqui Glass





# Our research and impact

Our research contributes at the very highest levels to new knowledge and understanding; helping businesses and industry to compete more effectively, shaping public policy and, ultimately, helping to improve the quality of people's lives.

One of the top research-led universities in the country, Loughborough is renowned for the relevance of its work.

In the latest Research Excellence Framework (REF) 2014, Loughborough was ranked 14th in the UK and 9th among universities in England for research intensity.

Almost 66% of the work of Loughborough's academic staff who were eligible to be submitted to the REF was judged as 'world-leading' or 'internationally excellent', compared to a national average figure of 43%.



A TOP 10 RESEARCH UNIVERSITY IN ENGLAND

THE RESEARCH INTENSITY
RANKINGS (REF2014)



"In the Environmental
Ergonomics Research Centre
we're studying the interaction
of people with their physical
environment (heat, cold, noise,
vibration, light). One aspect
of our research is that of
protection and performance
clothing, and our facilities
provide an exciting research
environment with climatic
chambers, vibration rig and
thermal manikin
test rooms."

**Professor George Havenith** 





"Our Centre for Renewable
Energy Systems Technology
(CREST) is a world-leading
centre of solar power technology
testing. Our work is crucial for
both researchers and industries
around the world that are
working on developing and
using clean and cost effective
solar power."

Professor Ralph Gottschalg

## Our Research Challenges

Loughborough's six Research
Challenges enhance interdisciplinary
research and accelerate the delivery
of distinctive solutions to regional,
national and international concerns.

## Changing Environments and Infrastructure

In this Challenge, our understanding of environmental processes and their impacts on land, water and the atmosphere meets our leading research on design, construction and operation of critical civil infrastructure. As a result, we are able to identify and implement sustainable solutions to the challenges presented by climate, land use and hydrological change.

## Communication, Culture and Citizenship

Understanding the processes through which inclusion and exclusion occur in communities can contribute to creating more equal and just societies where individuals can flourish as citizens. In this Challenge, we seek to address the problematics, performance and practices of inclusion.

## **Enabling Technologies**

Our research in Enabling
Technologies underpins the way in
which society remains best equipped
to face a range of challenges,
not least the reduction of scarce
resources, environmental impact and
an ageing population. Our multidisciplinary research is concerned
with developing a pipeline to enable
the very best new ideas to form
and be pulled through into the new
technologies that can enhance lives,
economies and societies.

#### Energy

Energy research at Loughborough is world-class and one of the largest concentrations of academic endeavour in the UK. Work spans the generation, supply and demand for energy and includes: the invention and improvement of new and renewable energy technologies; the efficient and flexible generation of power; nuclear energy and waste; electrical and thermal energy storage; the efficiency of conventional transport systems; transport and travel; and end-use energy demand in buildings and for travel.

### Health and Wellbeing

Building upon our established excellence in advanced manufacturing and materials, and our world-leading reputation in sports science, our current and future research addresses the broad dimensions of health and wellbeing. We're applying our expertise in design, engineering, sport and manufacturing to regenerative medicine and lifestyle interventions.

## Secure and Resilient Societies

Our internationally-leading research draws on expertise from a broad range of disciplines and influences the practice of many groups, including the emergency services, defence forces, industry, governments, aid agencies, and civic and national authorities. It has particular relevance for the creation of resilient urban spaces, conflict and emergency zones and for greater economic and financial resilience.





# Welcome to the Graduate School

All students studying for a research degree at Loughborough become members of the Graduate School.

Our role is to enhance the experience of our research students by providing outstanding support for their professional and personal development.

We offer an extensive doctoral training programme, delivered at both our Loughborough and London campuses by our team of dedicated staff, along with other specialist support from across our professional services.

I very much look forward to welcoming you into our postgraduate research community should you choose to study with us.

### **Professor Andrew Dainty**

Director, Loughborough University Graduate School

## The doctoral experience

We aim to provide a 'cohort-based' experience for all of our research students by providing a range of seminars, conferences, networking opportunities and social events, in addition to our formal training programme. We see the highly networked nature of our postgraduate research programmes, and the resulting community of research students, as a hallmark of what defines the Loughborough doctoral experience.

## Support and training

The Graduate School offers an annual programme of training in specific skills for researchers such as, Understanding Research Methods and Techniques, Analysing Information, and Recording and Presenting Research Findings.

Our comprehensive training programme is mapped directly onto the Researcher Development Framework developed by Vitae (the UK's national organisation for researcher development). Research students are encouraged to work with their supervisory team in using the Researcher Development Framework to identify their current skills and abilities and their future goals, enabling them to engage with targeted training and development activities.

#### Find out more:

www.vitae.ac.uk/researchersprofessional-development/about-thevitae-researcher-development-framework Delivered by experts to small groups in dedicated facilities, our training sessions not only allow you to learn useful skills, but also to network with other researchers from across the University.

Students applying for studentships within a Centre for Doctoral Training or EPSRC Doctoral Training Partnership will also received a bespoke programme relevant to the CDT/DTP cohort.

### **Graduate House**

Occupying a central location on our Loughborough campus, Graduate House is a home-from-home on campus for postgraduate students. Graduate House is the venue for Graduate School training courses, and activities such as Write Club and our PhD Support Network, an informal weekly drop-in for any PhD student to stop by and chat with other students from across the University. The Graduate Hub, located on the first floor of Graduate House, provides space outside of research students' departments for studying, or relaxing and meeting up with colleagues and friends.

## Centres for Doctoral Training

Loughborough is proud to be involved in a number of Research Council-funded Centres for Doctoral Training (CDTs), each offering a unique and enhanced experience for doctoral students. See research opportunities pages for more details.





"The Graduate School has provided training throughout my PhD career; not only focusing on new skills and techniques in research, but also in developing a positive mindset, and how to communicate effectively with other PhD colleagues in different departments."

Yusma PhD student

## Your research degree

## PhD, MPhil, EngD, MRes

PhD degrees normally take three years full-time or five years part-time to complete. A PhD thesis must make a significant original contribution to, and show a critical appreciation of, existing knowledge in the subject.

MPhil degrees usually take two years full-time or three years part-time. Students investigate and evaluate an area which contributes to, and demonstrates appreciation of, existing knowledge in the subject. They must also demonstrate an understanding of research methods appropriate to that area.

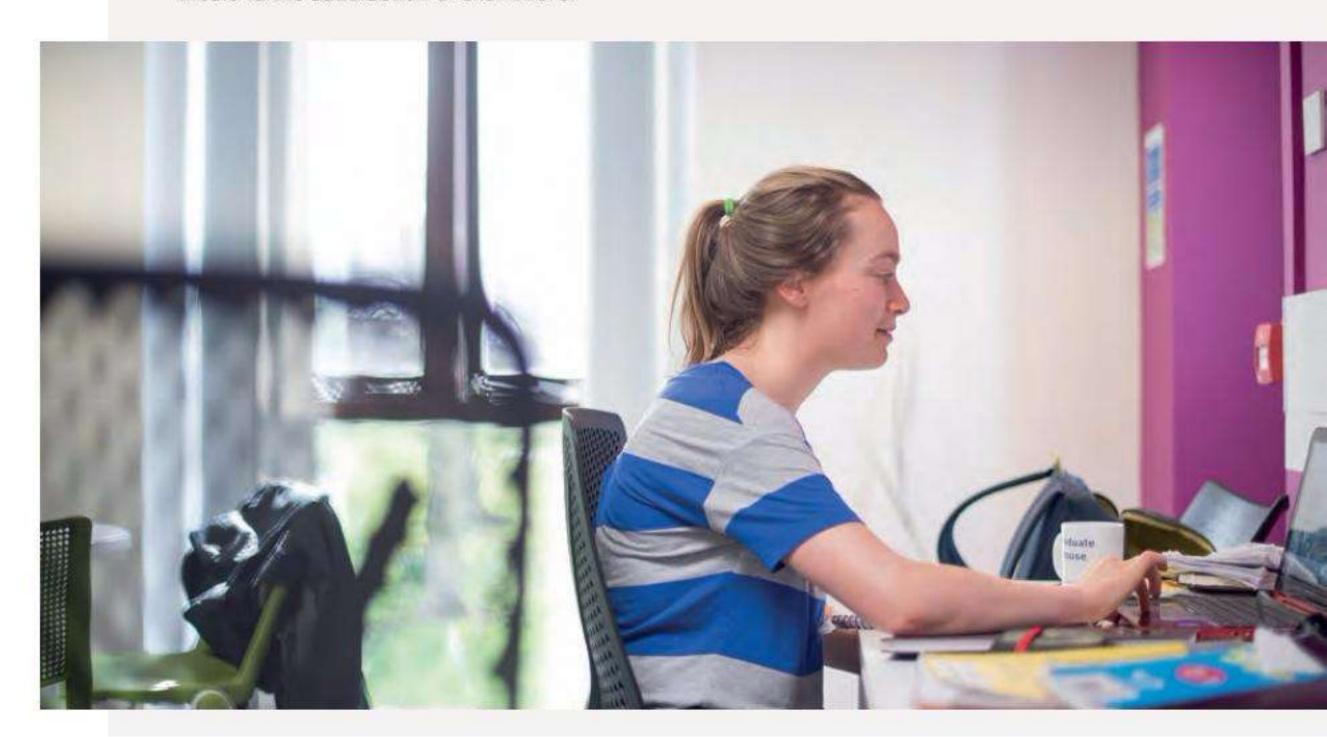
Following satisfactory completion of their first year of supervised research, students' registration is confirmed for PhD or MPhil. All PhD and MPhil candidates must present and defend a substantial thesis to the satisfaction of examiners.

EngD degrees take four years to complete and are open to UK research engineers, in any area of engineering or applied science. They involve collaboration with industry, and combine formally assessed taught modules with innovative research related to real industrial problems.

MRes degrees take one year full-time to complete, and may also be studied part-time. The MRes contains some taught elements, akin to a master's degree, but mainly focuses on research skills. Student may choose an MRes as a pathway to a PhD.

## Studentships

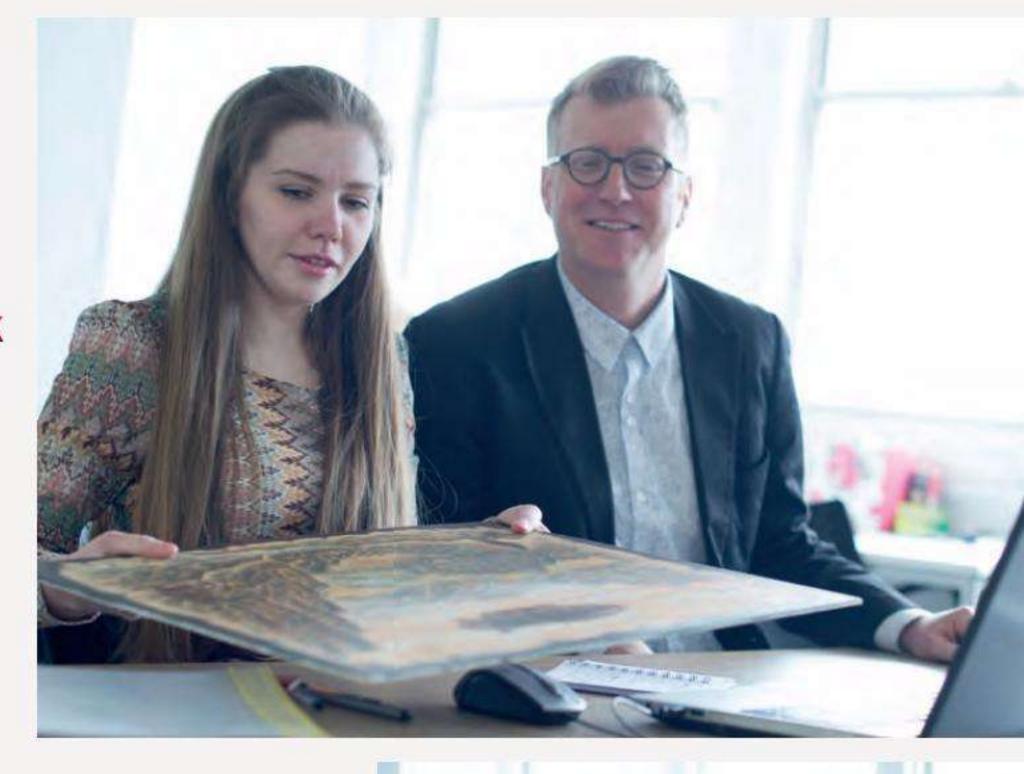
Full and partial funding for research projects and opportunities are advertised throughout the year. Visit lboro.ac.uk/pg2017/studentships





RANKED 7TH OUT OF 127 UK UNIVERSITIES

THE COMPLETE
UNIVERSITY GUIDE 2017



# Teaching excellence



Loughborough provides students with an exceptional learning environment, integrating teaching, research and enterprise. You will work alongside specialists who are enthusiastic about their subjects and at the forefront of current research.

We are ranked 4th in the Guardian League Table 2017, and 7th in The Complete University Guide 2017. In 2015 the University also achieved a five star rating in the QS Stars University Ratings, putting it alongside some of the very best universities in the world. Since the introduction of the National Student Survey in 2005, Loughborough has always been placed amongst the top universities in the UK.



RANKED 4TH OUT OF 119 UK UNIVERSITIES

THE GUARDIAN
UNIVERSITY GUIDE 2017



lboro.ac.uk/pg2017/ teaching

# Your taught programme

## MA, MSc, MBA, MRes, PG Dip, PG Cert, PGCE

Master's degree programmes are based on modules totalling 180 credits. This usually includes a dissertation or equivalent project.

#### Module specifications

Details of the subject areas studied can be found in the programme listings, and you can find more details about the modules available online.

### Study exemptions and the Bologna Process

The University may consider offering credit transfer or exemption from part of our programme to students who already have some postgraduate level credits awarded by another higher education institute. We are committed to the Bologna Process, under which graduates are issued with a Diploma Supplement to enable flexibility and comparability of qualifications internationally.

## Part-time study opportunities

A number of our programmes are available to study on a part-time basis. Part-time programmes usually take two or three years to complete. Part-time programmes may be delivered in block teaching or by full or partial distance-learning. For more information on the duration of part-time programmes, and the method of delivery, please see online or contact the relevant school or department.

### First-class facilities

Our postgraduate students benefit from access to specialist equipment and facilities in purpose-built teaching and learning areas. Students also have access to dedicated 24/7 computer suites and private study areas, alongside a network of informal learning zones where they can work in groups or socialise. Master's degree students can also use Graduate House, a dedicated postgraduate building located on our Loughborough campus, which offers space to study and meet friends.





ATTRACTING OVER 190 TOP EMPLOYERS EVERY YEAR

# Careers and employability

Our Careers Network offers one-to one advice on topics such as writing your CV/application forms, career planning and practical help such as interview coaching.

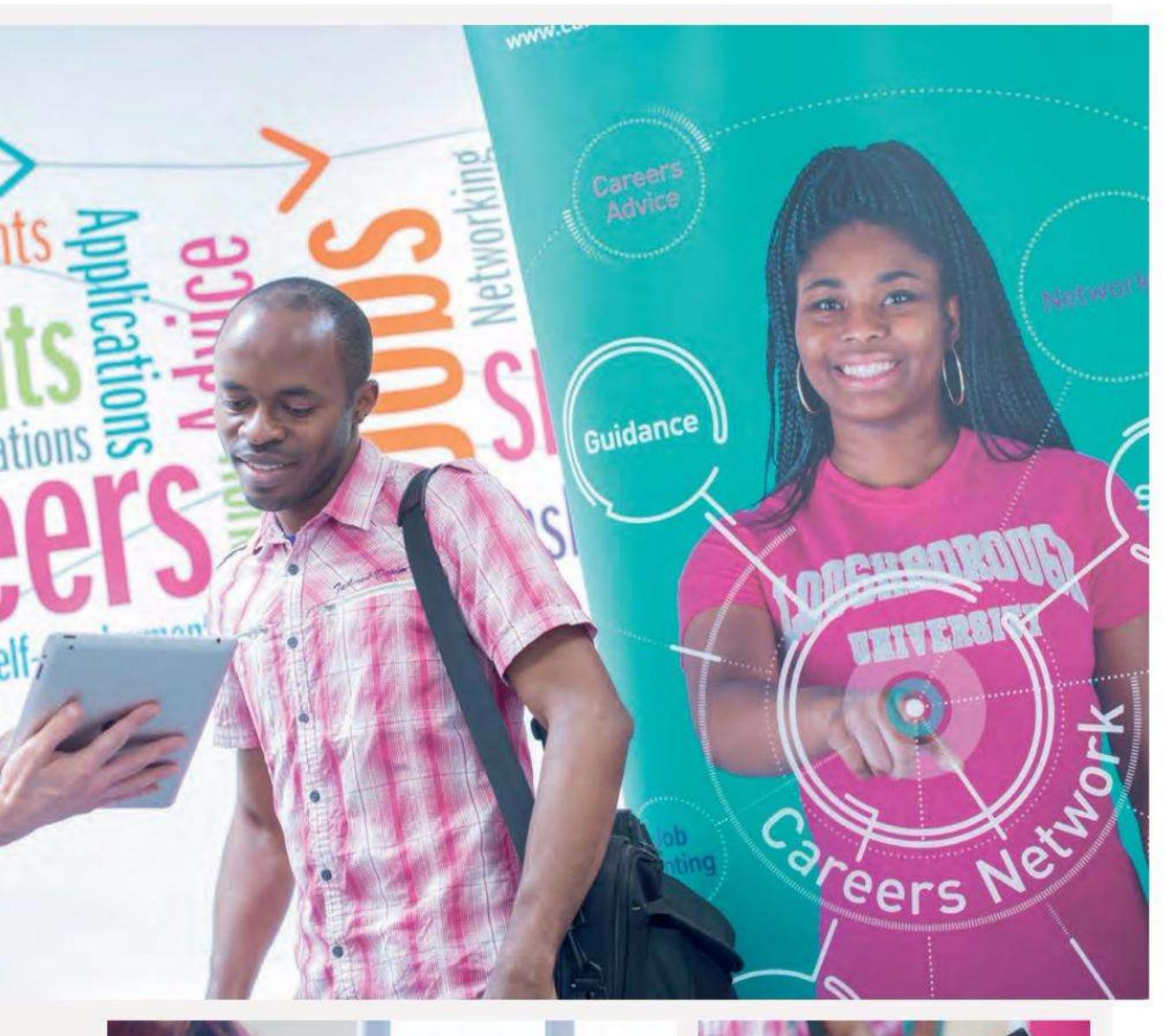
In addition, the Careers Network offers a series of employer presentations throughout the year, plus three annual recruitment fairs where you can meet potential employers.

## Specialist support for researchers

In addition, PhD students can also access a vacancy database which lists thousands of vacancies, specifically targeted to Loughborough graduates. Our Researcher Career Contact Database allows you to contact PhD alumni in order to network, and ask questions about their activities since graduating.











# Support for entrepreneurs



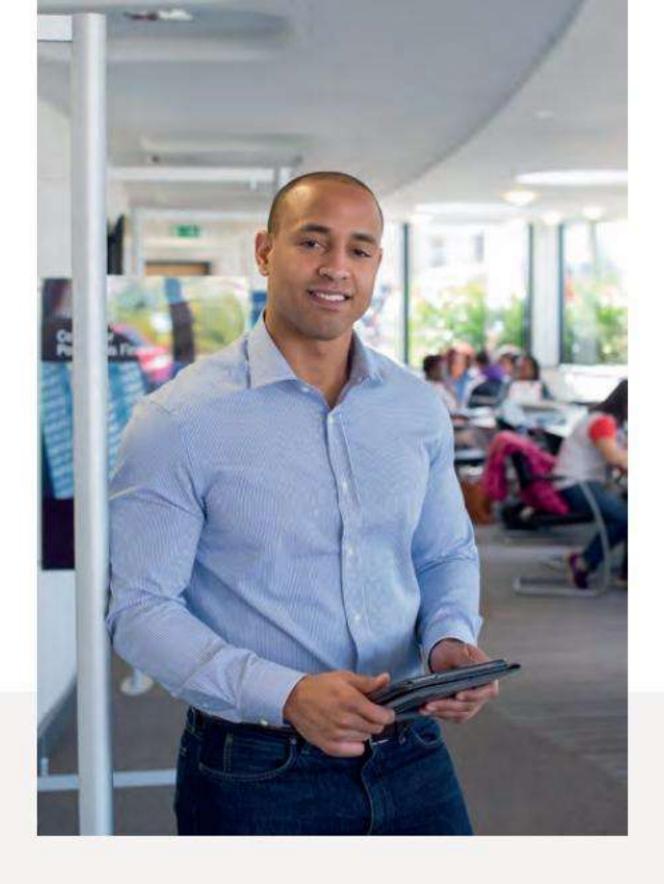


We provide students with opportunities to engage in enterprise education and activities, and support their business aspirations with a range of practical services and facilities, including The Studio.

The Studio is a unique two-year support package for graduates taking their first steps in business. Members have access to specialist facilities and expertise, a base in a fully serviced office space and follow a tailored training and mentoring programme.



lboro.ac.uk/pg2017/ thestudio



"Studying at Loughborough has improved my critical thinking skills and given me the confidence to research and find solutions that may go against conventional wisdom."

## JUSTIN MSc Economics and Finance

## Your Loughborough family: students and alumni

"The best thing about my experience so far is the community. Since beginning my studies I have always felt part of a team, whether that be with other geography PhD students, the department or the Graduate School. It's great to have all of these support networks around me."



CHARLOTTE
Geography PhD student

Emma graduated from Loughborough with a degree in Mechanical Engineering and a PhD, before studying for the Loughborough MBA part-time, while working as a lecturer in sustainable manufacturing. Emma is currently the Manager of UK Competence and Development - Oil and Gas, for DNV-GL, where she heads up the development, retention and capturing of knowledge and competence for the UK oil and gas business.



"After studying my undergraduate degree at Loughborough I had such trust in the quality of the courses and so many excellent experiences that there was no question as to where I wanted to study my PhD and MBA."

## **EMMA**

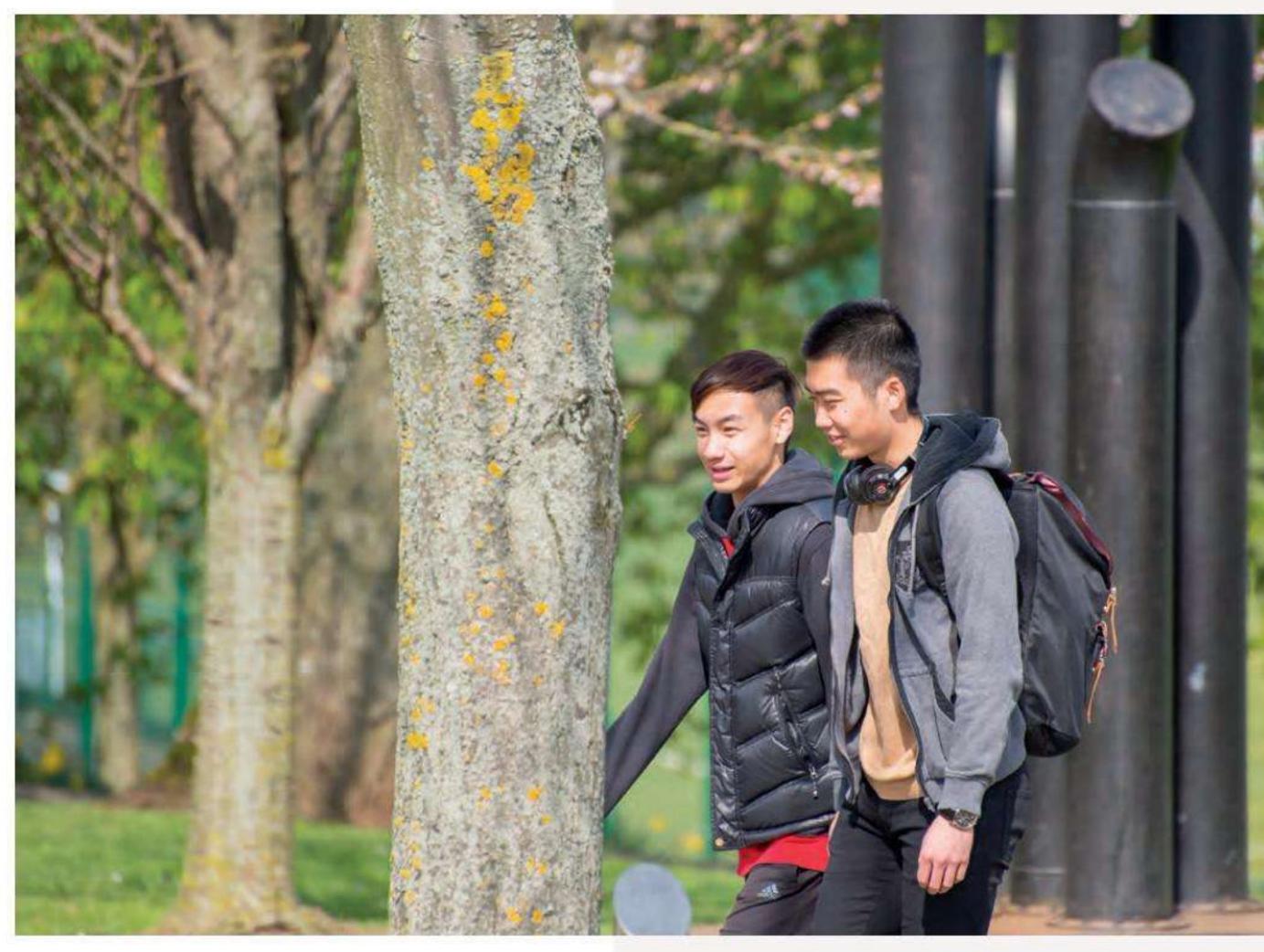


## Alumni

"I knew that going to Loughborough would be a great foundation for my chosen career pathway, given its excellent international reputation and the contacts that I would make whilst there." After gaining his MSc in Sport Biomechanics and PhD from Loughborough, David worked at Southampton Solent University, lecturing and undertaking research in biomechanics. In 2015 David joined Guided Knowledge, and is now researching the technique of athletes performing in a variety of sports, in order to increase understanding of sports performance and inform the development of coaching technologies.

## DAVID





## A leading University

- Ranked 1st for overall satisfaction; and in the student support, student living and student learning experience categories in the International Student Barometer, Autumn Wave 2014
- Ranked 4th in The Guardian University Guide 2017
- Ranked 7th in The Complete University Guide 2017
- 1st place in THE Student Experience Survey 2016
- 9th in England for Research Intensity (REF2014)





## International students

Loughborough has a long history of welcoming international students to the University and we currently have around 2,300 students studying here from outside of the UK.

Our International Office is happy to answer your questions, and give you advice and support when applying to the University. You can contact us by email or telephone, or meet us at one of the many events we attend overseas – check our website for details of our visits.

www.lboro.ac.uk/international/visits/

We also work with study-abroad advisers and overseas representatives in a range of countries who can provide you with information about the University as well as assistance with your application and entry requirements.

Contact us:

T: +44 (0)1509 222201

E: international-office@lboro.ac.uk





## **Entry requirements**

The entry requirements listed in the prospectus are based on standard UK undergraduate degree classifications (i.e. 1st Class honours, 2:1, 2:2); the table below is an approximate guide to the equivalent international qualifications accepted, from a selection of countries.

#### How to use this table

If our entry requirement for a programme is a 2:1 honours degree, find your country in the list below and read across for the value given in the relevant column. For example:

- 80%+ from a high ranking Chinese university
- a First Class 65% from a lower ranking Indian university

2:2

• GPA 3.8+ from Nigeria (5 point scale)

## International entry requirements

If the entry requirement given within the programme description is stated in UK degree terms as

1st 2:1

then an indication of the minimum requirements for the listed countries is shown below:

China - high ranking university eg. 211 Project Universities	83%	80%	78%
China - lower ranking university	90%	85%	80%
India - high ranking university eg. Top Collegiate Universities	First 65%	First 60%	Upper Second 55%
India - lower ranking university	First with distinction 70%	First 65%	First Class 60%
Nigeria - 7 point scale	6	5	4
Nigeria - 5 point scale	4.5	3.8	3.5
Nigeria - 4 point scale	3.5	3	2.5
Nigeria - classification	First	Upper Second	Lower Second
Taiwan – National University	80%	75%	70%
Taiwan – Private University	85%	80%	80%

Entry requirements for other countries may be found on our International Office website www.lboro.ac.uk/international/



When assessing applications the University considers a range of different factors, including: average marks, a GPA or final grade; the ranking or reputation of previous university; competence in English language; personal statement; academic references; professional experience (if required); portfolio (if required).

The grade equivalences listed in the table opposite should be interpreted as a general indication of the marks required to gain entry. Due to the range of factors considered when assessing an application, it is impractical to adhere to exact percentage requirements or equivalences between marks gained in different countries.

You can find out more online:

www.lboro.ac.uk/international/applicants/studyoptions/postgraduate-taught/internationalqualification-equivalencies/

## Standard English language requirements

The standard University IELTS English language requirements are 6.5 overall with 6.0 in each individual element (reading, writing, listening and speaking). Some subjects may require higher levels; please check the programme details for exact requirements.

Students are normally recommended to take an IELTS test from a UKVI-approved test centre.

#### Pre-sessional English

For those students studying at either campus who do not meet our IELTS requirements, Loughborough University offers pre-sessional English language programmes of either five or 10-week duration. These are also recommended for students who have not studied in the UK, and who wish to develop their language skills. Our pre-sessional English courses are taught on the Loughborough campus, and will give you the opportunity to meet other students studying with us. Further details will be provided following your offer of a place to study with us.

Find out more:

www.lboro.ac.uk/international/applicants/english/



# Support for international students

## Before you arrive

Whether you are studying at our Loughborough or London campus, we are here to support your move to the UK, and help you settle into the British lifestyle and culture. Our Pre-departure Guide contains lots of useful information for students wishing to study in the UK and can be found online: www.lboro.ac.uk/international/offer-holders/pre-departure-guide/

## Travelling to our campuses

We offer a free coach service to our Loughborough campus from Heathrow, on selected dates prior to the start of term, and also prior to our pre-sessional English language courses. You can find out more, and book your travel online:

www.lboro.ac.uk/international/offer-holders/ getting-here/heathrow-coach-service/

For transport from Heathrow to our London campus please see:

www.lborolondon.ac.uk/beforeyouarrive

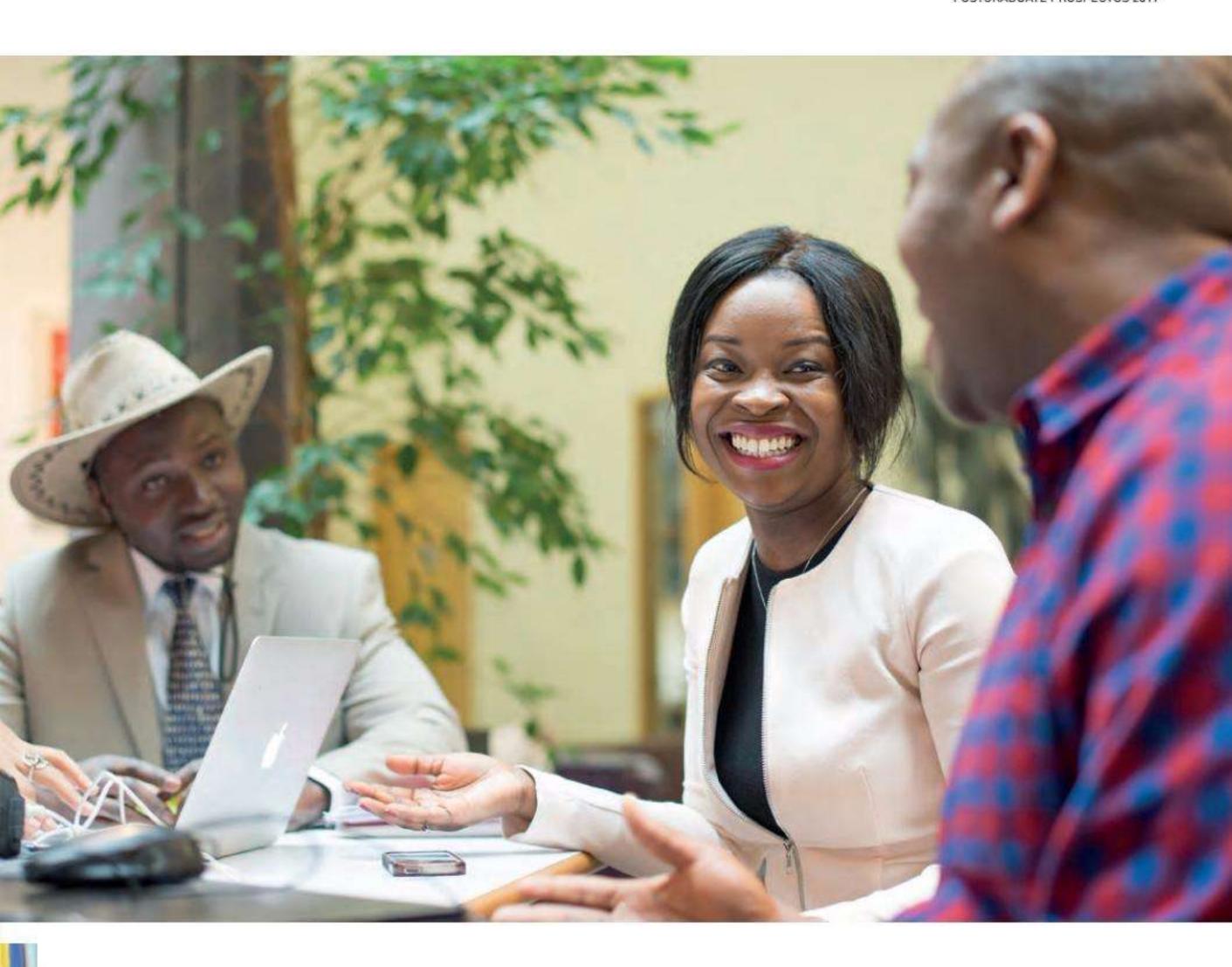
## During your studies

The University offers a range of support to help you make the most of your time with Loughborough. If you would like to improve your English, or focus on your study skills the University offers bespoke courses to help you. You will receive full details of these with your offer of a place to study with Loughborough.

Find out more about the English Language Support Service www.lboro.ac.uk/services/elss/







### Students with families

We can provide additional support for those students wishing to bring their families to the UK with them while they study. Contact us for more information: international-office@lboro.ac.uk

## LSU support

Loughborough Students' Union (LSU) believes that supporting international students at both campuses is important and encourages you to get involved and engage with their team. When you arrive with us, there will be various welcome activities to allow you to meet new people and to get to know the English culture.

## **Employability**

Successful graduates may be able to stay and work in the UK on a Tier 2 visa. You must secure a graduate level job with a UKVI registered Tier 2 sponsor employer before your current student visa expires.

Find out more: www.ukcisa.org.uk

Our Careers Network is here to help you with advice and support about your future career. See page 19 for more information.

### Global alumni network

Our graduates live and work across the globe. You can join this inspiring network, including reunions and other events, via our Alumni Association.

Find out more: www.lboro.ac.uk/alumni



## Working in the UK

International students pursuing a taught degree programme may supplement their income by working up to 20 hours per week during term-time and full-time during vacations. International research students can work up to 20 hours per week during the academic year. Your ability to take up paid employment, however, is likely to be limited by the demands placed on your time by your study programme. Dependent spouses of students who hold immigration permission for 12 months or more are usually allowed to work full- or part-time.

### Where to live

New international postgraduate students who apply before 1st September are given priority in halls of residence accommodation. Offers of places in halls of residence accommodation are issued when you firmly accept your offer of admission for postgraduate study. For accommodation options in Loughborough see pages 51-52 and for London see pages 75-76.

## Living in Loughborough

Loughborough is a great place for students to live; we were ranked the sixth safest place for students to live out of 64 towns and cities in England and Wales (StuRents.com University Crime Rankings) and won the Accommodation category at the 2015 WhatUni Student Choice Awards. The cost of living in Loughborough is generally lower than in major cities in the UK, and we have accommodation options to suit all budgets.

A single international postgraduate student studying in Loughborough requires approximately £11,500 a year for accommodation and other living expenses, excluding tuition fees. UK Visas and Immigration (UKVI) will require you to demonstrate that you have at least £1,015 per month available for your maintenance costs, up to a minimum annual total of £9,135, when you apply for your student visa.

For more information on the Loughborough campus, including support and services for international students, and accommodation information go to pages 35-60.





## Living in London

As the UK's capital city London is an exciting place to live, with activities and events around every corner. We estimate the average cost of living for a student on our London campus to be around £15,000 for the academic year 2017/18, including accommodation, food, travel, leisure and personal expenditure. The UKVI expects London-based students to have at least £1,265 per month available to cover their living costs, up to a minimum annual total of £11,385, to be verified at the time of your visa application.

For more information on the London campus, including support and services for international students, and accommodation information go to pages 61-84.

## One University, two inspiring campuses

Loughborough University has been located in Loughborough, in the heart of Leicestershire, since its beginnings in 1909. In 2015 we opened a new campus on Queen Elizabeth Olympic Park in London. The new campus offers postgraduate programmes only, and builds on the expertise and research quality of the Loughborough campus. So, whichever campus you choose, you can be sure of an outstanding experience.



For more details on our: Loughborough campus see pages 35-60 London campus see pages 61-84





## Loughborough University

A research-intensive, top 10 ranked university, with an outstanding record for providing the best student experience, Loughborough University offers everything you could ask for as a postgraduate student.

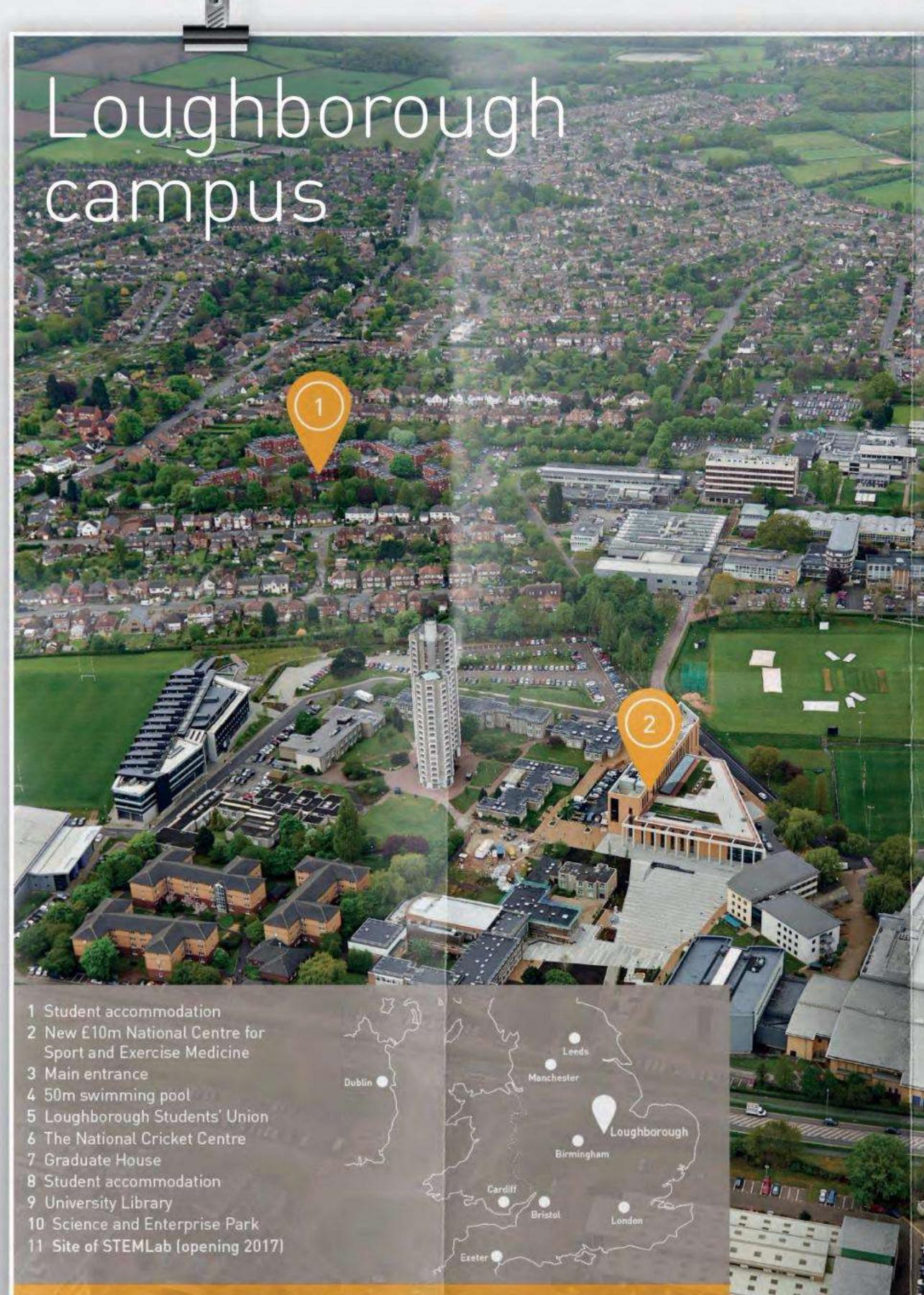
Our students enjoy a great location in the middle of the UK, a friendly campus community with comprehensive support systems, and incredible opportunities for social activities, sport, and the arts.

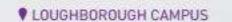


Loughborough campus	37
Loughborough location	39
Campus life	41
Your student experience	43
Loughborough accommodation	51

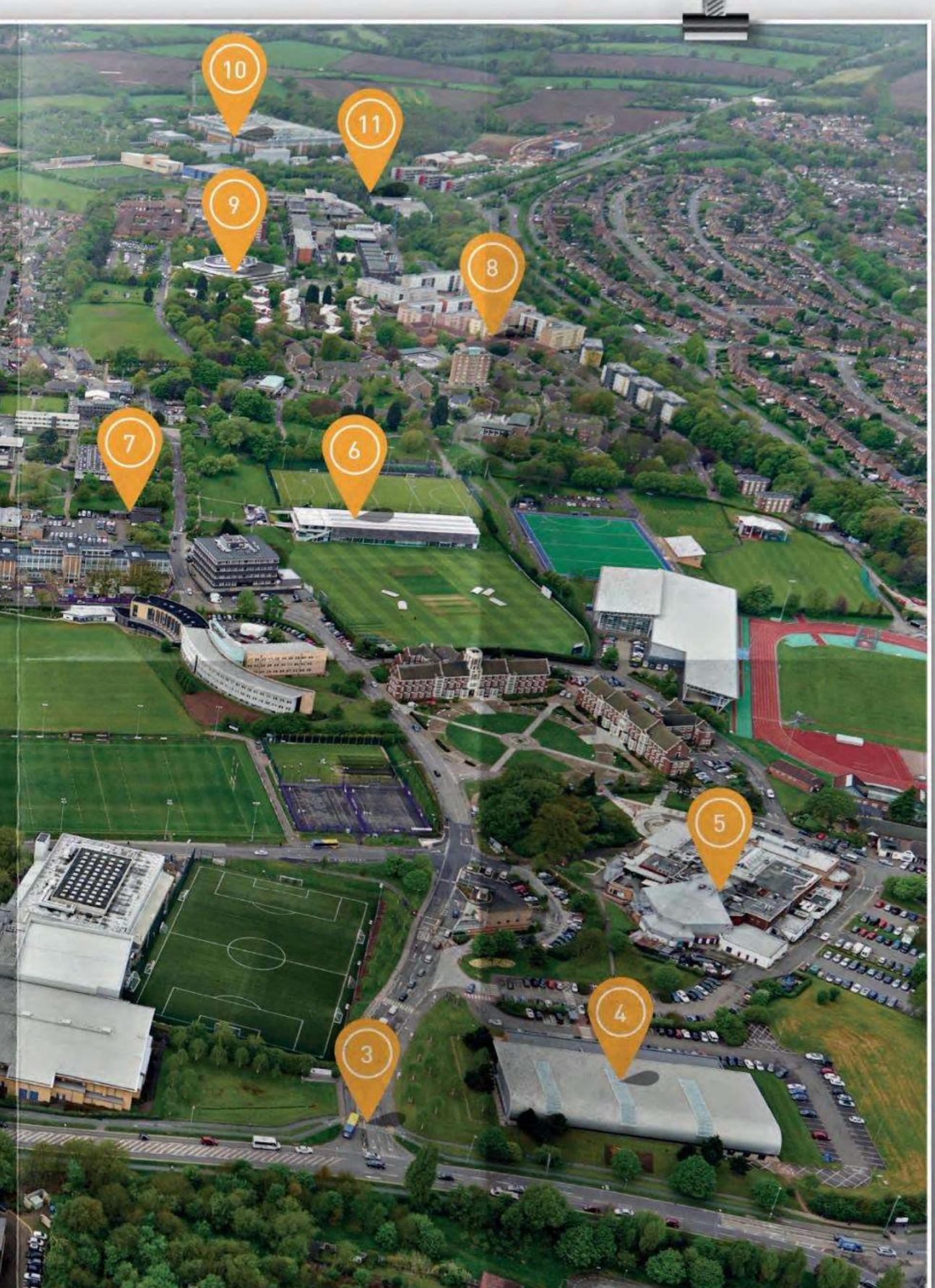
Supporting you	54
Fees and financing your studies	57
Study opportunities on the	85
Loughborough campus	







POSTGRADUATE PROSPECTUS 2017



### Loughborough location

Loughborough is a busy market town located in the county of Leicestershire, in the East Midlands. The town is situated between the three nearby cities of Leicester, Nottingham and Derby, and you can travel to London by rail in as little as 77 minutes.

East Midlands Airport is only 15 minutes away, with destinations including Europe, the US, South America and Africa.

Loughborough has a variety of entertainment on offer. The town hall offers theatre productions, musicals and comedy evenings, or you can catch the latest blockbuster at one of the two cinemas. Restaurants offering global cuisine can be found alongside independently owned pubs, cafés, delis and coffee shops, and there's a variety of clubs and bars.

Loughborough offers great value for money for grocery shopping in either the large supermarkets or the twice-weekly market, and there are specialist stores for Asian groceries and other international cuisine. For retail therapy, independently owned boutiques can be found alongside national chains such as Primark, Next, Topshop and Boots; and for a larger choice try the shopping malls in Nottingham and Leicester.



lboro.ac.uk/pg2017/ location

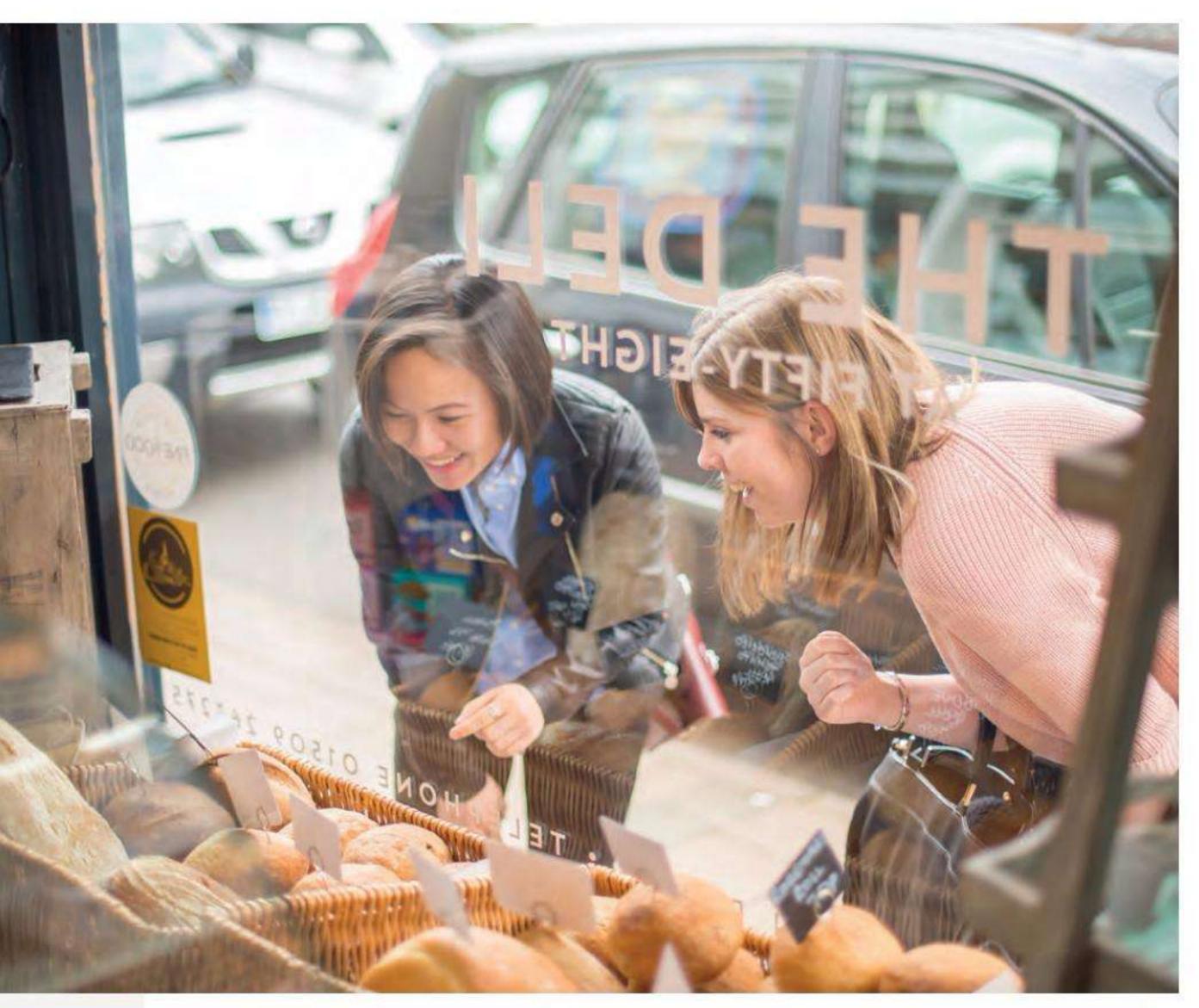


Love Loughborough is a town initiative that organises events, festivals, fundraising efforts and all sorts of other activities for those who live in the area, including Loughborough students. You can also benefit from a loyalty scheme, which offers savings in shops across the town.

Find out more: loveloughborough.co.uk

















QS STARS UNIVERSITY RATINGS 2014





### Campus life



Loughborough's campus, one of the largest in the UK, is home to almost 17,000 students, 4,000 of whom are studying at postgraduate level. Alongside the teaching and learning facilities on campus you'll find halls of residence, every sport facility you can imagine and beautiful gardens for relaxing.

Also available on campus are services including a bank, a Medical Centre and physiotherapist, grocery stores, a cycle shop, a parcel service, a beauty therapist, a pharmacy and an opticians. The local bus service links the University with the town centre and railway station, and students can ride for free across campus.





We are passionate about providing our students with every opportunity to achieve their full potential – professionally, intellectually and socially.

Loughborough Students' Union (LSU) is the driving force behind the Loughborough experience. Students are at the heart of everything we do, from providing opportunities to experience new activities and challenges to outstanding entertainments and events.

The LSU building is buzzing with students throughout the day and night. With food outlets, a Starbucks, and a bar and nightclub, there are always opportunities to meet up and socialise with friends.

Postgraduate students can get involved in every aspect of Union activities and services, and are represented on the Union Executive by the Postgraduate Development Officer.

We also work to promote positive health and wellbeing for all students and, alongside the University's Support Services, can help with everything from exam stress to finding accommodation.

In your spare time, there is something for everyone. You can join in with our Rag charity fundraising, community Action volunteering, the Media Centre, the Athletic Union and over 100 different clubs and societies.

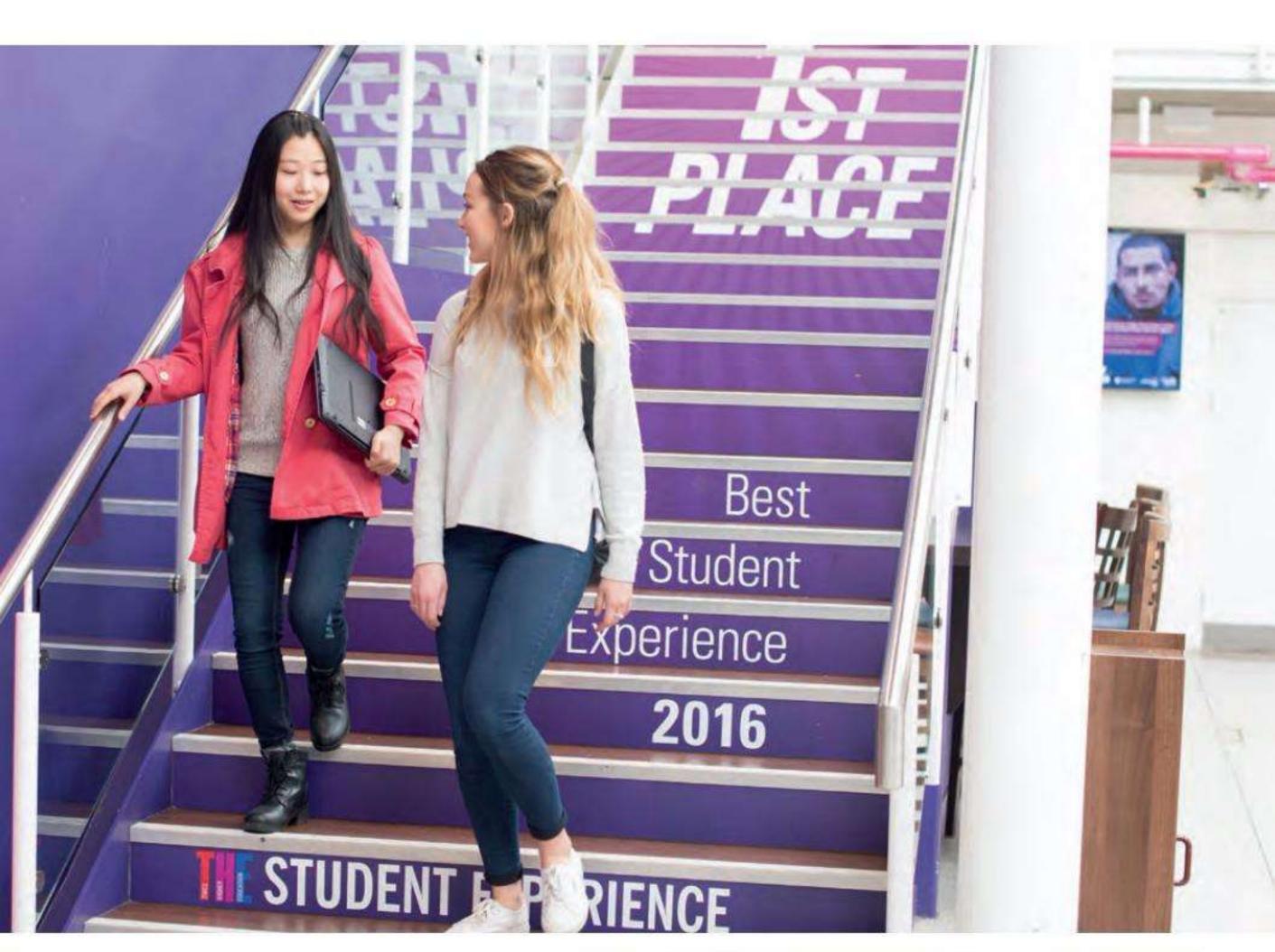


## Your student experience

"There's a very lively environment, with people from all cultural backgrounds and nationalities. Loughborough University is the place to be!"

### Ruth

MSc Information Management and Business Technology















© Julian Hughes



LU Arts is the University's arts programme, offering you a wide variety of art events and creative development opportunities. Our events include concerts, National Theatre Live screenings, talks, performance poetry nights and workshops.

If you are looking to get involved and develop your own creativity then why not join the University Choir or String Orchestra? We offer subsidised music tuition, and music rehearsal rooms are available. You can also take classes in pottery, painting, and drawing, or join a book club.

LU Arts also includes Radar, a contemporary arts strand, where we invite artists to respond to research. These projects allow people to engage with research in a completely different way that usually combines artistic outputs and discursive events like talks, workshops and seminars.



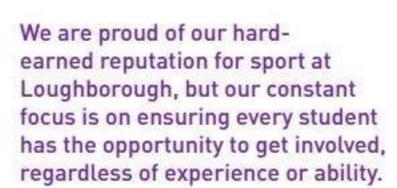








## Unrivalled sporting opportunities



Our extensive programme of activities, many of which are free of charge, are designed to fit with your lifestyle; it's a great way to try something different, meet new people and keep active. Activities range from badminton and boxing to yoga and Zumba, or just head to one of our 'parks' where you can play with your friends at any time.

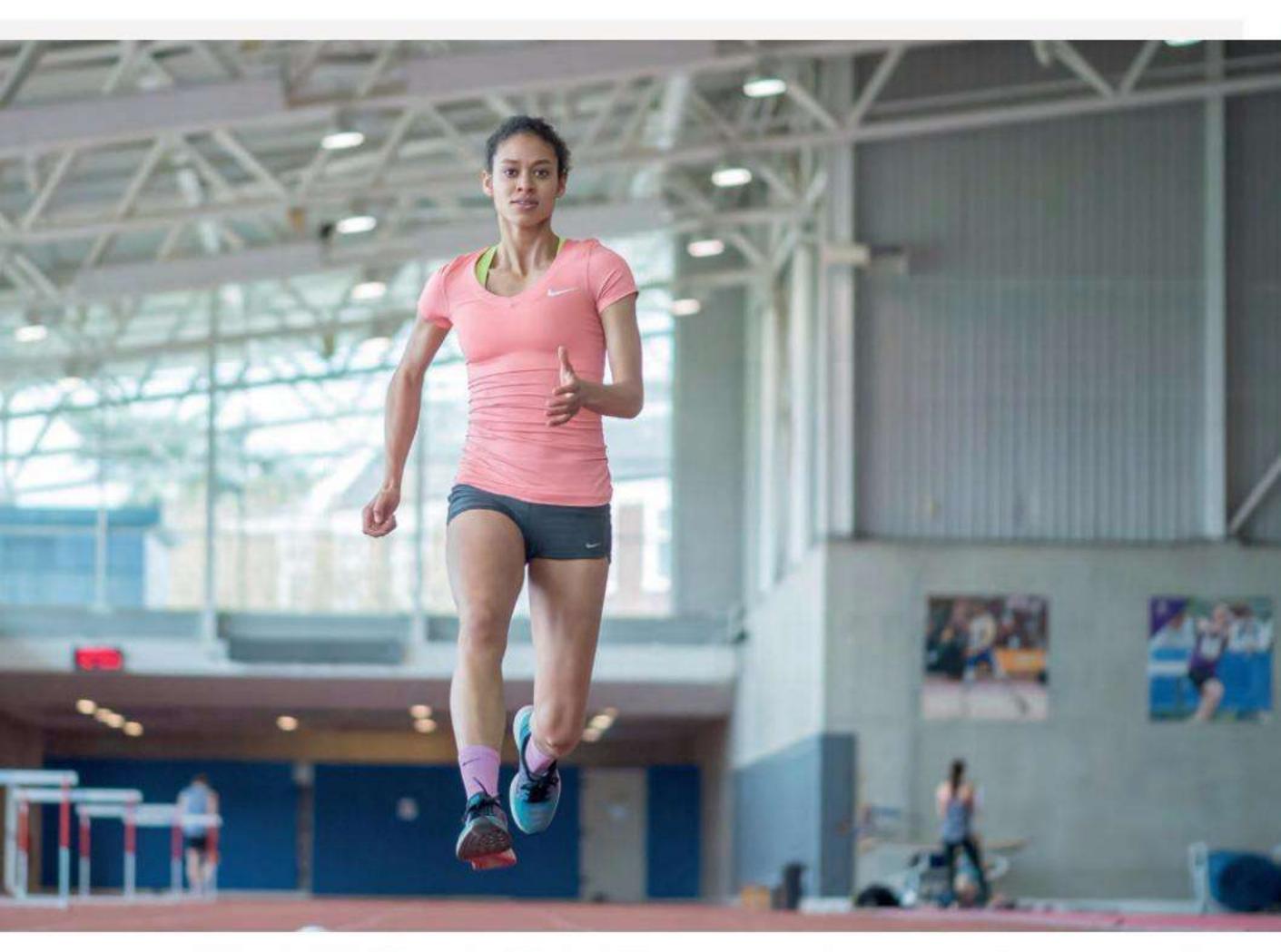
### Our facilities

- State-of-the-art fitness centre and gyms
- · Seven fitness studios
- Four full-size, floodlit, synthetic pitches including a water-based hockey pitch
- Multiple indoor sports halls with specialist badminton, basketball, gymnastics, netball and tennis centres
- Four recreational 'parks' including beach volleyball
- Running, cycling and walking routes
- 50m swimming pool
- International athletics stadium and indoor training centre
- 4,000 capacity stadium and extensive outdoor pitch complex
- National Cricket Performance Centre

### Join a team

Taking part in team sport is a great way to get involved in Loughborough life and take a break from your studies. You can represent your hall of residence, department or society in a range of fun, sociable, but competitive leagues and one-day events.











loughboroughsport.com

Represent your university

Club sport is your opportunity to represent Loughborough University in the BUCS (British Universities and Colleges Sport) Championship. Nearly 4,000 of our students take part, and joining a club is a great way to be part of the unique Loughborough experience. There are over 55 student-led sports clubs to choose from and competition for places in the teams is intense.

### Performance sport and scholarships

We have a unique system for academic support which allows committed performance student-athletes the flexibility to balance the demands of competing at the highest level of their sport with their studies.

If you are performing at national or international level and secure a place in one of our performance sport squads you will receive high quality coaching, strength and conditioning, sports medicine support and a unique personal development programme.

### Coach and Volunteer Academy

Our Coach and Volunteer Academy offers qualifications in coaching, volunteering and leadership. Areas covered include coaching, officiating, social media and digital marketing, events management, performance analysis, facility management, sport ambassadors, sports development and gym instructing.













"The sporting facilities on offer are excellent. Powerbase Gym is the best; the range of equipment and indoor track lanes are phenomenal."

### Savion

MSc Sport Management



loughboroughsport.com









### Loughborough accommodation

Several self-catering halls of residence are available to postgraduates. Accommodation is available either on, or a short walk from, campus and rooms are let on a 50-week basis. With competitive rents and a friendly and supportive atmosphere, halls are a great choice for students seeking accommodation.

### John Phillips

Situated in the student village in the centre of campus, John Phillips is a postgraduate dedicated hall of all en-suite rooms in 6-8 bed flats.

### **Forest Court**

Close to the town centre but within walking distance of campus, Forest Court is mainly a postgraduate hall. It offers standard or ensuite rooms in 4 bedroom flats.

### Harry French

Housing postgraduate, undergraduate and Erasmus students, Harry French is situated just off campus. Postgraduate students are housed in 1 or 2 bedroom flats.

### Falkner Eggington

Close to the centre of campus, Falkner Eggington Hall has several flats dedicated to postgraduate students, and is also home to undergraduate and exchange students.

Guidance on applying for a room in one of our halls of residence can be found on the website.

### Private accommodation

If you would prefer to live off-campus, in private accommodation, the Student Accommodation Centre advertises privately rented accommodation on Studentpad. All accommodation has been inspected by the University to ensure it meets the required standard. All landlords are independently accredited by a scheme run in partnership with Charnwood Borough Council. See the website for more details.



1ST FOR OVERALL
SATISFACTION
WITH THE STUDENT
LIVING EXPERIENCE

STUDENT BAROMETER AUTUMN

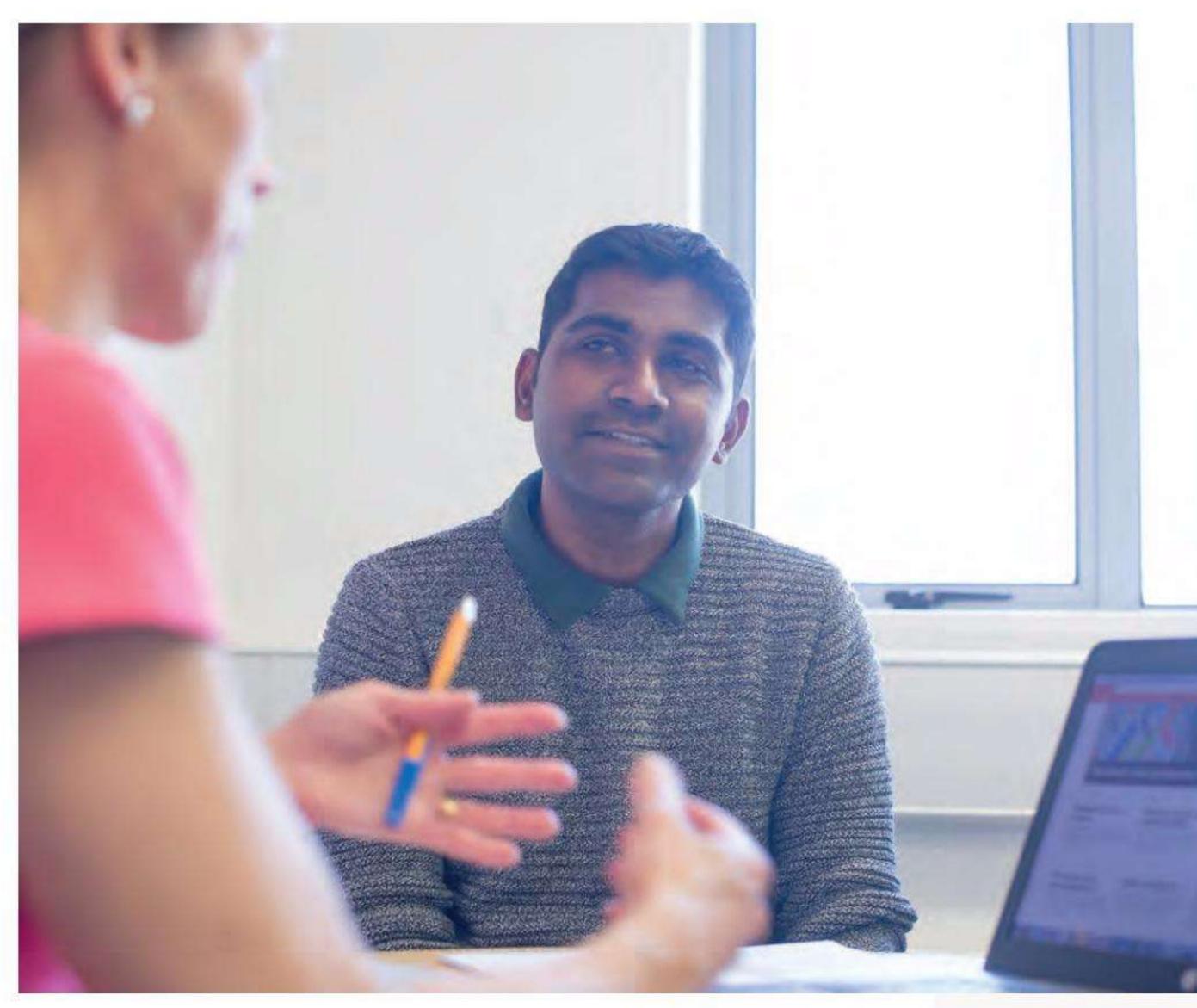
WAVE 2014



VOTED BEST ACCOMMODATION

WHATUNI STUDENT CHOICE AWARDS 2015









lboro.ac.uk/pg2017/ support



### Supporting you

Loughborough offers a range of support services, designed to help all students maintain their health and wellbeing throughout their studies.

### Student Advice and Support Service

Our Student Advice and Support Service offers free, confidential and impartial information and advice to students on topics such as housing, immigration, and money advice including student finance.

### Counselling Service

Students can talk to the University Counselling Service about any personal, social or emotional concern which may or may not be affecting their studies. Counselling can help students to find ways forward, make decisions, gain new perspectives, discover solutions, and come to terms with and manage challenging life events.

### Disability Office and Mental Health Support Team

The Disability Office arranges support for students with a wide range of disabilities, including physical disabilities, specific learning differences, sensory impairments and medical conditions.

The University has good access for students who are wheelchair users, or who have mobility difficulties, and adapted bedrooms are available in most halls of residence across the campus.

The Mental Health Support Team provides support to students who face barriers affecting their ability to study as a result of mental health issues.

### Faith and spirituality

The Centre for Faith and Spirituality includes a Christian chapel, a Muslim prayer room, a quiet room, a small faith related library and a number of rooms and facilities that can be used by student faith groups and individuals. Chaplains from different faiths and denominations provide support to everyone, irrespective of beliefs or background.

### Medical facilities

The Medical Centre offers GP and nurse appointments, as well as lifestyle checks and advice on all health-related issues. "I am especially impressed with the library's wide range of books, and services such as inter-library loans, as well as the friendliness of the staff."

> Bogdana PhD student

## Supporting your studies

Our study support services are here to help you succeed during your time at Loughborough.

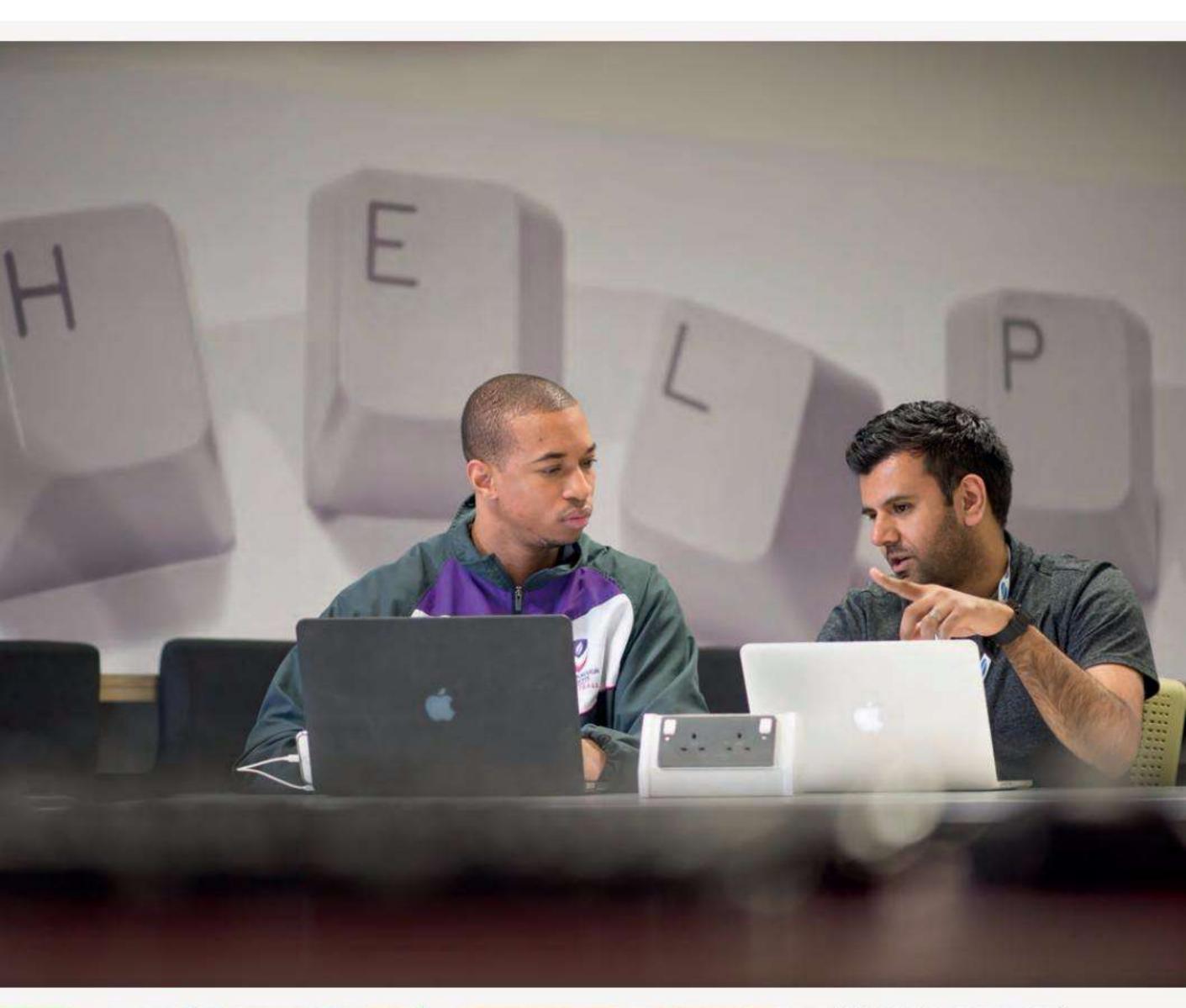
Our Library provides a complete range of services to support your studies including 24/7 access during revision and exam periods, over 1300 study spaces (250 with fixed PC access), around 700,000 volumes, over 100 databases and 30,000 electronic journals.

IT Services provide a wide range of information technology and communication facilities to support you through your studies. Facilities include extensive Wi-Fi access across campus, open access computer labs, online learning and teaching facilities, and a PC Clinic offering free and friendly advice for your personal devices. IT Services also offer a range of free software including Microsoft Office.

The Mathematics Learning Support
Centre is open to anyone who feels they
might benefit from additional help with
mathematics and statistics. Students can
access help through drop-in surgeries at
one of our two resource centres on campus.

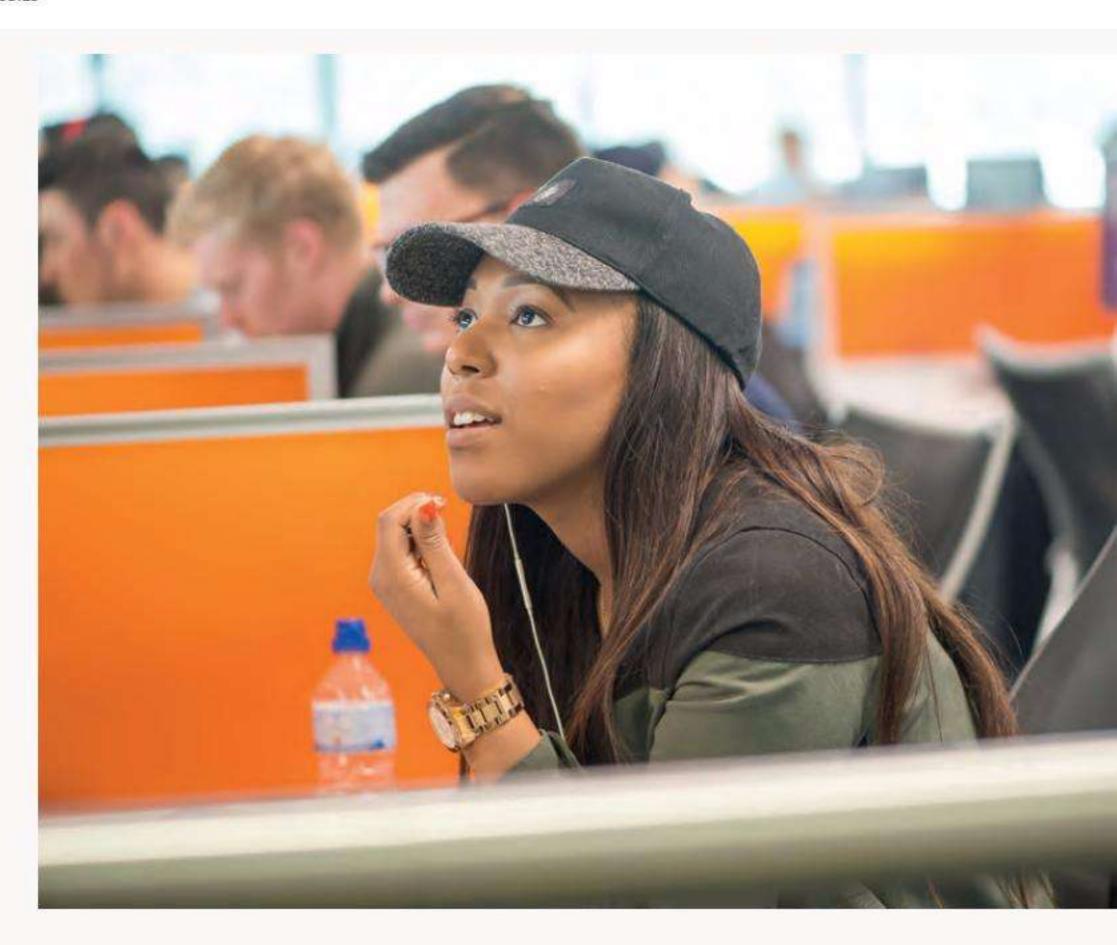
The English Language Support Service (ELSS) offers academic English and study skills workshops, courses, and online resources for UK, EU and international students.











## Fees and financing your studies

Tuition fees cover the cost of your registration, teaching, assessment, and operating University facilities such as the library, IT equipment, and other support services. Unlike undergraduate tuition fees, postgraduate fees vary between different programmes.



lboro.ac.uk/pg2017/ finance

### Fees

Our fee bands are detailed in the table below. Please see individual course listings for details of which band applies.

Tuition fees increase annually. For part-time students continuing on the same programme a 4% increase is likely from 2017/18 to 2018/19. Therefore, if your part-time course is studied over two or more years, please be aware that the fees paid in your second, and every subsequent, year of study will be higher. Further information can be found on our website.

### **Funding**

A range of school and department bursaries and scholarships are available to postgraduate students. In most cases you will be assessed on your eligibility based on your postgraduate application. Any bursary or scholarship awarded will be deducted from your fees.

### Study at Loughborough with a master's student loan

UK/EU students can borrow up to £10,000 to study at master's level (eligibility criteria applies). All postgraduate master's degree qualifications, such as an MA, MSc, MRes and MBA are covered by the loan, and you can study either full-time, or part-time, for instance a one year programme taught over two years.

The £10,000 can be used to pay for your tuition fees or other costs associated with studying, such as accommodation or study materials.

Loan repayments begin after you have completed your master's degree and are earning an annual income of £21,000 or more.

Repayments will be calculated at 6% of your income above £21,000, and will be made concurrently alongside any repayment of outstanding undergraduate student loans (i.e. borrowers repaying both loans will have a 15% deduction taken from their salary).

Find out more, including eligibility criteria and how to apply: www.slc.co.uk/services/postgraduate-loan.aspx

Taught programmes	UK/EU	International
PGT Band 1	£7,250	£16,100
PGT Band 2	£12,500	£18,500
PGT Band 3	£9,000	£20,500
PGT Band 4	£12,500	£20,500
MBA	£25,000	£25,000
Research programmes	UK/EU	International
Research Classroom-based	See website	£16,000
Research Laboratory-based	See website	£20,500

## Funding for PhD study

A research degree is a long term commitment. In order to focus on your studies, it is important to ensure your funding is in place for the three or four years of your degree. You may fund yourself or obtain funding to support your studies.

There main sources of funding available to research students are:

- Research Councils
- Studentships from the University's Graduate School, academic schools and departments, or our contracts with the government, industry or charities
- · External sponsorship

### Studentships

Studentships are usually aimed at supporting a full-time three year PhD programme or four years EngD programme, and four year PhDs through Centres for Doctoral Training.

Funding normally includes a tax-free living costs allowance (in 2016/17 this was approximately £14,000 per annum), your tuition fees, and in some cases additional funding for costs of running the project and/or training you wish to access.

Find out more:

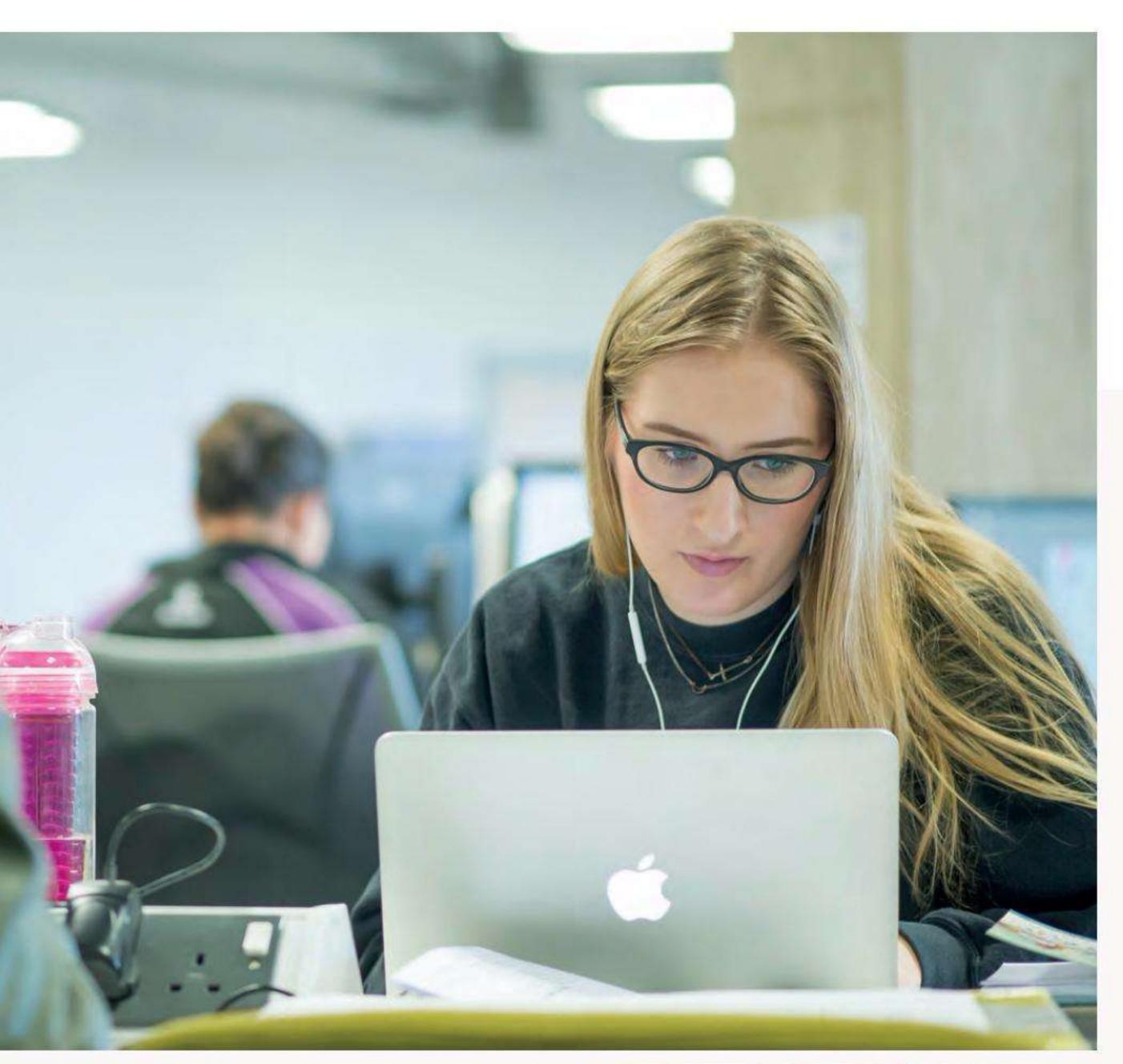
www.lboro.ac.uk/pg2017/studentships

### New loans for 2018

Loans of up to £25,000 will be available to research students who do not have Research Council funding (other eligibility criteria applies) from 2018. More information will be available online as details are released.









### Loughborough University London

In 2012, the Queen Elizabeth Olympic Park was the world's most talked about destination for the duration of the Olympic and Paralympic Games.

Now, the park boasts 8,000 new homes, 1.9 million square feet of retail and entertainment areas, 22 miles of cycle roads and footpaths, and is home to our inspiring postgraduate campus.



London campus location	63
Exploring London	66
Olympic class sports facilities	70
Enterprise Through the Curriculum	73
London accommodation	75

Supporting you	76
Fees and financing your studies	81
Study opportunities at the	197
London campus	



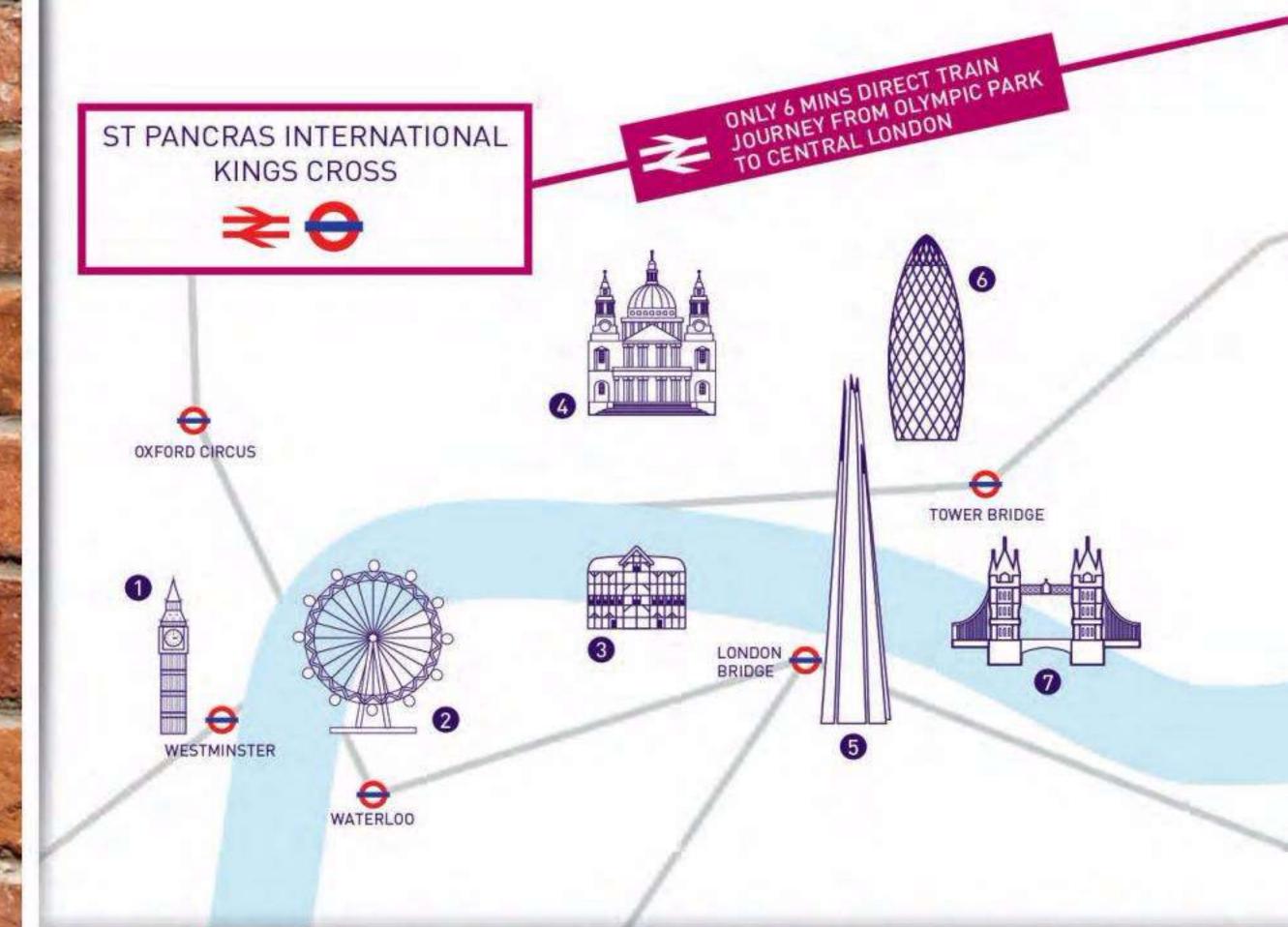
## London campus location

### City of London

- 1 Big Ben
- 2 The London Eye
- 3 Shakespeare's Globe Theatre
- 4 St Paul's Cathedral
- 5 The Shard
- 6 The Gherkin
- 1 London Bridge
- 8 Canada Square
- 9 The 02

### Queen Elizabeth Olympic Park

- A Loughborough University London Campus
- Olympic Stadium
- Arcelormittal Orbit
- Unite Stratford One Student Accommodation
- Westfield Stratford City Shopping Centre





# Live and learn in one of the world's top cities

London offers an irresistible mix of history, culture and creativity, and with over 18 million visitors in 2015 alone, it's easy to see why London is one of the world's favourite capital cities.

London is the world's leading financial centre for international business and commerce, and holds the headquarters of some of the world's most influential businesses and organisations. The City can offer you unrivalled work experience and networking opportunities, which could help turn your dream career into a reality.



₱ LONDON CAMPUS POSTGRADUATE PROSPECTUS 2017





### Exploring London

With thousands of shops, countless restaurants and hundreds of free museums and galleries, London is the perfect place to live, work and study.

### **Canary Wharf**

Located just five miles from the campus is Canary Wharf, the world's premier location for office and retail space in a vast assortment of futuristic and iconic structures.

### **Buckingham Palace**

Buckingham Palace has served as the official residence of Britain's monarchy since 1837. Open to the public every August and September, visitors can tour the State Rooms, enjoy a special exhibition and relax in the Garden Café, overlooking the Palace lawn and lake.

### The River Thames

The River Thames is the setting for London's most famous bridges and landmarks, such as Tower Bridge and the Millennium Bridge. Lining the banks of the Thames are renowned London structures such as the London Eye, St Paul's Cathedral and the Tower of London.

### Knightsbridge

Knightsbridge is home to many luxury shops and boutiques, including the department stores Harrods and Harvey Nichols. Knightsbridge also holds the flagship stores of many British and international fashion houses, including designers Jimmy Choo, Manolo Blahnik and Prada.

### Camden

Camden Town's open-air markets and retail outlets are open seven days a week, and offer everything from vintage gems to creative masterpieces. Camden is also home to a number of legendary music venues, and Regent's Park, one of London's best kept secrets. In the summer, the canal and local area is filled with boaters, walkers and cyclists, all looking for a tranquil escape from the capital's busy streets.





### East End life

Loughborough University London is proud to be situated in the heart of East London, where creativity, diversity and culture come to life.

### London Fields

London's most popular parks. The designated barbecue areas during the summer months attract hundreds of visitors, and on Saturdays there's a popular street market, where you can purchase fresh local produce, handmade items and traditional street food from all over the world.

### Columbia Road Flower Market

Columbia Road Flower Market is open every Sunday and is a great place to purchase exotic and local flowers, or pick up unique and eclectic crafts. The market also has a number of stalls selling bread and cheeses, antiques, garden accessories and handmade gifts.

### Ridley Road

Ridley Road hosts a lively international market offering traditional food, clothing and gifts from the Jewish, Indian, Pakistani, Asian, African and Caribbean communities. At weekends, Ridley Road is wildly popular, and attracts visitors from all over the city to sample its tasty international street food.

### Hackney City Farm

Hackney City Farm is a real working farm in East London. The farm has been running for over twenty years, and offers visitors the chance to meet a range of farmyard animals. The farm also hosts a number of community events and volunteering opportunities.

### Hackney Empire

Hackney Empire is a beautifully restored Victorian theatre, and is renowned for its contribution to the alternative comedy boom of the 1980s. The venue has hosted some of the nation's treasured comedy acts, including Dawn French, Jennifer Saunders, Jo Brand, Harry Hill, Harry Enfield, Sir Lenny Henry, and John Cleese amongst many others.



lborolondon.ac.uk/ east-london ₱ LONDON CAMPUS POSTGRADUATE PROSPECTUS 2017

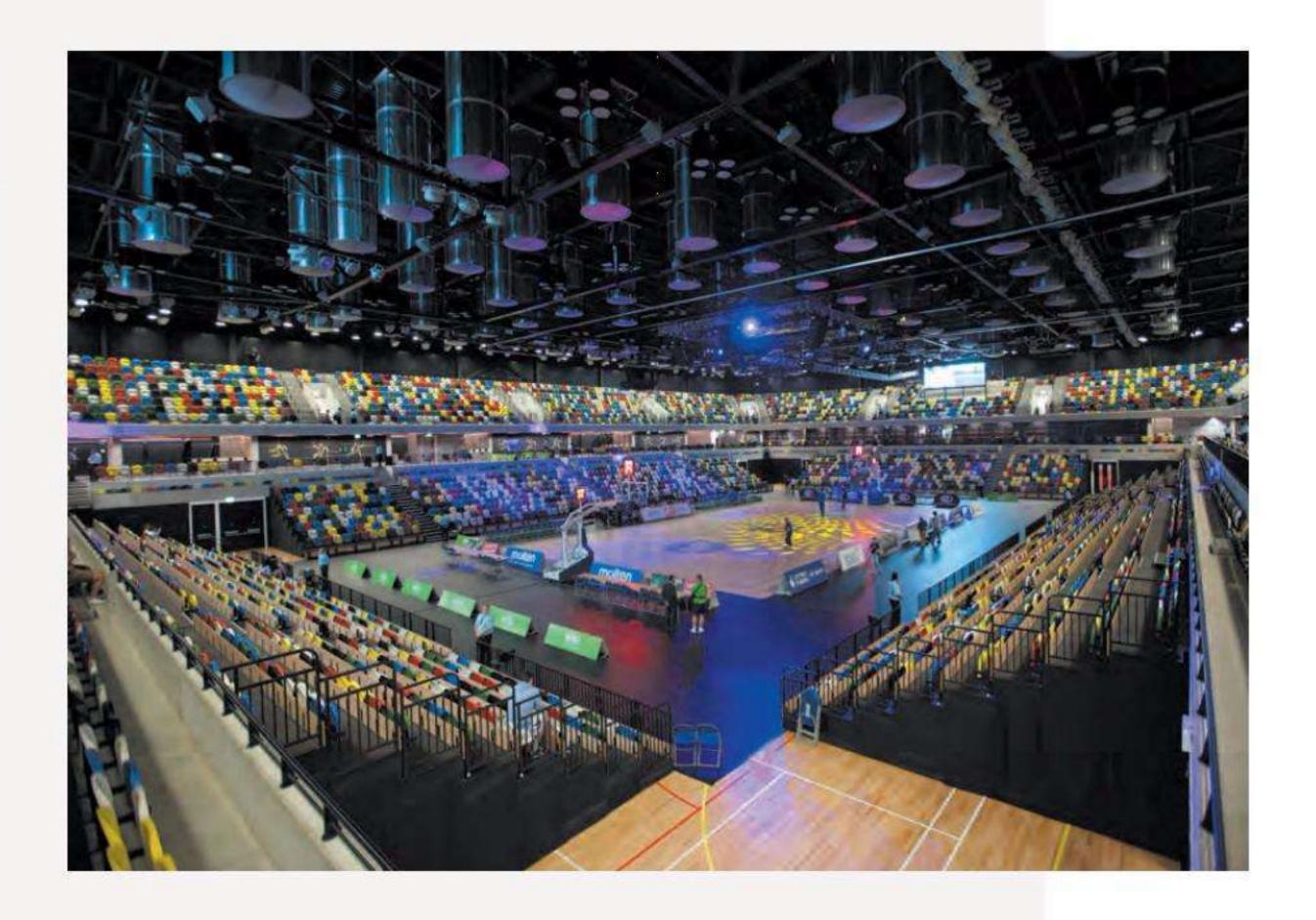












### Olympicclass sports facilities

The Queen Elizabeth Olympic Park boasts some of the most advanced sports facilities in the world. Many of the venues are open to the public, and offer a yearly calendar of events and activities for all ages.

### Copper Box Arena

Just across from the campus sits the Copper Box Arena, a multi-purpose spectator venue with an impressive 80 station gym and exercise studio.

### **London Aquatics Centre**

The London Aquatics Centre is the most technologically advanced and visually impressive swimming venue in the world. The centre houses three swimming pools, a state-of-the-art gym and a dry diving facility for athletes of all levels.

### Lee Valley Velo Park

Lee Valley Velo Park is the only venue offering four different cycling experiences in one place. Visitors can hire everything they need to take part, and can choose from Olympic track cycling, road racing, BMX or mountain biking.

### Lee Valley Hockey and Tennis Centre

Lee Valley Hockey and Tennis Centre is open to the public throughout the year. Last year, the centre hosted the European Hockey Championships, and will this year host the Women's Hockey Champions Event.

### Olympic Stadium

The magnificent Olympic Stadium is the new home of West Ham United FC, and remains the National Competition Centre for athletics in the UK. The stadium welcomes visitors every day for tours, arts and cultural events, conferences and music concerts.

### Study with us and stay healthy for less

Join Loughborough University in September 2017 and get an Olympic Park gym membership for just £29.95 per month. Membership includes access to the Copper Box gym, Aquatics Centre, group fitness classes and much more.







♥ LONDON CAMPUS POSTGRADUATE PROSPECTUS 2017







Your employability journey

#### Collaborative Project:

Most students take a module called the Collaborative Project, where a cross section of students from a range of disciplines address a brief set by a partner company or organisation.

#### Second subject module

Most students are required to take a module from a different Institute, to enable you to refresh your perspective and gain new knowledge and skills.

## 3

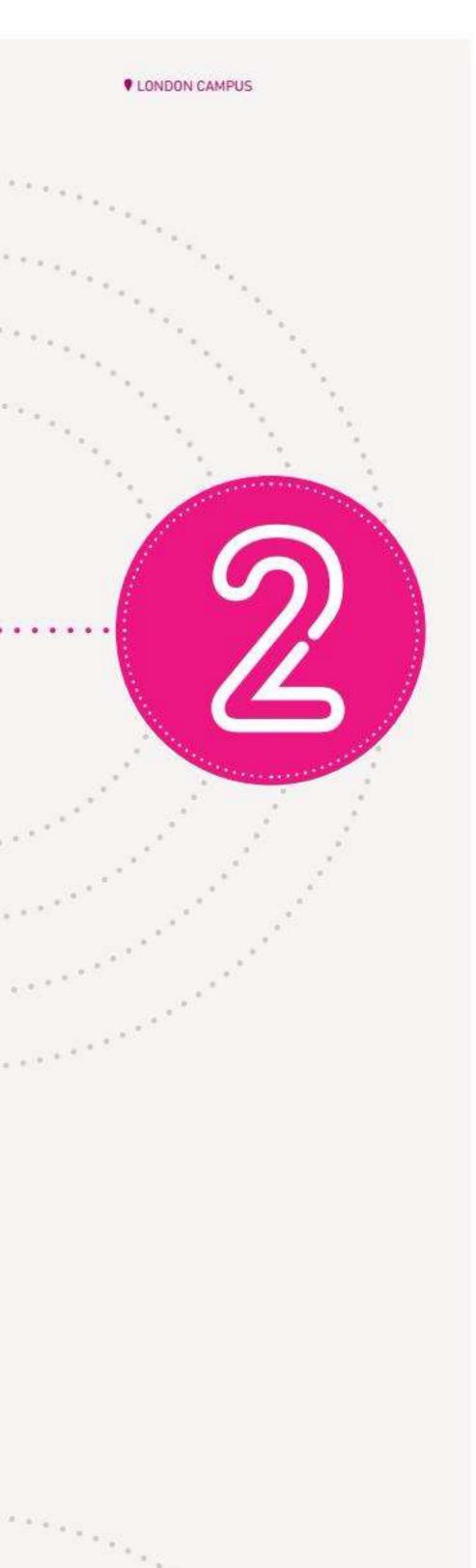
#### Work-based dissertation:

Choosing a work-based dissertation is a valuable method of growing your experience in a workplace environment, and will enable you to make meaningful contributions to an existing organisation.

#### Postgraduate Employability and Achievement Award

The Postgraduate Employability and Achievement Award provides you with an opportunity to reflect and record your efforts to develop your employability over the duration of your programme.





## Enterprise Through the Curriculum

Our programmes include an integrated employability course, which has been developed alongside businesses and professionals to make sure you graduate with the best possible chance of securing your dream role.

#### **Employability profiling**

All students will be supported and guided through a series of mock recruitment sessions, including submission of an online application form, completion of a video interview and participation in a mock assessment day. Throughout this process, students will receive feedback on their performance, as well as support and training on reflective learning, and how to identify and evidence transferable skills.

#### Postgraduate Employability and Achievement Award

At the end of your programme, you have the opportunity to apply for the Postgraduate Employability and Achievement Award, which recognises your efforts to boost your employability during your studies.

You will receive a bronze, silver or gold award, depending on your ability to show:

- Participation in employability profiling assessments
- Attendance at site visits, internships and work experience
- Your professional development through personal reflection





## London accommodation

The University works closely with a number of experienced, reputable organisations that specialise in providing student accommodation, from high-quality halls of residence, shared housing and self-contained apartments to houses.

#### Unite Stratford One

Located next door to Westfield Stratford City, just 10 minutes' walk from the campus, Unite Stratford One offers single en-suite rooms with shared living/kitchen areas, and studio apartments with private kitchen/living areas.

#### Claredale House

Claredale House is a beautiful red brick building offering affordable accommodation in Bethnal Green, which is 2.5 miles away from the City of London and approximately 15 minutes away from the campus. Claredale house has a total of 59 flats, with the vast majority consisting of four bedrooms with shared kitchen and bathroom facilities.

#### Get Living London on East Village

Formerly the Athletes' Village used during the 2012 Olympic Games, East Village offers a number of different sized apartments, containing between one to four bedrooms. The apartments are situated 10 minutes' walk from the campus.

#### University of London Housing Services (ULHS)

ULHS provides a range of different private housing options, located across all of London's transport zones. The private accommodation is provided through rental and letting agencies that have been checked and approved by their experienced team of dedicated accommodation specialists.





♥ LONDON CAMPUS POSTGRADUATE PROSPECTUS 2017











♥ LONDON CAMPUS POSTGRADUATE PROSPECTUS 2017

## Supporting you

When you begin your studies at Loughborough University London, you'll be given a bespoke induction programme so that you can find out all about the support we provide to help you with your studies.

#### Loughborough Students' Union

Loughborough Students' Union (LSU) is alongside you every step of the way, and we aim to provide events and activities to help you make the most of your time, and succeed in your studies. As well as social activities, we are also here to provide support and help. Student Voice, a service provided by LSU, exists to give free, independent and non-judgemental advice and guidance to students. To find out more about what Student Voice can help you with visit our website

www.lborolondon.ac.uk/lsu

#### Career support

Our Careers Network offers a range of services that will help you achieve your career ambitions. A highly-experienced career consultant can advise you on writing applications and CVs, help you to prepare for interviews and discuss your career plans with you. Bespoke events are offered throughout the year when you'll be able to showcase your talents to potential employers.

#### Health care

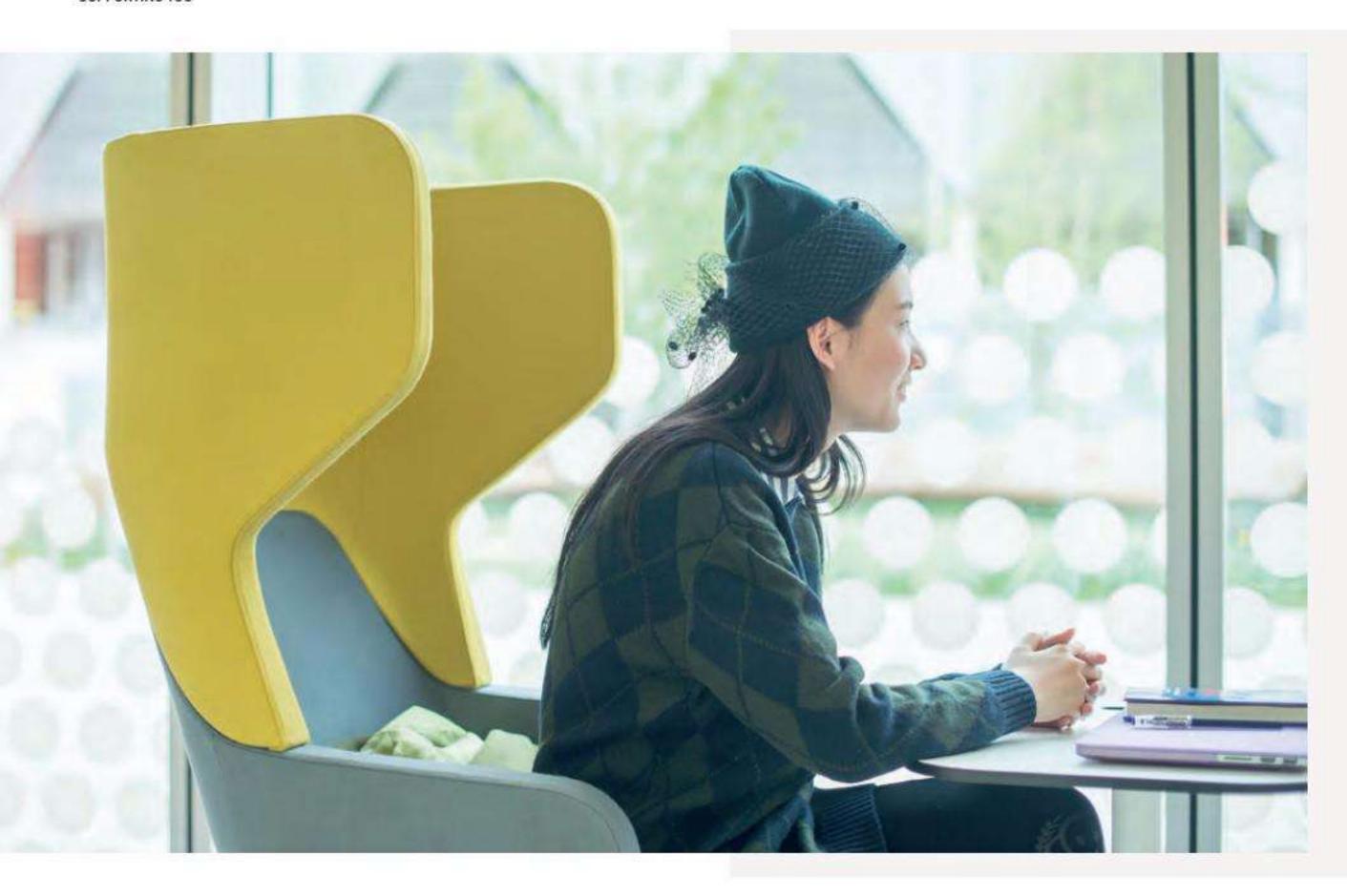
We recommend you register with a local GP, who will be your first port of call, should you have any health problems. Details on nearby GP surgeries and how to register will be provided during your induction.

#### Mental health support

The Mental Health Support Team provides support to students who face barriers affecting their ability to study as a result of mental health issues.

#### Loughborough Nightline

Loughborough Nightline is a confidential, non-advisory, out of hours student listening service that you can contact by phone or email, with anything that may be on your mind. Fully trained volunteers are available to talk to with no fear of being judged. The phone line is open from 8pm until 8am on Monday, Wednesday and Friday during term time.



#### Faith and spirituality

The Centre for Faith and Spirituality, based on the Loughborough campus, is the focus of religious, spiritual and faith-based activities for both the University's campuses. Chaplains from the major world faiths offer support and guidance to all the University's students, whatever their religious or spiritual beliefs. We will also be working with faith groups situated close to Loughborough University London to ensure our students feel part of the community networks of people who share their faith.

#### **Disability Office**

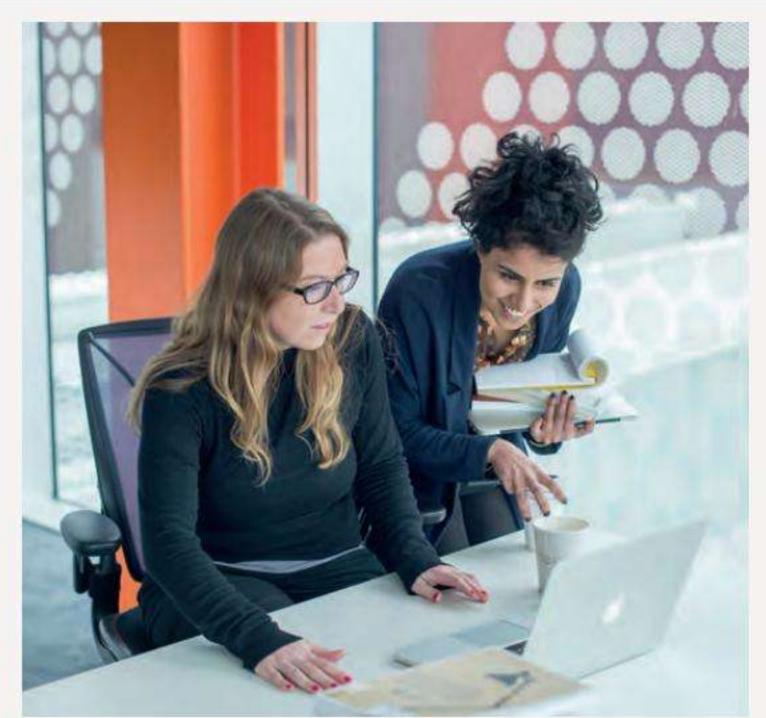
The Disability Office works to support students with a wide range of disabilities, including physical disabilities, specific learning differences, sensory impairments and medical conditions.

Our services include:

- · Support, advice and guidance
- Recommending appropriate assessment arrangements, for example extra time in exams
- Arranging one-to-one support specific to students' needs
- Liaison with Social Services
   Departments to help arrange funding for personal care needs (eligibility criteria applies)

For more information about support during your time at Loughborough University London, contact the Disability Office by phone (+44 (0)1509 222770) or by emailing disability@lboro.ac.uk.

₱ LONDON CAMPUS POSTGRADUATE PROSPECTUS 2017





#### Counselling service

We offer online counselling to all students and staff at Loughborough University London. You can talk to experienced staff based at the Loughborough campus about any personal, social or emotional concern, whether or not it is affecting your work or studies.

Counselling can help you to find ways forward, make decisions, gain new perspectives, discover solutions and come to terms with and manage challenging life events. If you think you would benefit from online counselling, you can contact the service via the website.

Loughborough University London also has an agreement with The University of Westminster Student Counselling Service to provide confidential counselling for its students.

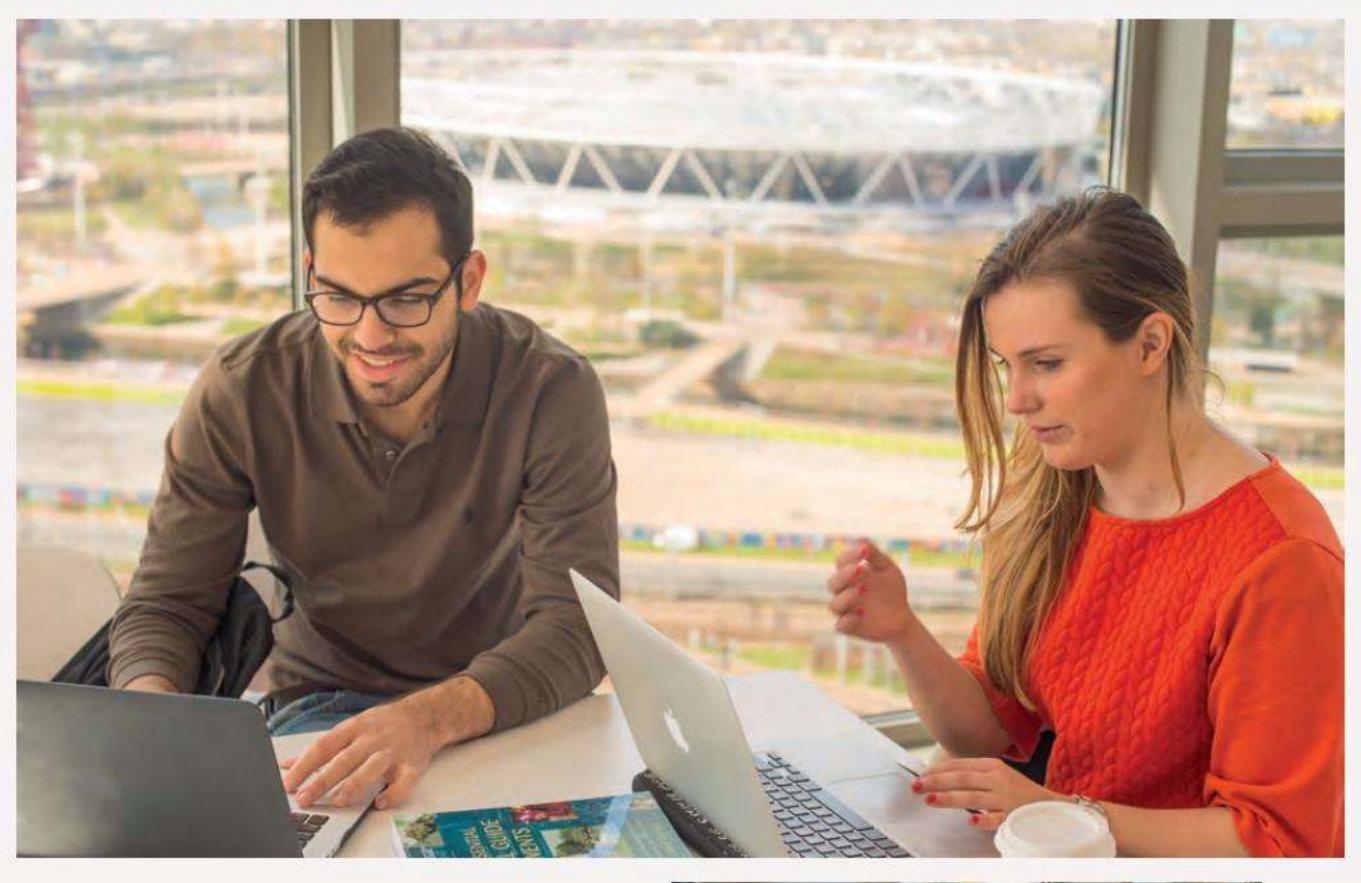
#### Welfare Advisors

Welfare Advisors will be happy to support you with any issue you may be having and help you to access any other relevant support services. Welfare Advisors are also able to authorise coursework extensions and discuss Impaired Performance claims with you. If ever you are in doubt of where and how to access specific support, your Welfare Advisor should be your first port of call.

#### Visa and immigration advice

For our international students, we know that there's a lot for you to do, both before you arrive and once you are here. Check our website for help and advice on immigration, applying for a visa and what to expect when you arrive in the UK.





# Fees and financing your studies



Studying a postgraduate programme with Loughborough University London is a significant but incredibly rewarding investment in your career and your future.

Loughborough University London offers a wide range of scholarships and studentships for taught and research programmes. For more information, please see pages 83-84.

₱ LONDON CAMPUS POSTGRADUATE PROSPECTUS 2017

#### 2017/18 UK/EU and International Students

Taught Postgraduate Level	UK/EU	International
Postgraduate Band 1	£10,000	£17,000
Postgraduate Band (Diplomacy)	£10,000	£18,500
Postgraduate Band 2	£10,000	£22,650
Postgraduate Band 3	£13,200	£23.950

Research Postgraduate	UK/EU	International
Research Classroom-based	See website	£16,000
Research Laboratory-based	See website	£20,500

Our fee bands are detailed in the table above. Please see individual course listings for details of which band applies.

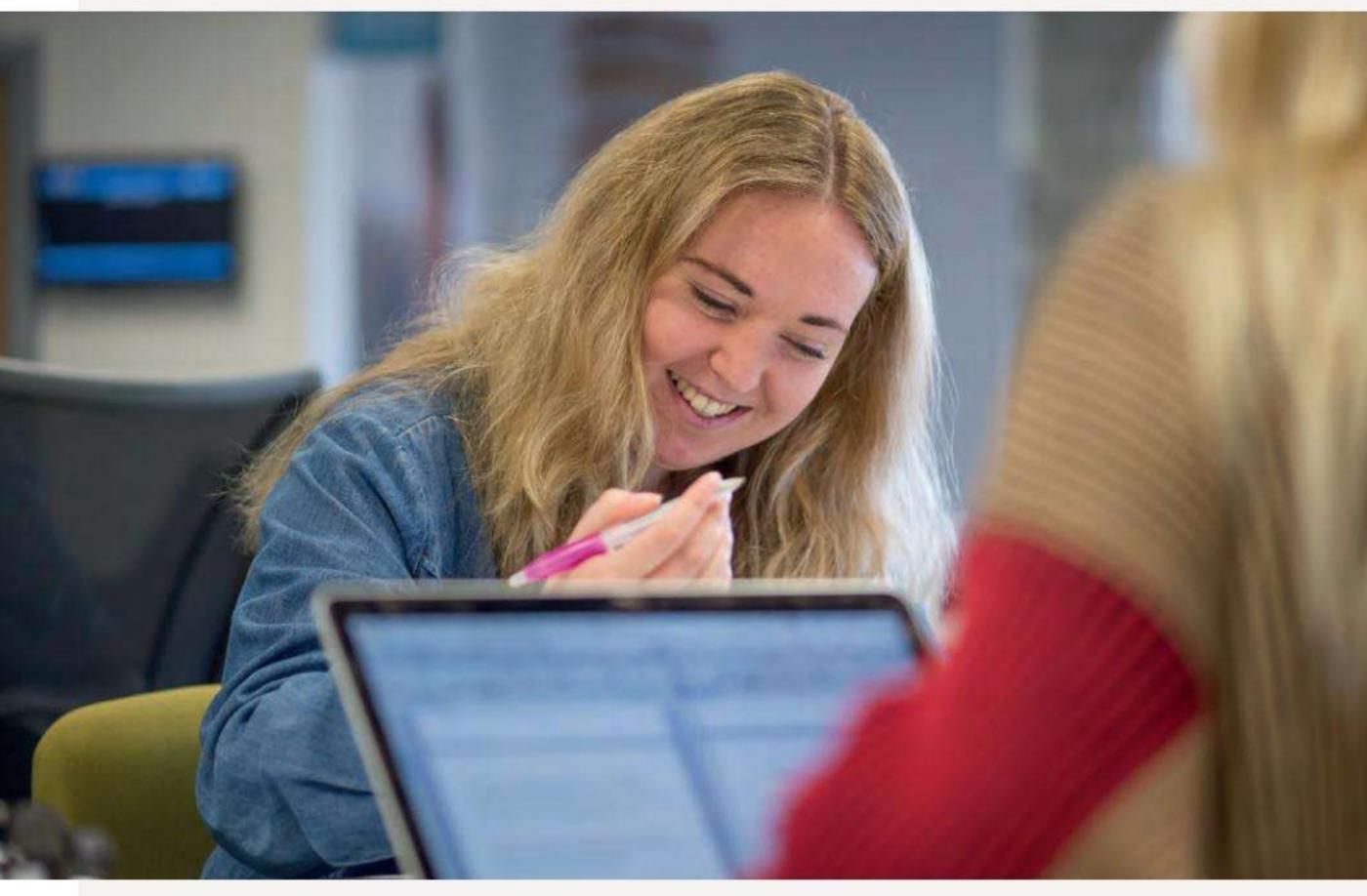
Tuition fees increase annually. For part-time students continuing on the same programme a 4% increase is likely from 2017/18 to 2018/19. Therefore, if your part-time course is studied over two or more years, please be aware that the fees paid in your second, and every subsequent, year of study will be higher. Further information can be found on our website.

#### Study at Loughborough University London with a master's student loan

UK/EU students can borrow up to £10,000 to study at master's level (eligibility criteria applies). All postgraduate master's degree qualifications, such

as an MA, MSc and MRes are covered by the loan, and you can study either full-time, or part-time, for instance a one year programme taught over two years.

The £10,000 can be used to pay for your tuition fees or other costs associated with studying, such as accommodation or study materials. Loan repayments begin after you have completed your master's degree and are earning an annual income of £21,000 or more. Repayments will be calculated at 6% of your income above £21,000, and will be made concurrently alongside any repayment of outstanding undergraduate student loans (i.e. borrowers repaying both loans will have a 15% deduction taken from their salary). Find out more, including eligibility criteria and how to apply: www.slc.co.uk/services/postgraduate-loan.aspx





## Scholarships and bursaries

Our ambition is to inspire students from all backgrounds and nationalities, to study with us and benefit from our outstanding student experience. The most up-to-date information about our scholarship and bursary opportunities can be found at: www.lborolondon.ac.uk/study/scholarships-and-bursaries/

Scholarship	Eligibility	Award value
Enterprise Scholarship	For UK, EU and international students looking for the skills and support to launch a new business idea.	90% off tuition fees
East London Community Scholarship	For any students meeting published entry criteria and who obtained GCSE or A level (or equivalent) qualifications from The East London Growth Boroughs of Barking and Dagenham, Greenwich, Hackney, Newham, Tower Hamlets and Waltham Forest.	50% off tuition fees
1909 Excellence Award	For UK/EU students who wish to study a programme from the Institute for Digital Technologies, the Institute for Design Innovation or the Institute for Sport Business.  Applicants must have at least 2 years of professional work experience, or have a plan to create a new business, or made a significant contribution to their University during their first degree.	E1,909 off the full cost of your tuition fees  This scholarship can be granted on top of the 20% Excellence Scholarship or the 20% Alumni Bursary for UK and EU students
Alumni Bursary	For all Loughborough University alumni	20% off your tuition fees
Excellence Scholarship	For high achieving UK, EU and international students with a 2:1 of first class honors or equivalent overseas qualification recognised by Loughborough University	20% off your tuition fees

For more information visit: www.lborolondon.ac.uk/fees-finance

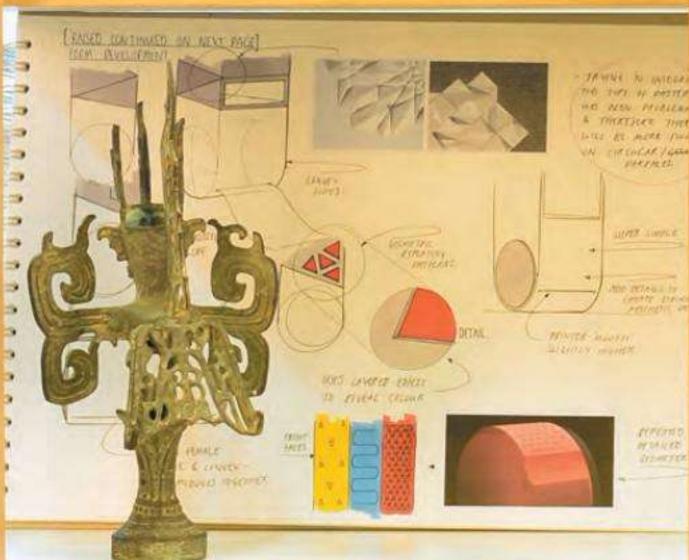
## Academic Schools and Departments

#### Loughborough University

Aeronautical and	87
Automotive Engineering	22004 VIVATO
Arts, English and Drama	91
Business and Economics	99
Chemical Engineering	113
Chemistry	117
Civil and Building Engineering	123











#### **Loughborough University London**

Computer Science	133
Design	137
Geography	143
Materials	149
Mathematical Sciences	153
Mathematics Education Centre	159

Mechanical, Electrical and Manufacturing Engineering	164
Physics	175
Politics, History and International Relations	181
Social Sciences	183
Sport, Exercise and Health Sciences	189

Design Innovation	201
Digital Technologies	207
Enterprise Development	213
Sport Business	219
Media and Creative Industries	225
Diplomacy and International	229
Governance	











## Aeronautical and Automotive Engineering



RANKED 3RD NATIONALLY FOR RESEARCH QUALITY REF 2014



RANKED 6TH THE COMPLETE UNIVERSITY GUIDE 2017

## Why choose Aeronautical and Automotive Engineering at Loughborough?

The Department of Aeronautical and Automotive Engineering is home to 37 academic staff and nearly 150 postgraduate students on taught and research programmes.

We have extensive laboratories and facilities including: wind tunnels; high performance computing; anechoic chamber; indoor UAV testing; structures testing facilities; gas-turbine engines; eight purpose built engine test cells; BAE Systems Hawk aircraft; 6-axis simulator (road and aircraft); chassis dynamometer and numerous instrumented test vehicles.

The Department hosts the Rolls-Royce UTC in Combustion System Aerothermal Processes and the Caterpillar Innovation and Research Centre (IRC) in engine systems. Over 87% of our graduates were in employment and/or further study six months after graduating. The Department has particularly close links with Rolls-Royce, BAE Systems, Bentley, Ford Motor Company, Group Lotus, Jaguar Land Rover, JCB, MIRA, Perkins Caterpillar and many tier one automotive suppliers.

#### Our research

The Department has four major research groups working across the technologies of automotive and aeronautical engineering. Each group works on a variety of research topics. These range from the development of new low emissions combustion systems for gas turbine engines through to fundamental investigations into the operation of hydrogen powered fuel cells.

#### **Programmes**

Research opportunities	p89
Automotive Systems	p90
Engineering	*********
Short courses for industry	p90



#### Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

Good degree in engineering, mathematics or science, equivalent of a UK Upper Second or First Class classification.

#### Supporting you

You will be assigned a supervisory team who, together with the Director of Research Degree Programmes, provides academic and pastoral support. Training and departmental seminars will help you to develop your skills, and you will be expected to present your own research papers. You will be provided with your own desk and computer in a shared departmental office, with access to library and IT facilities.

#### How to apply

You should indicate the research group you would like to study with, and preferably the member(s) of staff whose research area is of most interest. A detailed research proposal can be included with the application, but is not necessary.

"Loughborough University has good relationships with graduate employers and loads of them come onto campus to find bright students who could become potential employees."

#### Olumide

MSc Automotive Systems Engineering

#### Our areas of research

#### Aerodynamics and Flight Research

This includes the Rolls-Royce UTC working on experimental and computational studies of gas turbine combustion systems to reduce emissions, the Ground Vehicle Aerodynamics Research Group working with Jaguar Land Rover on drag reduction for future road vehicles, and the Centre for Autonomous Systems working with BAE Systems and DSTL on the challenges of unmanned aerial vehicles.

#### Low Carbon Vehicles

Research focuses primarily on low carbon vehicles, propulsion systems and autonomous transport. Experimental and computational studies and research that leads to enhanced understanding relevant to the industry is supported by Caterpillar, Ford Motor Company, AVL and Jaguar Land Rover.

The main aim is to improve vehicle efficiency and reduce emissions (including CO<sub>2</sub>). This is supported by advanced research on mapping and calibration of hybrid powertrains as well as on fluid flow and combustion modelling. We have had successes in combustion of sustainable fuels, exhaust after-treatment systems, ultra-low emission combustion systems, fuel cells, battery technology and super-capacitor research for hybrid and electric vehicles.

#### Centres for Doctoral Training

Centres for Doctoral Training (CDT) integrate three years of PhD study with one year of research training and have strong industrial links. The Department participates in three centres:

- Gas Turbine Aerodynamics, in partnership with the Universities of Cambridge and Oxford.
- Embedded Intelligence, in partnership with Heriot Watt University.
- Fuel Cells and Their Fuels, in partnership with the Universities of Birmingham and Nottingham, Imperial College London and University College London.

Find out more: lboro.ac.uk/pg2017/cdts

#### Taught programmes

#### **Automotive Systems** Engineering

MSc 1 year full-time, 3 years part-time

#### Entry requirements

An honours degree (2:1 or above) or equivalent overseas qualification in a relevant engineering subject. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme provides graduates interested in the automotive industry with knowledge and technical expertise in a wide range of automotive disciplines. Created in partnership with companies such as the Ford Motor Company and Jaguar Land Rover, the programme is aimed at existing or prospective product development engineers. The programme is accredited by the Institution of Mechanical Engineers (towards Chartered status).

You will be able to study modules in: Vehicle and Powertrain Functional Performance; Vehicle Systems Analysis; Manufacturing Systems and Integrated Design. You will also undertake a project and select from other modules such as: Sustainable Vehicle Powertrains; Body Engineering; Powertrain Calibration Optimisation; Vehicle Dynamics and Simulation; Autonomous Vehicle Systems; Vehicle Aerodynamics; Vehicle Electrical Systems Integration. You will be assessed by a combination of written examinations, reports and presentations.

Our graduates work primarily in product design and development groups and are sought after by a wide range of automotive companies. Students that wish to pursue other careers are well-equipped to work in a wide range of sectors within the vehicle industry.

For more details on studying part-time, please see page 18.

#### Postgraduate Certificates for industry

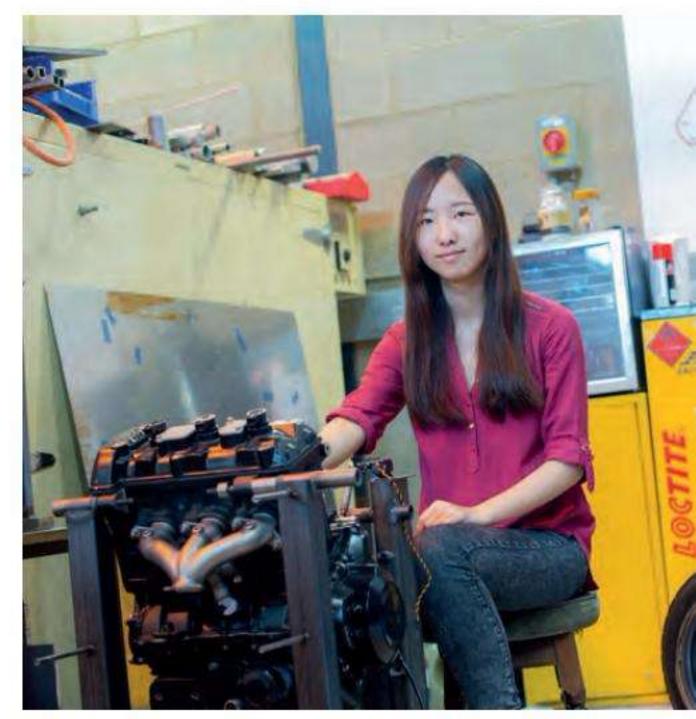
We offer Postgraduate Certificates for engineering professionals who wish to deepen their knowledge and understanding in a particular area of automotive engineering. The Certificates integrate engineering fundamentals, practical simulation and real world whole-vehicle testing.

We currently offer three certificates:

- Powertrain Simulation and Test
- Intelligent Vehicle Systems
- Body and Chassis Simulation and Test

Each of the Postgraduate Certificates is a set of three modules from our Automotive Systems Engineering MSc programme which is accredited by the IMechE. We also offer each module as a short course.







"You can study nearly any theme and combine different techniques, or switch from one to another. My experience so far has taught me to just begin working on it – if you want to try something new you will always find support."

#### KRISTINA

MA Graphic Design and Visualisation

## Arts, English and Drama



RANKED 2ND FOR ART AND DESIGN THE COMPLETE UNIVERSITY GUIDE 2017



RANKED 38TH
IN THE WORLD FOR
ART AND DESIGN
QS WORLD UNIVERSITY
RANKINGS BY SUBJECT 2016



RANKED 15TH
IN THE UK FOR ENGLISH
THE COMPLETE
UNIVERSITY GUIDE 2017

#### Why choose Arts, English and Drama at Loughborough?

The School of the Arts, English and Drama provides a dynamic, creative and technically supportive environment for postgraduate study. We offer a friendly and inclusive community with a proven record for publications of international excellence.

Each programme is designed to inspire talented individuals with the drive and determination to succeed. We provide many exciting ways to enhance skills, including researchled teaching by recognised international scholars, access to multi-million pound facilities, contact with prominent industry links, and superb entrepreneurial support.

We cater specifically for the different needs of our programmes. For instance, our art and design students have full access to our state-of-theart facilities, which offer a tantalising number of creative possibilities and provide industry standard outputs, and receive professional training by using them.

Our Creative Writing students are exposed to different professional writers using a range of genres, as well as dedicated advice in building their future profile as a writer.

Students on our English programme benefit from the rich range of different research methodologies and approaches employed in the School, from archival research to new digital approaches.

#### Our research

A unique range of research opportunities encompass art, design, history, theory, theatre, performance, post-medieval literature, publishing, linguistics studies, and creative writing, including theatre, fiction and poetry.

Our research includes conceptual research leading to published outcomes and applied research leading to industrial and commercial applications and/or professional and public commissions.

We are also committed to knowledge transfer and knowledge exchange projects. We use our research strengths to form links with the creative industries, developing the entrepreneurial side of our activities, and fostering a range of productive and effective knowledge transfer partnerships.

#### **Programmes**

Research opportunities	p93
Animation for Health and Wellbeing	p95
Art and Design (Studio Practice)	p95
Creative Writing	p96
English	p96
Graphic Design and Visualisation	p97



#### Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A good undergraduate degree (typically 2:1 or above) and master's level qualification, or equivalent experience, is expected.

The School of the Arts, English and Drama is a thriving research community with a proven record for both creative and scholarly outputs of international excellence in the fields of the arts in the broadest sense of that term: visual, literary and performative. Our research takes place both through individual scholarship and in collaboration with research partners across the UK and the world, and we investigate new directions in both the creation and the analysis of a wide range of cultural forms.

#### Supporting you

You will have two supervisors who provide academic support throughout your research, and additional support and advice is provided by the Director of Research Degree Programmes and the Research Student Administrator.

In addition to the University's extensive training provision, the School organises a specific programme tailored to the needs of arts, English and drama research, which includes practice-based methodologies. You will also benefit from a range of other opportunities to meet regularly with other students and academic staff by means of research forums, research seminars and involvement in the School's Research Groups. We encourage students to present at conferences, publish, exhibit their work, and to contribute to our lively research community.

You will have access to shared study space and all facilities within the School and across the University, including library and IT services. You will also be able to apply for funding for conference attendance and other dissemination activities relevant to your research.

#### How to apply

#### Arts Research Proposal

Your proposal should be approximately 2,000 words and include a provisional title, the research question that forms the core of the enquiry and the scope of the topic. You should outline the methods, approach and theory to be adopted, the relationship to current research and literature in the field, and a provisional timetable. If you are practice-based, then you need to supply a portfolio of your work as a PDF document or web link with the application.

#### English, Drama and Publishing Research Proposal

Your proposal should be approximately 2,000 words and include a provisional title, the research questions that form the core of your enquiry, and the scope of the topic. You should outline the methods, approach and theory to be adopted and the relationship to current research and literature in the field. You should also include a set of chapter headings (with a brief outline of each chapter's likely content), a bibliography of the reading you consider relevant to your research (indicating the titles you have already consulted), and a provisional timetable. In the case of a proposal for a creative thesis, an account of the creative component, and the role that it will play in the overall research plan, is also necessary.

#### Our areas of research

#### **Animation Academy**

This is a centre for animation research, scholarship, practice and exhibition; embracing tradition and progress, education, industry, art and commerce. It is dedicated to excellence at a national and international level in all its activities.

#### Drawing and Visualisation (TRACEY)

Since its inception in 1998, the Drawing Visualisation Research Group's key aim has been to explore and examine drawing and visualisation processes physically, cognitively and critically.

#### Politicised Practice

Our aim is to act on and intervene into the political conditions of specific disciplines, for example, visual culture's relationship to art history, anti-art ideas in relation to fine art practice, and social graphics' relationship to capital.

#### Sexual Politics

The Sexual Politics Research Group is a multidisciplinary group whose work encompasses historical, empirical, theoretical and practical research across the broad areas of feminism, sexual difference, gender identity and queer theory, as these pertain to the arts and humanities, sciences and social sciences.

#### **Textiles**

This Group is committed to understanding and progressing textile design research and practice through both traditional and practice-led approaches, particularly within collaborative and interdisciplinary working contexts.

#### Early-Modern Culture

This group provides a forum for the discussion of pre-19th century literature, art and history. It aims to develop the distinctive features of early-modern research practice, specifically its interdisciplinarity, canonical, and non-canonical focus; the projects it develops reflect the varied research interests of the group's members.

#### Modern and Contemporary Literature and Culture

This Group includes a geographical and historical diversity, with modern being defined as culture post-1780. It focuses on contemporary American, Asian, British and Irish literatures, creative writing and linguistics, as well as a variety of theoretical and cultural contexts for 19th- and 20th-century literary and cultural study.

#### Theatre and Performance

This Group is concerned with research into all forms of performance, both historical and contemporary. Our research-active staff are currently involved in a variety of projects, both discipline-based and inter- and multidisciplinary. Some of our research is practice based; some is applied; some is analytical or historical. Some of what we do impinges on other cultural forms (such as the novel, film, fine art) while some of it is purely theatrical.

#### Publishing

This theme is concerned with the many and varied aspects of publishing, as a means of producing and disseminating information and literature. Our intention is to study the various ways in which information is made available for public view.



#### Gendered Lives

This Group is composed of a multidisciplinary group of researchers at all levels who are working on gender, how it is experienced, and how it is represented in personal documents and cultural objects. This encompasses disciplines whose researchers use interviews or life narratives; build models/therapeutics or create writing/performances based upon lifeaccounts; engage with study diaries, letters, and other personal documents; examine representations of life, such as autobiographies and portraiture.

#### Service Design Mini Centre for **Doctoral Training**

This is a vibrant group that trains postgraduate researchers to achieve success in service design and innovation. Our overarching goals are research excellence, societal impact and enterprising viability.

#### SPRiG-net

A cross-School initiative designed to support, through networking and events, the excellent research across the University focused on feminism, gender studies and queer theory.



#### Taught programmes

## Animation for Health and Wellbeing

MA 1 year full-time, 2 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

This innovative and pioneering programme is aimed at students from a variety of disciplines, including art and design, teaching, social work and health etc, who are eager to explore how animation can facilitate and communicate models of health and wellbeing.

Students will explore one of three options:

Using 'The Good Hearts Model' students will have the opportunity to learn about participatory animation and how it is used in therapeutic, educational, and criminological processes.

Auto-therapeutic Animation provides a platform for personal expression, communication and self-exploration. Students will have the opportunity to produce a short film based on a personal issue or cause.

Within Assistive Animation Technology, students will identify a pertinent issue in the wider social arena and explore how animation, design and its processes can be used in an assistive way for services or impactful visual purpose e.g. health campaigns, exhibitions etc.

As part of this programme, students will be able to engage with the work of HEART EM (Healing Education Animation Research Therapy, East Midlands), and access the Animation Academy Archive Collection.

Once the online application procedure is completed, we will ask for a Project Proposal Form to be completed. The Project Proposal is requested as part of the initial assessment process and can only be accepted after you have applied via the Postgraduate Application Portal.

#### Important notice: Disclosing and Barring Service (DBS) checks

All prospective students will be subject to DBS checks and/or the equivalent overseas check(s) if they have spent time (normally more than 6 months) living overseas.

This programme is designed to develop specialist knowledge and expertise to work in animation and across a number of disciplines. A number of students progress to PhD study.

For more details on studying part-time, please see page 18.

### Art and Design (Studio Practice)

MA 1 year full-time, 2 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in an art and design discipline or closely related subject. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

This programme provides an opportunity for students to develop the full potential of a practice-based project proposal either as research or professional preparation by combining traditional and contemporary media in their chosen area of interest.

Based on a balance between theory and practice, our School offers students a wide range of specialist areas and facilities in jewellery design and accessories, textiles, fine art, photography, 3D design and ceramics. The latter provides extensive facilities including an anagama kiln.

The programme encourages innovation in addition to the refinement of individual skills and practice. It is cumulative in structure, progressing through five compulsory modules: Contextualising Practices in Art and Design; Research Methodologies: Art and Design; Final Project: Situating and Rehearsing; Exploring Materials, Processes and Techniques; Final Project. Assessment is continuous and based on an appraisal of practice, written material, related research, and professional and entrepreneurial skills in relation to the final project outcome(s).

Once the online application is completed, we will ask for a Project Proposal Form to be completed. The project proposal is requested as part of the initial assessment process and can only be accepted after you have applied via the Postgraduate Application Portal.

Our programme is designed to support graduates in gaining the skills required to excel in the creative, industrial and cultural sectors. It equips students for employment in a variety of careers according to their chosen area of study, as well as preparing graduates for research at PhD level.

For more details on studying part-time, please see page 18.

#### **Creative Writing**

MA 1 year full-time, 2 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in English, Drama or a related subject. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

Taught by a team of writers, academic experts and special guests, our programme gives you the opportunity to write in a range of genres and forms, whilst choosing what to submit for feedback. You'll work on elements of fiction and poetry, as well as genres such as writing for TV and the weird tale. There are also workshops on creative non-fiction such as travel writing, biography and verbatim theatre. You will receive training in a range of professional skills such as how to find an agent, how to run a workshop, and how to apply for funding so you graduate with knowledge of the writing industries and your place in the sector.

You will have opportunities to take part in workshops, guest readings and open-mic nights on campus, and the School has connections with regional and national literature organisations.

You will study: Departures; Resources for Advanced Research; Perspectives; Diversions; Writers and the Writing Industries; Dissertation. Assessment is by submission of pieces of writing of differing lengths, from 2,000-4,000 words, which may include a reflective element, and also includes presentations of your work and your professional plans. The final Dissertation is 15,000 words.

In addition to the online application, initial assessment will be based on a sample of written work (2,000-4,000 words), CV, personal statement, and confidential reports from two named referees.

Our graduates work in a range of areas including different forms of writing, creative project management, publishing and blogging. Students from this programme are eligible for PhD study in areas that correspond with their master's degree experience.

For more details on studying part-time, please see page 18.

#### English

MA 1 year full-time, 2 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in English, Drama or a related subject. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

Our programme takes account of 21st-century developments in the field, giving students a transhistorical and often multidisciplinary research approach to a set of broad, founding concepts, which ensures they are up-to-date with the evolving digital focus of recent research in English studies. Our research specialisms include American studies and the literary periods Early Modern, Victorian, and Modern and Contemporary. Additional areas of expertise include linguistics, Irish studies, drama, and the history of the book.

Our flagship 'Research Mentoring' module – where students work under the mentorship of a range of literary experts, studying the research they are currently undertaking – allows students to follow a specific specialism through their MA.

You will study modules including: Icons and Iconoclasts; Resources for Advanced Research; Research Mentorship; Boundaries and Transgressions; Texts and Technologies; Dissertation. You will be assessed by essays (from 2,000 to 5,000 words), by learning journals, presentations or the use of online resources. The final Dissertation module is 15,000 words.

In addition to the online application, initial assessment will be based on a sample of written work (2,000-4,000 words), CV, personal statement, and confidential reports from two named referees.

This programme meets the needs of students seeking to qualify for entry to a research degree, teachers of literature and those wishing to update their knowledge or develop their own research skills.

For more details on studying part-time, please see page 18.

### Graphic Design and Visualisation

MA 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in an art and design discipline or closely related subject. See full details online.

#### Fees

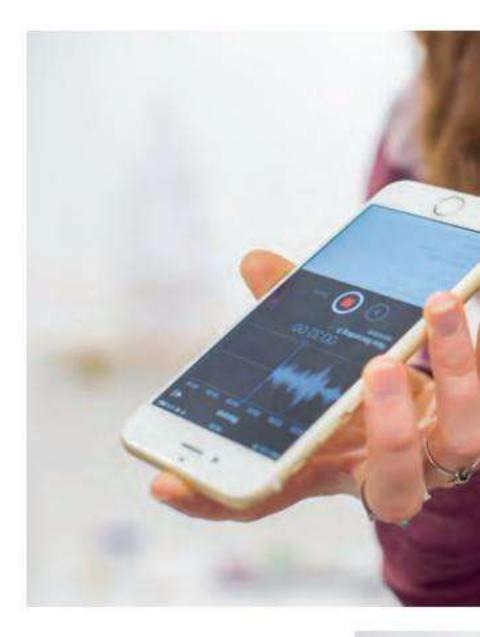
PGT Band 1 (see page 58 for details).

This programme aims to develop a specialist approach to graphic design and visualisation through combining traditional and contemporary approaches in the field. It will provide you with opportunities to develop a personalised visual language through visual thinking, expressed in physical and virtual means combining traditional and contemporary media. Theory and practice are intertwined and students express their ideas through the production of written assignments and the production of artefacts, both aligned with their specialist area of interest.

The programme comprises five modules offering a range of learning experiences and staff access that allows for: project proposal development; situating practice in a wider context; research methodologies; experimentation with materials, processes and techniques; developing entrepreneurial skills; all realised through a final project phase. Assessment is continuous and based on an appraisal of practice, written material, related research, and professional and entrepreneurial skills in relation to the final project outcome(s).

Once the online application is completed, we will ask for a Project Proposal Form to be completed. The project proposal is requested as part of the initial assessment process and can only be accepted after you have applied via the Postgraduate Application Portal.

The universal demand for graphical knowledge and increasing emphasis on visualising complexity across diverse fields provides a vast range of career choices for graduates. Depending on individual aspirations, students evolve their practical, historical and theoretical interests for a career in industry or academic research through PhD study.





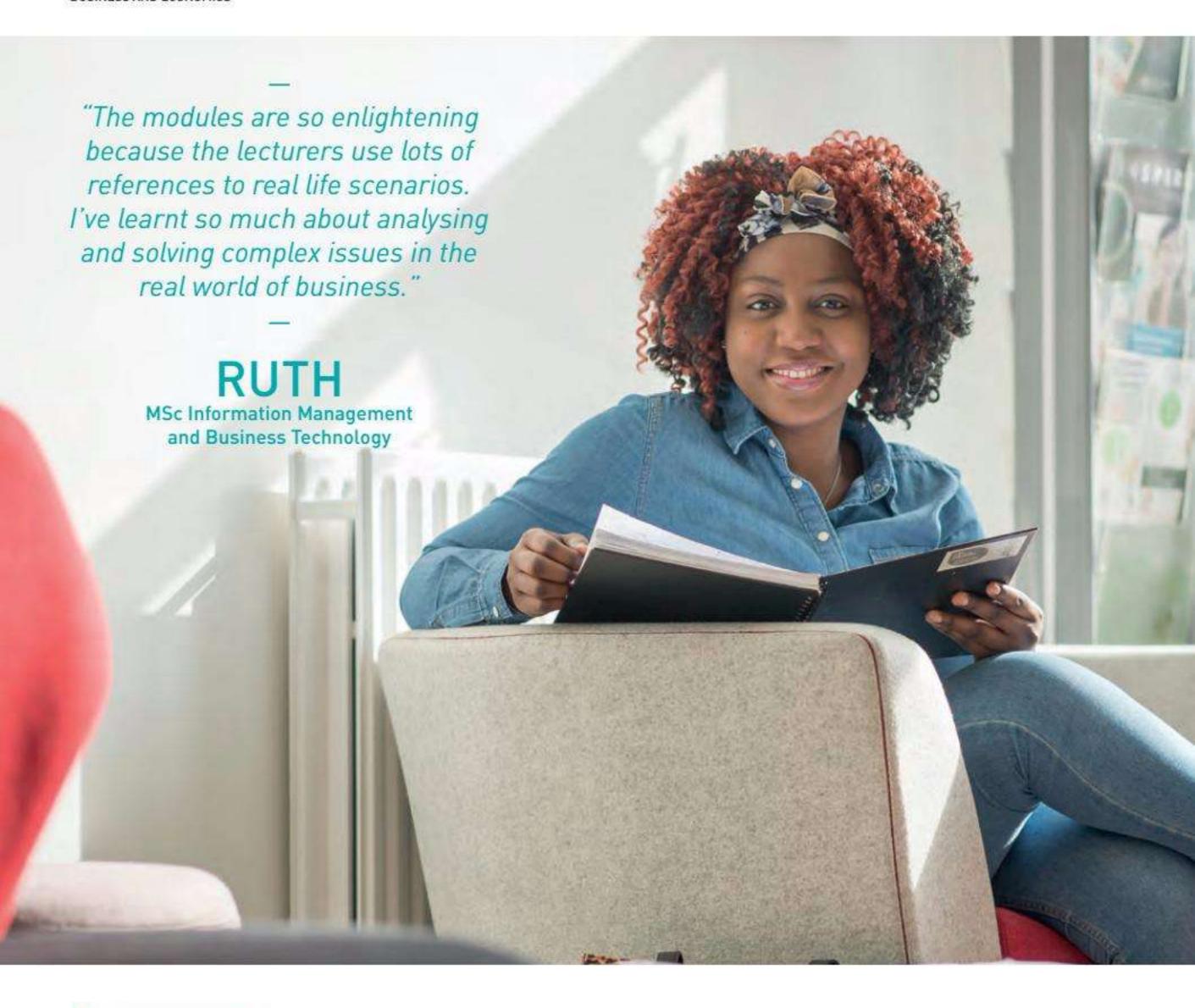


"The diversity on the course is brilliant.
You get to speak to course friends who
have travelled from all around the globe
to study at Loughborough. This brings in a
whole host of new perspectives and ideas,
which is really refreshing."

Alexandra

MA Art and Design (Studio Practice)





#### Programmes

Research opportunities	p101
Business Analytics Consulting	p106
Banking and Finance	p109
Business Psychology	p112
Corporate Finance	p108
Economics and Business Strategy	p110
Economics and Finance	p109
Economics and International Business	p110
Employment Relations and HRM	p111

Executive Education	p103
Finance	p107
Finance and Investment	p108
Finance and Management	p107
Human Resource Management	p111
Information Management and Business Technology	p105
International Management	p104
Management	p104
Marketing	p105
The Loughborough MBA	p103
Work Psychology	p112

#### Related programmes available at our London campus:

Entrepreneurship, Finance and Innovation	p216
Entrepreneurship and Innovation Management	p216
Managing Innovation in Creative Organisations	p217
Internet Technologies with Business Management	p211

## Business and Economics



AMONG JUST 1% OF BUSINESS SCHOOLS IN THE WORLD TO HOLD AACSB, EQUIS AND AMBA ACCREDITATION



RANKED 7TH
FOR BUSINESS STUDIES
THE SUNDAY TIMES/
TIMES GOOD UNIVERSITY
GUIDE 2016



RANKED 7TH
FOR FINANCE AND
ACCOUNTING
THE SUNDAY TIMES/
TIMES GOOD UNIVERSITY
GUIDE 2016



RANKED 10TH FOR ECONOMICS THE SUNDAY TIMES/ TIMES GOOD UNIVERSITY GUIDE 2016

## Why choose Business and Economics at Loughborough?

Loughborough's School of Business and Economics is a thriving forwardlooking centre of education that aims to provide an exceptional learning experience.

Consistently ranked as a top 10 UK business school by national league tables, our graduates are highly employable and enjoy starting salaries well above the national average. The rich variety of postgraduate programmes we offer ranges from taught master's degrees, the MBA, and doctoral programmes, to short courses and executive education, all of which contributes to a lively and supportive learning environment.

The School of Business and
Economics is one of less than 1%
of business schools in the world to
have achieved accreditation from all
three major international accrediting
bodies: The Association to Advance
Collegiate Schools of Business
(AACSB International), EQUIS
accreditation from the European
Foundation for Management
Development (EFMD) and the
Association of MBAs (AMBA).

Our graduates are in great demand.
Over 96% of our postgraduate
students were in work and/or further
study six months after graduating.\*
As such, you will be equipped with
skills and knowledge that will serve
you well in your career or enable you
to pursue further study and research.

#### Our research

Research at the School of Business and Economics is integral to who we are and why we are here: research of the highest level that informs academia and that is also instrumental in helping shape and influence the wider world across both public and private sectors.

75% of our Business and
Management research is rated as
'world leading' or 'internationally
excellent' by the 2014 Research
Excellence Framework (REF) and
Loughborough was rated 13th
out of more than 100 institutions
who submitted Business and
Management entries, based on
'research power' – a measure of
overall ranking multiplied by the
number of researchers whose work
was submitted.

\*Source: DLHE 2014









#### Research opportunities

#### PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A UK first or upper second class honours degree in a relevant subject area (or an equivalent international qualification) and a good master's degree in a relevant discipline. The vast majority of our existing PhD researchers achieve 60% or above in their master's degree. In exceptional circumstances, applicants with substantial relevant professional experience or significant extenuating personal circumstances will be considered. See full details online.

At the School of Business and Economics you have the opportunity to study towards a PhD or MPhil in Business and Management, Economics, or Information Science. As a doctoral student, you will join whichever discipline group suits your research interests best. Whether you are a prospective doctoral student interested in microeconomics or consumer behaviour, or an industry leader seeking to fund vital research about international marketing strategies, the School of Business and Economics is well-placed to provide the right opportunities for you, in order to realise your ambitions.

#### Supporting you

- Regular meetings with your supervisor(s); a member of academic staff with appropriate expertise. The Director of Research Degree Programmes can provide additional guidance and pastoral support, as can other academic staff if appropriate
- Access to the newly refurbished School of Business and Economics dedicated PhD lounge, which consists of an open plan office, modern facilities and a relaxed social area
- Training courses and seminars throughout your PhD study
- Access to library and IT services, and funds to support conference travel and subsistence
- Opportunities to develop skills in supporting undergraduate teaching, as tutorial or laboratory assistants

#### How to apply

Your application should include an extensive outline of your proposed topic of research. This should include a statement about why you have chosen the topic; aims, objectives and methodology; plus references to texts used. No application can be considered without this outline.

#### Our areas of research

Research Centres represent the key areas of our research strength; Research Interest Groups are emerging areas of research; and Discipline Groups are the fundamental areas of teaching and research in which individual staff members are grouped.

#### Research Centres

The School has developed five collaborative Research Centres to further enhance its international reputation for 'research that matters'. These Centres are key components of the School's research agenda and aim to be instrumental in shaping policy and practice across both the public and private sector.

#### Centre for Global Sourcing and Services

The Centre's main objective is to undertake independent research on the trends and practices in global sourcing of IT and business services. The Centre draws upon an outstanding network of researchers from within the School; other UK business schools; and media and industrial partners such as Professional Outsourcing magazine, SSON, IBM, Royal Shell and Berwin, Leighton & Paisner (BLP).

#### Centre for Information Management

The Centre's main purpose is to undertake internationally recognised research for the benefit of the individual, organisations, government and society. In particular the Centre aims to evidence the significance and value of information; challenge thinking and practice around information management; and improve performance through analysis, interpretation and judgement of information.

#### Centre for Professional Work and Society

The Centre conducts independent research on issues affecting work, professions and society. Members of the Centre deliver high-quality research that contributes to national and international debates around the changing landscape of contemporary professional work.

#### Centre for Service Management

The Centre conducts multi-interdisciplinary research relevant to the private, public and third sector service organisations; providing new knowledge to inform academics and educate managers through the exploration of theory and practice of service management.

#### Centre for Productivity and Performance

This Centre focuses on research in different fields of productivity, efficiency and performance measurement, and related areas, such as industrial organisation and decision and risk analysis. Its research portfolio aims to assist decision and policy makers in evaluating and improving the performance of firms and public sector bodies.

#### Discipline Groups

Research staff and students are all placed within one of the School's seven Discipline Groups.

#### Accounting and Financial Management

This group's research interests span a broad spectrum of methodologies ranging from social science-orientated techniques to applied financial economics. The key objective of group members is to produce research that is rigorous but also relevant to contemporary accounting and finance issues/debates. Many group members possess professional as well as academic qualifications. A number of group members serve/have served on prestigious academic and practitioner boards as well as holding editorial positions in key academic journals in their respective fields.

#### **Economics**

The Economics Discipline Group undertakes rigorous and relevant applied research in microeconomics, macroeconomics and econometrics, with a view to applying the powerful and flexible tools of economics to both understand and inform the economic decisions of individuals, firms, governments and other institutions. The group's research interests and expertise span five key areas, namely applied econometrics and productivity analysis, financial economics and banking, monetary economics and development, international economics and trade, and industrial economics.

#### Human Resource Management and Organisational Behaviour

This group is an interdisciplinary social science teaching and research group that brings together academics interested in a broad range of 'people management' issues. Psychology and sociology are major disciplinary influences, but some members of the group also take historical and geographical approaches. The Group conducts research in three broad areas: organisation studies, work psychology and employment relations, with output ranging from traditional academic scholarship to work with a significant impact on public policy and management.

#### Information Management

The research carried out by the Information
Management Discipline Group is led by the Centre
for Information Management. The Centre undertakes
world-leading research on the effective management
of information and knowledge assets, investigating
big data, mobile technologies, email, social networks
and social media, open and linked data, knowledge
management in the voluntary sector, and much
more. For more detail, please refer to the Centre for
Information Management entry under Research Centres.

#### International Business, Strategy and Innovation

This group comprises teachers and researchers whose work draws on multiple disciplines including economics, sociology, psychology, anthropology and political science. The group is committed to the advancement of world-class management scholarship and to the development of ideas that will help managers make better sense of some of the most complex problems of globalisation and the technology revolution.

#### Management Science and Operations Management

This group is multidisciplinary, bringing together expertise in operations, systems and decision making. The group is committed to improving management practice by designing and implementing analytic approaches that help tackle routine, strategic or policy problems. The approaches are typically supported by models that can often be represented mathematically or visually and built using specialist software.

#### Marketing and Retailing

This group is a team of dynamic, research-oriented individuals with expertise in a number of key areas within marketing and retail. The group is extremely successful in achieving its primary aim of advancing knowledge and thinking in these disciplines through high quality, basic and applied research.

#### Research Interest Groups

Research Interest Groups (RIGs) are individual clusters of faculty, researchers and PhD students working on a common research theme. These groups evolve over time and represent emerging areas of research strength in the School:

- Business Education and Economics
- Emergency Management
- · Firms in the Global Economy
- Logistics and Transportation Analytics
- · Management Accounting
- · Money and Developing Economies
- Simulation Practice
- Town Centres and Retailing
- Visual Decision Practices

#### Taught programmes

#### The Loughborough MBA

MBA 1 year full-time. Option to extend to 2 years with a 45-52 week internship

#### **Entry requirements**

Successful applicants must hold a minimum of three years' professional work experience (required by AMBA-accreditation) plus either an honours degree (2:2 or above) or equivalent overseas qualification; membership of an approved chartered institute; or a Diploma in Management Studies. See full details online.

#### Fees

MBA (see page 58 for details).

If you want to be an elite performer in business, accelerate your career and learn how to maximise business performance, The Loughborough MBA is internationally respected and will help you achieve your career ambitions. Learning alongside an international cohort of experienced managers, you will share fresh perspectives on organisational issues and build lasting business networks.

The Loughborough MBA can be extended to include a 45-52 week professional internship, giving you the opportunity to gain valuable UK work experience to maximise your employability.

Our links with over 400 international corporate partners ensure you will benefit from commercially relevant teaching. This equips you to apply theory in the workplace.

Programme highlights include:

- Practical problem solving skills that address real business challenges through modules such as Business Analytics and Problem Solving for Leaders.
- Our Managing Innovation module gives you the opportunity to work on live business projects to commercialise new technologies as part of a group consultancy project.
- Optional international summer school, learning alongside MBA delegates from around the world. As a summer school run by a consortium of international business schools, the host school for 2017 has yet to be decided. Availability cannot be guaranteed. Additional fees may apply, please see details online.

The Loughborough MBA attracts a variety of professionals from all walks of life, and graduates of the programme have enhanced their careers at senior level in high profile companies. Examples include: Commercial Director at Balfour Beatty Engineering Services, Network Manager for Elliot Group, Senior Group Captain in the Royal Air Force, Manager at DNV GL, Senior Project Leader at British Gypsum.

#### **Executive Education**

The School of Business and Economics runs open and bespoke executive education programmes designed with a flexibility that is perfect for working professionals.

With an enviable history of well-established links with business, the School is known for delivering challenging, career-enhancing programmes that deliver real value to individuals and organisations.

Offering a broad range of part-time accredited programmes at certificate, diploma and master's degree levels, tailored management development programmes for bespoke company requirements delivered in-house or on campus, and introductory short courses, the School of Business and Economics can support your business needs and personal career objectives, delivering maximum impact with minimum business disruption.

For more information visit lboro.ac.uk/exec



#### Management

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (high 2:2 or above) or equivalent overseas qualification, typically in a non-business field although those with a business background will be considered. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Successful modern organisations depend upon managers with a broad business acumen who can make effective and timely decisions and who are capable of handling and analysing large volumes of information.

Our MSc Management programme will equip you with key business and management knowledge and skills sought by modern organisations. It is especially suitable for students who have taken non-business degrees or who wish to reinforce their business knowledge.

Our experiences of working with a wide range of industrial partners and managerial teams have fed directly into the design of this course. The wide range of optional modules also gives you the flexibility to tailor the course to suit your individual career aspirations.

You will study core modules such as: Management
Analysis; Global Strategic Management; Information
Systems and Management; Human Resource
Management; Accounting and Financial Management;
Marketing in the Organisation; Operations Management;
Personal Development for Study and Employability.
You will also choose from optional modules including:
Business Environment Analysis; International Marketing;
Small Business and Entrepreneurship; Business
Forecasting; Work Psychology; Enterprise Resource
Planning; Logistics and Supply Chain Management;
Marketing Communications; Brand Management.
The modules in the programme are assessed either
by examination or coursework only, or a combination
of the two.

This programme will prepare you for employment in a very wide range of careers including consultancy, as a functional specialist, or general management in the private or public sector. Example destinations include: Proludic (Switzerland) – International Sales Manager; Samsung Opentide (China) – Consultant; Jaguar Land Rover – Technical Analyst/Engineer, Buyer; Citibank (China) – Human Relations; Reed – Core Services Business Adviser; Nielsen – Market Researcher; BRUSH – Contracts Manager.

#### International Management

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (high 2:2 or above) or equivalent overseas qualification, typically in a non-business field although those with a business background will be considered. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Our MSc International Management programme is designed to provide you with the specialist knowledge and skills required for managing successfully in an international organisation and for working effectively across different national contexts.

You will gain deep insights into current research and practice, taught by highly ranked international scholars and guest speakers from industry. Through the opportunities of an international exchange or an international virtual team exercise, you will have the chance to develop your own intercultural experience and to apply your newly acquired knowledge in real-life situations.

Students have the option to spend their second semester on an exchange at one of our international partner universities.

The modules taught in the first semester provide the foundations of international and cross cultural management, with a perspective on international employees, globally operating organisations, and the international business environment. The second semester offers the option of an international exchange to develop students' own intercultural experience. Students who choose to stay in Loughborough will attend core modules specialising in business environment analysis and international marketing and will choose from a range of modules on areas that are important for international management. In the third semester, students will have the opportunity to gain comprehensive insights into global strategic management and to conduct a substantial piece of international management analysis. Module assessment is by examination or coursework only, or a combination of the two.

This programme will prepare you for employment in a very wide range of careers including consultancy as a functional specialist, and general management in the private or public sector. Example destinations include: Oracle (Greece) – HR Assistant; Abercrombie & Fitch – Merchandising Manager; Morrisons – Marketing Assistant, Trainee Trader; C D Sales Recruitment – Business Development Manager.

#### Marketing

MSc 1 year full-time

#### **Entry requirements**

An honours degree (high 2:2 or above) or equivalent overseas qualification, typically in a non-business field although those with a business background will be considered. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Our MSc Marketing programme offers an exciting opportunity for graduates with an interest in marketing and management to develop a deep understanding of marketing theory and practice. Our programme reflects the fast-paced nature and ever-evolving marketing world, with an overall strategic aim to impart marketing knowledge and analytical skills in preparation for a range of marketing and management roles within multinational organisations.

During the year you will discover the secrets behind effective strategic marketing management in a global marketplace, learn the techniques used in conducting and analysing market research, and explore the marketing mix in an international context. Students on the programme will benefit directly from expert teaching by leading researchers and academics, many of whom are world-renowned in their fields. In addition, our students will have the opportunity to study towards their CIM accredited Level 6 Diploma in Professional Marketing (this is optional and entirely separate to the master's degree programme. An additional fee applies, full details will be provided at induction).

You will study core modules such as: Marketing in the Organisation; Digital Marketing and Social Media; Making Marketing Work; Strategic Marketing Solutions; Business Market Review; Innovation and Entrepreneurship; Accounting and Financial Management; Human Resource Management; Personal Development for Study and Employability. You will also select from optional modules including: International Marketing; Marketing Communications; Services and Retail Management; Brand Management; Logistics and Supply Chain Management. The modules are assessed either by examination or coursework only, or a combination of the two.

There are many paths you can take with your marketing degree in addition to specialist marketing, advertising and PR agencies. Marketing is a core element of all organisations and, therefore, opportunities exist across all industry sectors – private, public and voluntary. Example destinations include: ArcelorMittal – CEO Secretary; Decathlon (Belgium) – Department Manager; Fetch Media – Campaign Analyst; Klarius UK Ltd – Marketing Analyst; Living Coasts – Marketing and Communications Executive; Webcite – Digital Marketing Assistant.

### Information Management and Business Technology

MSc 1 year full-time, 2-4 years part-time

#### **Entry requirements**

An honours degree (high 2:2 or above) or equivalent overseas qualification, preferably in a business or information technology-related subject. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

Developed alongside industry to be commercially relevant, this specialist programme is designed to produce graduates who understand the professional, managerial and technical dimensions of information management and business technology.

You will benefit not only from our renowned academic lecturers and state-of-the-art facilities, but also from a range of additional opportunities including industry speakers from companies such as BT, IBM and SAP. Graduates will be equipped with the core skills required to obtain a first professional post in the sector, as well as the learning and leadership skills needed for professional development beyond that.

Working professionals wishing to study the programme part-time, or to take individual modules for Continuing Professional Development, are invited to discuss their requirements with the Programme Director.

You will study: Business Relationships Management; Information Architecture; Management of IT Systems; Collaborative Working with Technology; Managing Knowledge in Organisations; Information and Social Network Analysis; Business Technologies and Platforms; Project Management and Leadership; Dissertation. Assessment is via coursework only, such as presentations, written reports and essays. The dissertation, of 15,000 words, is based on research into a topic of your choice.

This programme has been developed with industry to address the short-fall in hybrid managers and in so doing, to provide graduates with hybrid information management and business technology knowledge and experience. Graduates of this course are equipped with the core skills required to obtain a first professional post in the sector. Example destinations include Advanced Computer Software Group Plc – IT Manager; Alliance Boots – Trainee Manager; Amtec Developments – Project Manager; FESCO – Security Engineer.

For more details on studying part-time, please see page 18.

#### **Business Analytics Consulting**

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification. Strong numerical skills required. Those without a first degree but with substantial work experience may be considered. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Our MSc Business Analytics Consulting programme equips you with the skills that employers value, by combining the rigorous modelling and consulting skills needed to understand, manage and communicate useful insights from 'big data' – often referred to as the oil of the 21st century. This will enable you to consult with organisations and governments to help them make informed strategic business or policy decisions.

Taught modules are delivered by our group of internationally recognised management scientists who are actively working with business, government and non-profit organisations to tackle routine, strategic or policy problems. Our industry advisory board ensures that the focus of our taught modules is of both academic and practical relevance. IBM, our partner, has jointly developed two modules with us (Customer Analytics and Leading Analytics Initiatives).

You will study modules including Consulting for Analytics; Discovery Analytics; Decision Analytics; Managing Big Data; Customer Analytics; Operations Analytics; Policy and Strategy Analytics; Leading Analytics Initiatives; Analytics Project. During the summer you will undertake a supervised consulting or research project. This will give you the opportunity to apply powerful tools such as data mining, forecasting, optimisation, simulation and decision analysis to a particular area of business or policy, equipping you with skills highly prized by employers. The modules in the programme are assessed using a mix of different methods. The assessment of each module is either coursework only or a combination of exam and coursework.

Business analytics is a new and rapidly developing field, and individuals with analytics skills are in short supply. Graduates from this programme can expect to work as management consultants, business analysts, policy analysts, marketing researchers, operations researchers, and data scientists.



#### Finance and Management

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a non-finance field. Evidence of numerical proficiency within your first degree is required. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Our MSc Finance and Management programme is designed to fast-track the careers of graduates from non-finance backgrounds who want to pursue a career in financial management for commercial and non-commercial organisations.

The programme uses the expertise of our renowned research-active academics to develop your knowledge and analytical skills in finance-relevant fields, and to ensure that you will graduate with the essential skills sought by employers. You will develop an understanding of business and management by studying across a range of areas, including marketing, HR, accounting, strategic management and, in particular, finance. Your financial knowledge and skills will be further developed within accounting and finance modules.

All of our modules combine contemporary case studies with skills-based coursework, ensuring that you will pursue a programme where the content is up-to-date, relevant and geared towards helping you achieve your ambitions.

You will study core modules including Accounting and Performance Measurement; Foundations of Corporate Finance; Human Resource Management; Corporate and Wholesale Finance; Financial Theory and Policy; International Financial Management; Marketing in the Organisation; Current Issues in Finance; Financial Derivatives; Global Strategic Management; Personal Development for Study and Employability. You will also have the opportunity to choose from optional modules such as: Business Economics; Business Environment Analysis; Business Forecasting; Services and Retail Management; Small Business and Entrepreneurship. The modules in the programme are assessed either by examination or coursework only, or a combination of the two.

Graduates are employed in a wide range of financial, management and accountancy roles. Example destinations include: Bank of America – Operations Analyst; Deloitte – Business Analyst; EDF Tax – Tax Analyst; Global Visa – Immigration Clerk; HSBC – Bank Manager; JCB – Buyer; Samsung – Treasury Analyst.

#### **Finance**

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in business, accounting, maths, physics, engineering, computing, economics or a minor in finance. Good (2:1) grades in quantitative modules are required. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Our MSc Finance programme is an applied, broadbased master's degree that provides students with the knowledge and skills to work in a wide range of finance roles. This programme is best suited to students who wish to gain an in-depth understanding of the whole field of finance before choosing their preferred area of specialisation. You will gain an understanding of corporate finance topics such as cost of capital and dividend policy, as well as investment topics such as asset pricing and portfolio selection.

You will study modules such as: Principles of Finance; Financial Markets and Institutions; Financial Reporting and Company Performance; Methods for Financial Data Analysis; Corporate Finance; Portfolio Management; Business Communication for Finance; Corporate Governance and Responsibility. You will also choose several optional modules that include topics related to Investment and to Corporate Finance. Modules are assessed by a combination of examinations and skills-based coursework.

Our Trading Room, which incorporates Thomson-Reuters Eikon financial trading software, is integrated into the programme and will provide the platform for many of the computer lab sessions, enabling you to practically apply concepts you have learned during the programme.

Loughborough finance graduates are highly sought after and work in a wide range of finance roles. Indicative positions include roles with many of the major global banks (including HSBC, Morgan Stanley, JP Morgan, Chase, UBS, Standard Chartered), large businesses (including DHL, Scottish and Southern Energy, Virgin), as well as the Big Four accounting firms. Many graduates begin their careers as an Analyst, Associate or Management Trainee, with the best reaching Senior Manager, Assistant Vice President or Director level positions within 10 years.

### Finance and Investment

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in business, accounting, maths, physics, engineering, computing, economics or a minor in finance. Good (2:1) grades in quantitative modules are required. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Our MSc Finance and Investment programme is an applied master's degree that equips you with knowledge and skills to work in within investment management, investment banking and related careers. Studying investments raises some interesting issues, such as; why do companies trade so much? Is the best investment strategy to simply track the stock market index? How should risk be measured? How should assets be priced? The programme focuses on both the trading and portfolio management sides of finance. It has a substantial focus on investment within core modules, including portfolio management, financial trading and global investment analysis. These draw on the cutting edge research expertise of our School staff.

You will study modules such as: Principles of Finance; Financial Markets and Institutions; Financial Reporting and Company Performance; Methods for Financial Data Analysis; Portfolio Management; Derivatives and Risk Management; Financial Statements and Business Valuation; Business Communication for Finance; Financial Trading; Global Investment Analysis. Modules are assessed by a combination of examinations and skills-based coursework.

Our Trading Room, which incorporates Thomson-Reuters Eikon financial trading software, is integrated into the programme and will provide the platform for many of the computer lab sessions. This enables you to practically apply concepts you have learned during the programme.

Loughborough finance graduates are highly sought after and work in a wide range of finance roles. Indicative positions include roles with many of the major global banks (including HSBC, Morgan Stanley, JP Morgan, Chase, UBS, Standard Chartered), large businesses (including DHL, Scottish and Southern Energy, Virgin), as well as the Big Four accounting firms. Many graduates begin their careers as an Analyst, Associate or Management Trainee, with the best reaching Senior Manager, Assistant Vice President or Director level positions within 10 years.

### Corporate Finance

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in business, accounting, maths, physics, engineering, computing, economics or a minor in finance. Evidence of numerical proficiency required. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Corporate finance encompasses diverse topics such as mergers and acquisitions, issuing capital, cash management, corporate payout policy, managing foreign exchange exposure and executive compensation.

Our MSc Corporate Finance programme is aimed at students who wish to prepare for a career in the treasury department of a large company or for the corporate finance team of an investment bank. It would also prepare students for a management consultancy role with a finance focus or an advisory role with an accounting or professional services company. You will use our Trading Room, incorporating Thomson-Reuters Eikon financial trading software, which provides the platform for many of the computer lab sessions. This enables you to practically apply concepts learned during the programme.

You will study modules such as: Principles of Finance; Financial Markets and Institutions; Financial Reporting and Company Performance; Methods for Financial Data Analysis; Corporate Finance; Financial Statements and Business Valuation; International Financial Management; Business Communication for Finance; Corporate Governance and Responsibility; Advanced Corporate Finance; Corporate Financial Analysis.

Modules are assessed by a combination of examinations and skills-based coursework.

Loughborough finance graduates are highly sought after and work in a wide range of finance roles. This includes roles with many of the major global banks (including HSBC, Morgan Stanley, JP Morgan Chase, UBS, Standard Chartered), large businesses (including DHL, Scottish and Southern Energy, Virgin), as well as the Big Four Accounting firms. Many graduates begin their careers as an Analyst, Associate or Management Trainee, with the best reaching Senior Manager, Assistant Vice President or Director level positions within 10 years.

### **Economics and Finance**

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree [2:1 or above] or equivalent overseas qualification with a substantial quantitative element, including economics, finance, accounting, maths, physics, engineering, management science, operations research, and computing. Good [2:1] grades in quantitative modules are required, and previous economics modules are desirable. See full details online.

#### Fees

See website.

Our MSc Economics and Finance programme will provide you with the capability to apply modern macroeconomic, microeconomic and econometric methods in order to assess and shape organisational, government and financial policy. The programme is designed to equip you with the advanced theoretical and quantitative skills of a professional economist, for careers in government, international organisations, business, management consultancy and the financial sector and for higher awards by research.

You will study economic theory and policy, the actions of governments, firms, households and intermediaries in national and global money, bond and foreign exchange markets. You will examine both the microeconomic impacts for firms and the macroeconomic implications for the global economy, and will develop advanced theoretical and quantitative skills – highly sought after by employers in financial services and government – as well as transferable skills that will be of value in a range of other sectors.

Core modules include: Economics of Firms and Markets; Macroeconomic Policy and Financial Markets; Financial Economics; Economic Data Analysis; Applied Financial Econometrics; Risk Management and Derivatives; Corporate Finance; Research Communication for Economists; Applied Economic Methods and Financial Economics in Practice. Optional modules include: Banking and Financial Markets, and International Money and Finance. Students will also sharpen their practical skills by completing a research project that allows them to apply their knowledge of economics and finance. Assessment is a combination of group and individual coursework as well as exams.

Well-trained, numerate economists are in high demand in every sector of the economy. Example graduate destinations include: HSBC – Analyst; SSR Group (Sweden) – Associate FX Broker; Siemens – Finance Officer. Other students have gone on to further research study.

### Banking and Finance

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree [2:1 or above] or equivalent overseas qualification with a substantial quantitative element, including economics, finance, accounting, maths, physics, engineering, management science, operations research, and computing. Good [2:1] grades in quantitative modules are required, and previous economics modules are desirable. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

Our MSc Banking and Finance programme will equip you with the practical skills to understand and model banking and financial markets, using the toolkit of economics. You will learn how the actions of governments, firms, households, and financial intermediaries affect national and global financial, bond, and foreign exchange markets. In addition to this, you will be exposed to the theory and practice of bank credit and lending, as well as financial institution risk management. This programme is ideal for those who wish to pursue a career in financial services, international financial management, or central banking and financial regulation.

Our modules are underpinned by the latest research and best practice, having been designed to provide you with up-to-date and relevant knowledge of banking, finance and research methods. There is also some opportunity to choose optional modules that will enable you to specialise in the areas of economics, banking and finance that best suit your career ambitions and interests.

Core modules include: Financial Economics; The Financial System; Economic Data Analysis; Applied Financial Econometrics; Banking and Financial Markets; Research Communication for Economists; Banking and Finance in Practice. Optional modules available include: Economics of Firms and Markets; Macroeconomic Policy and Financial Markets; Risk Management and Derivatives; Corporate Finance; International Money and Finance. Students will also sharpen their applied research skills by either completing a Banking and Finance project or participating in Applied Research Practice seminars. You will be assessed by a combination of group and individual coursework as well as exams.

Graduates will be equipped for a career in financial services, international financial management or central banking and financial regulation. Example graduate destinations include: Bank of China – Senior Manager; China Everbright Bank – Client Manager; Deutsche Bank – Analyst; KPMG – Audit Associate; National Australia Bank – Senior Assistant in Research; RBS – Financial Transfer Officer.

### Economics and Business Strategy

MSc 1 year full-time

#### **Entry requirements**

An honours degree [2:1 or above] or equivalent overseas qualification with a substantial quantitative element, including economics, finance, accounting, maths, physics, engineering, management science, operations research, and computing. Good (2:1) grades in quantitative modules are required, and previous economics modules are desirable. See full details online.

#### Fees

See website.

Our MSc Economics and Business Strategy programme will enable you to apply the tools of economics and strategy to influence business performance and to develop strategic thinking and decision-making in a competitive business environment. The programme will equip you with the skills of a professional business economist, for careers in business, government, regulation, international organisations and for higher awards by research.

Taught by experienced researchers and practitioners, students will use the insights of economic theory to address real-world problems. The strong emphasis on applying theoretical and quantitative skills to real world situations – as well as a focus on developing critical thinking skills – will enable you to work effectively both in industry and government. Students will be able to further sharpen their practical skills by completing a research project that allows them to apply their knowledge to a strategy and policy related issue.

Core modules include: Economics of Firms and Markets; Industrial Organisation and Strategy; Economic Data Analysis; Economics of Corporate Strategy; Applied Data Analysis for Business Strategy; Policy and Strategy Analytics; Research Communication for Economists; Economics and Business Strategy in Practice. You will also have the opportunity to choose from optional modules such as: Macroeconomic Policy and Financial Markets; Financial Economics; Corporate Finance; Economics of International Business and Leading Analytics Initiatives. You will be assessed by a combination of group and individual coursework as well as exams.

This course prepares you for a career as a professional economist in management and strategy consulting, finance, government or industry. Potential career destinations include: analyst in economic consultancy, corporate management, strategy teams in corporations, business-related government departments, competition and regulation authorities, industry associations.

# Economics and International Business

MSc 1 year full-time

#### **Entry requirements**

An honours degree [2:1 or above] or equivalent overseas qualification with a quantitative element, including economics, finance, accounting, maths, physics, engineering, management science, operations research, and computing. Good (2:1) grades in quantitative modules are required, and some previous economics modules are desirable. See full details online.

#### Fees

See website.

Our MSc Economics and International Business programme will allow you to develop a sound understanding of the international business environment and business operations in the global economy. It is suitable for those wishing to develop a career in the international business and commercial sectors.

You will be taught by experienced economists, international business researchers, and practitioners. This will equip you with the skills and techniques to assess and implement business strategies in response to the problems affecting firms and markets in a highly competitive international business environment. Practical training on how to apply relevant theory to shape international business decisions is integrated into the programme.

You will study core modules including: Economics of Firms and Markets; Industrial Organisation and Strategy; International Business Environment; Economics of International Business; Global Strategic Management; Research Communication for Economists; International Business in Practice. You will also have the opportunity to select optional modules such as: Economic Data Analysis; Marketing in the Organisation; Global Outsourcing and Offshoring of Services; Applied Data Analysis for Business Strategy; Logistics and Supply Chain Management; and International Marketing. You will be able to further refine your practical skills by completing a research project that allows you to apply your knowledge to an international business issue. Modules are assessed through a combination of group and individual coursework as well as exams.

Graduates will be equipped for a career in international business, management and strategy consulting, and industry. Potential career destinations for international business economists include management in multinational corporations, international organisations, industry associations, and business and internationally oriented government departments.

### **Human Resource Management**

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification with a substantial business, management or cognate social science component. Lower qualifications with relevant work experience may be considered. See full details online.

#### Fees

See website.

Our MSc Human Resource Management programme is especially suitable for students wishing to develop a career in HRM or allied fields of management. We anticipate that graduates of this programme will meet the knowledge requirements for chartered membership of the Chartered Institute for Personnel and Development (CIPD), the professional body for HR, employment relations and related professions in the UK.

Taught by academics with both a strong track record in HRM related research and practical experience as HR managers, the course focuses on developing critical thinking and analytical skills alongside more practical skills required for a career in people management.

You will study core modules such as: HRM Theory and Practice; Strategic HRM; Developing Skills for Business Leadership; HRM Research Methods; HRM Dissertation. You will also be able to choose from optional modules such as: Employment Relations; Employment Law; Leadership and Performance Management; Employee Engagement, Motivation and Voice; Wellbeing at Work; Work Design, Organisation Change and Development; Psychological Assessment in Organisations; Career Development; Learning, Development and Knowledge Management. Modules are assessed by a combination of examinations, coursework and group work.

Most large and medium sized organisations employ HR and personnel specialists. Graduates will be well equipped to bring expertise to both specialist HR and more general management roles in both private and public sector organisations.

### Employment Relations and Human Resource Management

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification with a substantial business, management or cognate social science component. Lower qualifications with relevant work experience may be considered. See full details online.

#### Fees

See website.

This programme is especially suitable for students wishing to gain an in-depth understanding of the field of employment relations as preparation for a career in employment relations, labour relations or related fields.

In addition to providing students with a thorough grounding in the theory and practice of employment relations, it is anticipated that on completion of the programme students will also meet the knowledge requirements for chartered membership of the Chartered Institute for Personnel and Development (CIPD), the professional body for HR, employment relations and related professions in the UK.

Taught by academics with a strong track record in both employment relations related research and practical experience of employment relations and HRM, the programme focuses on developing critical thinking and analytical skills alongside the more practical skills required for a career in employment relations and HR.

You will study core modules such as: Employment Relations; Employment Law; HRM Theory and Practice; Strategic HRM; Developing Skills for Business Leadership; HRM Research Methods; Employment Relations Dissertation; and select from optional modules including: Leadership and Performance Management; Employee Engagement, Motivation and Voice; Work Design, Organisation Change and Development; Career Development; Learning, Development and Knowledge Management. You will be assessed by a combination of examinations, coursework and group work.

Most large organisations in both the public and private sectors employ employment relations specialists. The grounding in employment relations and UK employment law, in addition to a grounding in more general HRM, that the programme provides also means graduates will be well equipped to bring expertise to both specialist employment relations and more general HR and management roles in both private and public sector organisations.

### **Business Psychology**

MSc 1 year full-time, 2-4 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification. Numerical proficiency and prior study of human behaviour in work settings is required. Those with a 2:2 (or equivalent) and considerable relevant work experience may be considered. See full details online.

#### Fees

See website.

Our MSc Business Psychology programme is especially suitable for those students wishing to develop a career in personnel functions, human resource management roles or as business consultants in areas such as selection and assessment, organisational development and change and employee development.

Taught by experienced researchers and practitioners, you will be given in-depth training to equip you to apply the science of psychology to a wide range of important business issues including: change management; employee selection and development; leadership; and work motivation, well-being and performance. The strong emphasis on developing skills in critical thinking, consultancy, and working with organisational stakeholders will enable you to operate effectively at all levels within organisations.

You will study core modules such as: Gathering and using Evidence in Work Psychology; Leadership and Performance Management; Employee Engagement, Motivation and Voice; Wellbeing at Work; Work Design, Organisation Change and Development; Psychological Assessment in Organisations; Career Development; Learning, Development and Knowledge Management; Empirical Research Project in Work Psychology.

You can choose to extend and cement your practical skills by completing a research project that allows you to apply your knowledge to an organisational issue. Alternatively, you may conduct a focused literature review that examines how psychological research and theory may be applied to a contemporary business problem. All modules are assessed by coursework. A mix of group and individual assignments is used.

Many large organisations have their own teams of psychologists who provide specialist advice across their business functions. Graduates will be well-equipped to bring specialist expertise to leadership and management roles in both private and public sector organisations. Roles in human resource management, selection and assessment, talent identification and development, employee counselling, the management of employee wellbeing, organisational development and business consulting are particularly well-suited to those with knowledge and skills in business psychology.

For more details on studying part-time, please see page 18.

### Work Psychology

MSc 1 year full-time, 2-4 years part-time

#### **Entry requirements**

A BPS-accredited honours degree (2:1 or above) in psychology or equivalent overseas qualification. Those with a 2:2 (or equivalent) and relevant work experience may be considered. See full details online.

#### Fees

See website.

Our MSc Work Psychology programme is accredited by the British Psychological Society (BPS) and is only suitable for those students who currently hold a BPS-accredited undergraduate degree in Psychology. It is especially suited to students who wish to develop a career as an occupational psychologist. Completion of this BPS-accredited programme fulfils the requirements of the Stage 1 qualification for those wishing to go on to eventually become a HCPC- registered Occupational Psychologist. It is also suitable for those wishing to apply their knowledge of psychology in personnel functions, human resource management roles or as business consultants in areas such as selection and assessment, organisational development and change and employee development.

You will receive in-depth training by experienced researchers and practitioners to equip you to understand and evaluate a wide range of psychological theories that can be applied in organisational settings. This is integrated with practical training on how to apply relevant theory to influence important business decisions.

You will study modules such as: Leadership and Performance Management; Employee Engagement, Motivation and Voice; Wellbeing at Work; Work Design, Organisation Change and Development; Psychological Assessment in Organisations; Career Development; Learning, Development and Knowledge Management; Empirical Research Project in Work Psychology.

There is a strong emphasis on developing critical thinking and consultancy skills as well as the ability to work effectively with a wide range of organisational stakeholders. You will extend and cement your practical skills by completing a research project that allows you to apply your knowledge to an organisational issue. All modules are assessed by coursework. A mix of group and individual assignments is used.

We anticipate that many graduates from this programme will seek to develop their careers as occupational psychologists. Graduates will also be in high demand for roles in personnel, human resource management, or may choose to use their expertise in business consultancy roles in areas such as selection and assessment, organisational development and change and employee development.



### Programmes

Research opportunities p115

Advanced Chemical p116

Engineering with Information Technology and Management

Advanced Process p116

Engineering

"I've learnt so much during my studies.

I've had the opportunity to use amazing resources, instruments and equipment and I'm now more confident when presenting findings from my research. I know these skills will be really useful in the future when I look for a job."





## Chemical Engineering

### Why choose Chemical Engineering at Loughborough?

Our Department of Chemical Engineering is a highly active, research intensive community of more than 20 full-time academic staff plus research students, postdoctoral research fellows and visitors from all over the world.

The Department has excellent quality laboratories and services for both bench and pilot scale work, complemented by first-rate computational and IT resources, and supported by mechanical and electronic workshops.

We have an enterprising culture within the Department through our successful industrial collaborations, spin-out companies and knowledge transfer partnerships. We have close working relationships with AstraZeneca, BP, British Sugar, Carlsberg, E.ON, Exxon, GlaxoSmithKline, PepsiCo and Unilever to name but a few.

#### Our research

Chemical Engineers are fantastically well-placed to tackle some of the global challenges facing us over the next 50 years. We have a strong and growing research programme with world-class research activities and facilities, focusing on industry's and society's needs; for instance the commercial production of stem cells, disinfection of hospital wards, novel drug delivery methods, advanced water treatment and continuous manufacturing of pharmaceutical products.

We work closely with other
University departments in
multidisciplinary research as well as
with industry and with researchers in
universities worldwide. Our research
is split into several key themes, and
in recognition of our cutting edge
research expertise, we have recently
been selected as a lead partner in
the EPSRC/MRC Centre for Doctoral
Training in Regenerative Medicine.



RANKED 3RD NATIONALLY FOR RESEARCH QUALITY REF 2014



RANKED 10TH
FOR CHEMICAL
ENGINEERING
THE COMPLETE
UNIVERSITY GUIDE 2017



### Research opportunities

PhD 3 years full-time; 5 years part-time
MPhil 2 years full-time; 3 years part-time
Entry requirements

A 2:1 honours degree or its equivalent.

As a research student in the Department of Chemical Engineering you will have the opportunity to not only become an independent researcher but create a lasting network of peers. Attendance at relevant conferences is encouraged with bursaries for travel made available on a competitive basis. The Department also runs a seminar programme throughout the year, giving you the opportunity to practice presenting your own work as well as hearing from other experts in your field.

#### Supporting you

- a supervisory team usually comprising a lead academic member of staff with support from a second colleague (both with complementary expertise in your selected area of research)
- Access to a shared research student office which encourages knowledge exchange and engagement
- Access to state-of-the-art laboratory and computational facilities
- Support by the technical team in the lab
- Training in key transferable skills
- · Workshops to focus on engineering-specific skills
- Seminar programme delivered by external speakers plus the opportunity to present your own findings

#### How to apply

Please provide a one page research proposal of up to 500 words describing the type of work you wish to undertake for your PhD research. The proposal should explain your motivation for the research, as well as the general methods that could be employed, for example using numerical, theoretical or experimental methods.

Ideally, your proposal should be aligned with the research interests of an academic member of staff in the Department. You are strongly encouraged to approach academic members of staff directly by email to discuss your proposal prior to submission.

### Our areas of research

#### Biological Engineering and Healthcare

Our focus is on biological engineering, lying at the interface between engineering and life sciences and covering aspects of regenerative medicine such as how to scale up production of stem cells. We also have expertise in environmental decontamination processes that are used in hospitals and we are developing novel drug delivery and healthcare diagnostic systems.

#### Catalysis and Reaction Engineering

Our focus is on modern catalysis for the production of industrial chemicals, application of photocatalytic reaction engineering for water treatment, as well as environmental treatment technology.

#### **Energy and Environmental Engineering**

Topics include the development of technology to produce clean fuels including biofuel, hydrogen storage and transportation, water and air pollution control technologies, CO<sub>2</sub> capture, storage and utilisation, and computational modelling of contaminant dispersion in both liquid and gas phases.

#### Nano- and Micro-materials Engineering

Our expertise in particle technology has evolved into nano- and micro-engineering of particles and materials, with regard to their manufacture, formulation and dispersion. We are also using microfluidics for these applications.

#### Pharmaceutical Engineering

Research addresses the emerging problems of continuous manufacturing of pharmaceuticals with special emphasis on the crystallisation, formulation and administration of active pharmaceutical products as well as the development of novel healthcare engineering approaches.

#### Separation and Purification Technology

We conduct research in adsorption, filtration, ion exchange and membrane separations.

## Centres for Doctoral Training

Centres for Doctoral Training (CDT) integrate three years of PhD study with one year of research training and have strong industrial and/or clinical links as appropriate. The Department participates in the following centre:

 Regenerative Medicine, in partnership with Keele University and the University of Nottingham

Find out more: lboro.ac.uk/pg2017/cdts

### Taught programmes

### Advanced Process Engineering

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in engineering or physical sciences. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is designed to advance your knowledge in process engineering by focusing on an in-depth understanding of the fundamentals of key chemical and industrial processes and on their application and translation to practice.

You will encounter the latest technologies available to the process industries and will be exposed to a broad range of crucial operations. Hands-on exposure is our key to success. The programme uses credit accumulation and offers advanced modules covering a broad range of modern process engineering, technical and management topics.

Compulsory modules include: Applied Engineering Practice; Downstream Processing; Research and Communication; Applied Heterogeneous Catalysis; Research Project. You can also choose from the following optional modules: Chemical Product Design; Colloid Engineering and Nano-science; Filtration; Hazard Identification and Risk Management; Mixing of Fluids and Particles; Advanced Computational Methods for Modelling.

The research project is conducted over two semesters and you will work closely with a member of the academic staff on a topic of current interest. Research project examples include: water purification by advanced oxidation processes; affinity separation of metals, pesticides and organics from drinking water; biodiesel processing and liquid mixing in pharmaceutical reactors.

# Advanced Chemical Engineering with Information Technology and Management

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in engineering or physical sciences. See full details online.

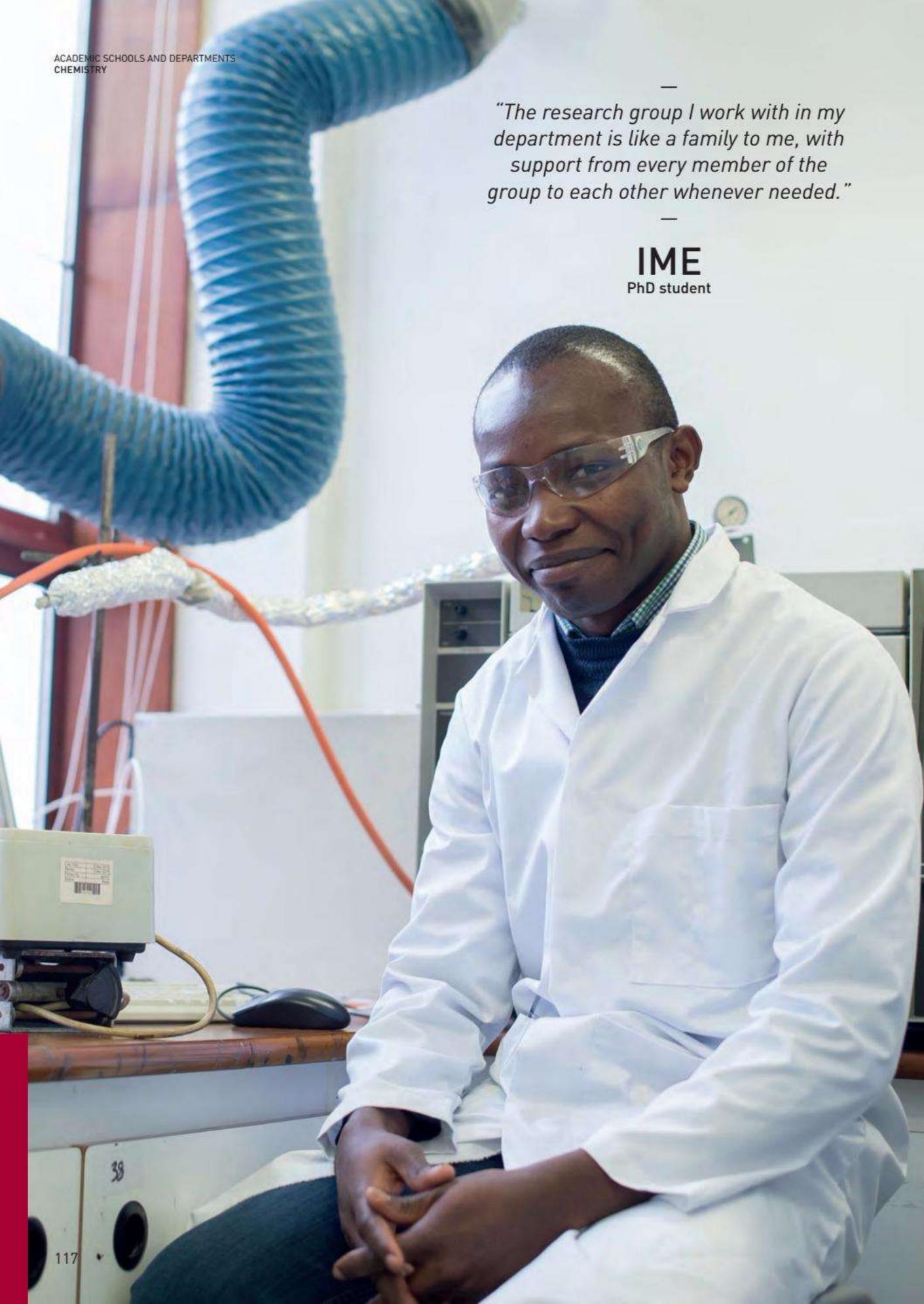
#### Fees

PGT Band 3 (see page 58 for details).

This programme addresses recent developments in the global chemical industry by focusing on advancements of information technology and business management skills, including entrepreneurship. It builds on the Department's established strengths in computer modelling, process systems engineering, reaction engineering, numerical modelling, computational fluid dynamics, finite element modelling, process control and development of software for process technologies.

Teaching is augmented by staff from other departments and has an emphasis on design activities. We aim to provide you with an in-depth understanding of the IT skills required for advanced chemical processes and increase your knowledge of the concepts of entrepreneurship, planning a new business, marketing, risk, and financial management and exit strategy.

Compulsory study modules include: Process Systems Engineering and Applied IT Practice; Research and Communication; Advanced Computational Methods for Modelling and Analysis of Chemical Engineering Systems; MSc Project. You can also choose from the following optional modules: Chemical Product Design; Filtration; Downstream Processing; Colloid Engineering and Nano-science; Hazard Identification and Risk Assessment; Mixing of Fluids and Particles; Enterprise Technology; Entrepreneurship and Small Business Planning; Strategic Management for Construction.



## Chemistry



TOP 20 FOR CHEMISTRY THE COMPLETE UNIVERSITY GUIDE 2017

## Why choose Chemistry at Loughborough?

The Department is undergoing an exciting period of development.

New STEM laboratories for teaching open in 2017, and newly refurbished research laboratories will open shortly after, providing an outstanding environment to conduct scientific research.

The research laboratories will house state-of-the-art equipment with access to specialist instruments and facilities, including a world-class Mass Spectrometry Lab (orbitrap, inductively coupled plasma, and ion mobility instruments, GC-MS and LC-MS), three NMR spectrometers (2 x 400 MHz, and a 500 MHz solidstate instrument), single crystal and powder X-ray diffractometers, GC, HPLC and elemental analysis. The Energy Research Lab will house electrochemistry, laser spectroscopy, photocurrent spectroscopy, atomic force microscopy, and advanced microwave materials synthesis/ processing facilities.

Graduates from master's
degrees in the Department of
Chemistry have gone on to work
in a variety of industries including
pharmaceuticals, chemicals, food,
environmental management,
contract analysis laboratories, public
laboratories, regulatory authorities,
and instrument manufacturers
in either technical or marketing
functions. A number of students
have also progressed to PhD study.

#### Our research

Our strengths are in analytical science including: the study and detection of biomarkers; in energy research such as solar energy harvesting, hydrogen generation, functional energy materials/ coatings, photochemistry, and batteries and supercapacitors; and in catalytic, synthetic and flow methods to prepare new molecules for health and materials applications.

### **Programmes**

Research opportunities	p119
Analytical and Pharmaceutical Science	p120
Analytical Chemistry	p120
Pharmaceutical Science and Medicinal Chemistry	p121



### Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A good degree (usually 1st or 2:1) in chemistry or a closely related discipline.

As a research student in the Department of Chemistry you will join a team of around 45 staff members and approximately 50 research students plus post-doctoral researchers and fellows. You will be encouraged to participate in conferences and provided with opportunities to present your research work.

Access to our facilities will allow you to gain experience of the latest techniques in research. These include research laboratories containing a full range of analytical and spectroscopic instrumentation, a world-class mass spectrometry suite, single crystal and powder X-ray diffraction, laser spectroscopy and a dedicated bio-lab.

#### Supporting you

You will have at least two academic supervisors who will guide you in your research. We provide training courses on research methods, safety, use of instrumentation and IT and we also offer a regular programme of seminars from visiting lecturers. You will have access to your own research space (desk, lab bench and fume cupboard space), and all equipment and facilities, including library and IT facilities.

#### How to apply

You do not need to submit a detailed research proposal with your application, but please indicate which area of research you wish to pursue and/or the names of staff members you are interested in working with.

### Our areas of research

Research is carried out in all areas of Chemistry, and we have three main themes in the Department.

#### Energy

Research is focused on innovation in the production and storage of green energy, electrochemistry and photochemistry.

#### Markers and Detection

The focus is on the discovery and application of markers of health, vitality and disease. New molecular markers provide valuable opportunities for other researchers, as well as different approaches to the management and characterisation of complex situations.

#### Catalysis and Functional Molecules

The research involves the development of new catalytic methods and reaction chemistries to develop novel functional molecules with applications in health and materials science.



### Taught programmes

### Analytical and Pharmaceutical Science

MSc 1 year full-time, 2-5 years part-time

Diploma/Certificate see website for details

#### Entry requirements

An honours degree (2:2 or above) or equivalent overseas qualification in chemistry, biochemistry or a closely related subject. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This popular and industry-relevant programme was designed for graduates in chemistry or closely related disciplines who wish to contribute to drug development and analysis, a process which requires multidisciplinary skills. The programme comprises a broad range of modules covering the major aspects of analytical and pharmaceutical chemistry, complemented by studies in transferable and professional skills.

Compulsory study modules include: Research Methods; Separation Techniques; Pharmacokinetics and Drug Metabolism; Spectroscopy and Structural Analysis; Professional Skills and Dissertation; Research Project; and you can choose from optional modules including: Mass Spectrometry and Associated Techniques; Drug Targets, Drug Design and Drug Synthesis; Sensors; Innovations in Analytical Science; Innovations in Medicinal Chemistry. You will be assessed by a combination of examinations and coursework.

For more details on studying part-time, please see page 18.

### Analytical Chemistry

MSc 1 year full-time, 2-5 years part-time

Diploma/Certificate see website for details

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in chemistry, biochemistry or a closely related subject. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is designed to provide comprehensive training in analytical chemistry and its implementation in a variety of fields including biomedical, pharmaceutical, food and environmental analysis. The programme comprises a broad range of modules covering all the major analytical techniques, complemented by studies in transferable and professional skills, and with the option to study aspects of medicinal and pharmaceutical chemistry if desired.

Compulsory study modules include: Research Methods; Separation Techniques; Mass Spectrometry and Associated Techniques; Spectroscopy and Structural Analysis; Professional Skills and Dissertation; Research Project; and you can choose from optional modules including: Pharmacokinetics and Drug Metabolism; Drug Targets, Drug Design and Drug Synthesis; Sensors; Innovations in Analytical Science. You will be assessed by a combination of examinations and coursework.

Practical sessions allow you to gain experience in nanopore technologies, separation science and the latest techniques in mass spectrometry. World-leading researchers and industry experts contribute to the teaching in many areas of the programme. There are also plentiful opportunities to carry out projects in industry and recent placements include 3M Healthcare, Rothamstead Research and many others.

For more details on studying part-time, please see page 18.

"After my master's degree, I was looking for a university that would provide the environment for self-development. Loughborough University recognised my potential and gave me the opportunity to further my education to PhD level."

> Boakye PhD student

### Pharmaceutical Science and Medicinal Chemistry

MSc 1 year full-time, 2-5 years part-time

Diploma/Certificate see website for details

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in chemistry, biochemistry or a closely related subject. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is designed for graduates in chemistry or a closely related discipline who wish to contribute to drug development in the pharmaceutical industry. The programme provides training in pharmacokinetics, drug metabolism, drug synthesis, methods to identify potential drug targets and drug candidates, and methods to assess the biological activities of drug compounds.

Compulsory study modules include: Research Methods; Pharmacokinetics and Drug Metabolism; Drug Targets; Drug Design and Drug Synthesis; Spectroscopy and Structural Analysis; Professional Skills; Research Project. You can also choose from optional modules including: Separation Techniques; Mass Spectrometry and Associated Techniques; Innovations in Analytical Science; Innovations in Medicinal Chemistry. You will be assessed by a combination of examinations and coursework.

Practical sessions allow you to gain experience in drug synthesis, binding assays and pharmacokinetics, and there are opportunities to carry out projects on placement in industry, including with 3M, Astra Zeneca, Bristol-Myers Squibb and others.

For more details on studying part-time, please see page 18.



"Being in the Centre of Analytical Science is the best experience for scientific research, given the advanced analytical instrumentation that they have here. If you're looking for research that matters, then this is where it is."

> Yusma PhD student







### **Programmes**

Research opportunities	p125
Air Transport Management	p128
Built Environment: Energy Demand Studies	p132
Construction Management	p131
Construction Project Management	p131

(Distance or Blended Learning)

Low Carbon Building Design p127
and Modelling

Low Energy Building p127
Services Engineering

Water and Environmental p129
Management

Infrastructure in Emergencies p130

Water and Environmental p130
Management (Distance Learning)
Water and Waste Engineering p128
Water and Waste Engineering p129
(Distance Learning)

# Civil and Building Engineering



RANKED 2ND FOR BUILDING THE COMPLETE UNIVERSITY GUIDE 2017

# Why choose Civil and Building Engineering at Loughborough?

One of four Royal Academy of Engineering designated Centres of Excellence in Sustainable Building Design, the School of Civil and Building Engineering is home to a thriving community of over 60 academic staff, 40 technical and clerical support staff and over 240 active researchers that include Fellows, Associates, Assistants, Engineers and Doctoral Students.

Our world-class teaching and research are integrated to support the technical and commercial needs of both industry and society. A key part of our ethos is our extensive links with industry resulting in our graduates being extremely sought after by industry and commerce worldwide.

The School offers a focused suite of postgraduate programmes aligned to meet the needs of industry and fully accredited by the relevant professional institutions. Consequently, our record of graduate employment is second to none. Our programmes also have a long track record of delivering high quality, research-led education. Indeed, our programmes have been responding to the needs of industry and producing high quality graduates, some for over 40 years.

Currently, our suite of master's degree programmes seeks to draw upon our cutting edge research and broad base knowledge within the areas of contemporary construction management, project management, infrastructure management, building engineering, building modelling, building energy demand, air transport management, and waste and water engineering. The programmes are designed to respond to contemporary issues in the field such as sustainable construction, low carbon building, low energy services, project complexity, socio-technical systems.

Our graduate employment rates are consistently first-rate, and independent surveys continue to show that industry has the highest regard for our graduates.

#### Our research

The focal point of the School is innovative, industry-relevant research. This continues to nurture and refresh our long history of working closely with industrial partners on novel collaborative research and informs our ongoing innovative teaching and extensive enterprise activities. This is further complemented by our outstanding record of doctoral supervision which has provided, on average, a PhD graduate from the School every two weeks.



### Research opportunities

### PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A good undergraduate degree (2:1 minimum) or a master's degree.

Our PhD students are based in the Research Hub, a vibrant hot-desking facility that encourages collaborative research. An active 'Hub Committee' organises training and social events for all research students.

You will also benefit from access to our excellent facilities, including our 3,000m<sup>2</sup> laboratory facilities, and High Performance computing facility – one of the UK's fastest clusters.

#### Supporting you

All research students are provided with two supervisors with expertise in the selected research area and a Director of Research Programmes to provide additional guidance and pastoral support, as well as opportunities to consult any other members of academic staff if appropriate. You will also be provided with a laptop, access to our laboratory facilities, technician support and access to funds for travel and conference attendance.

You'll also attend training courses to support your research and professional/personal development, with opportunities to support undergraduate teaching through employment as tutorial/lab assistants.

#### How to apply

Please provide an up-to-date CV and a research proposal, which is a summary of your proposed area of research (approximately 500 words). The research proposal should include your research interests, initial thoughts on a topic, references to previous work, and the methodology and general approach you wish to take. You should also indicate how the research would make an original contribution to knowledge. If you do not have a firm research proposal it is still important to provide as much information as possible including possible topic areas and intended sources of funding.

### Our areas of research

#### **Building Energy Demand**

We focus on measurement and modelling to produce healthy, high quality indoor environments, with lower energy demand and CO<sub>2</sub> emissions. It is organised in two sub-themes: Performance Measurement and Building Physics; and Modelling and Optimisation.

#### Construction Technology and Organisation

We have the UK's longest established research group specialising in the efficiency and performance of construction processes, products and organisations. The sub-themes are: Products and Processes; and Projects and Organisation. This research includes the performance and wellbeing of people, building sustainability, and building information modelling. The opportunities in this area are set to increase following new academic appointments in architecture.

#### **Civil Infrastructure Engineering**

Our research develops improved methods for modelling, analysing, designing, constructing and monitoring structural and geotechnical infrastructure systems using computational and experimental approaches.

#### Transport

We conduct fundamental, innovative and policy-relevant research in the areas of air transport safety, technology and environmental sustainability.

### Civil Engineering – Water and Waste Management

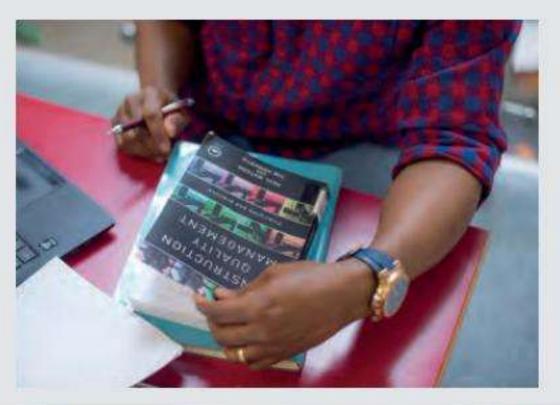
Our research covers water supply, waste management, sanitation and flooding.

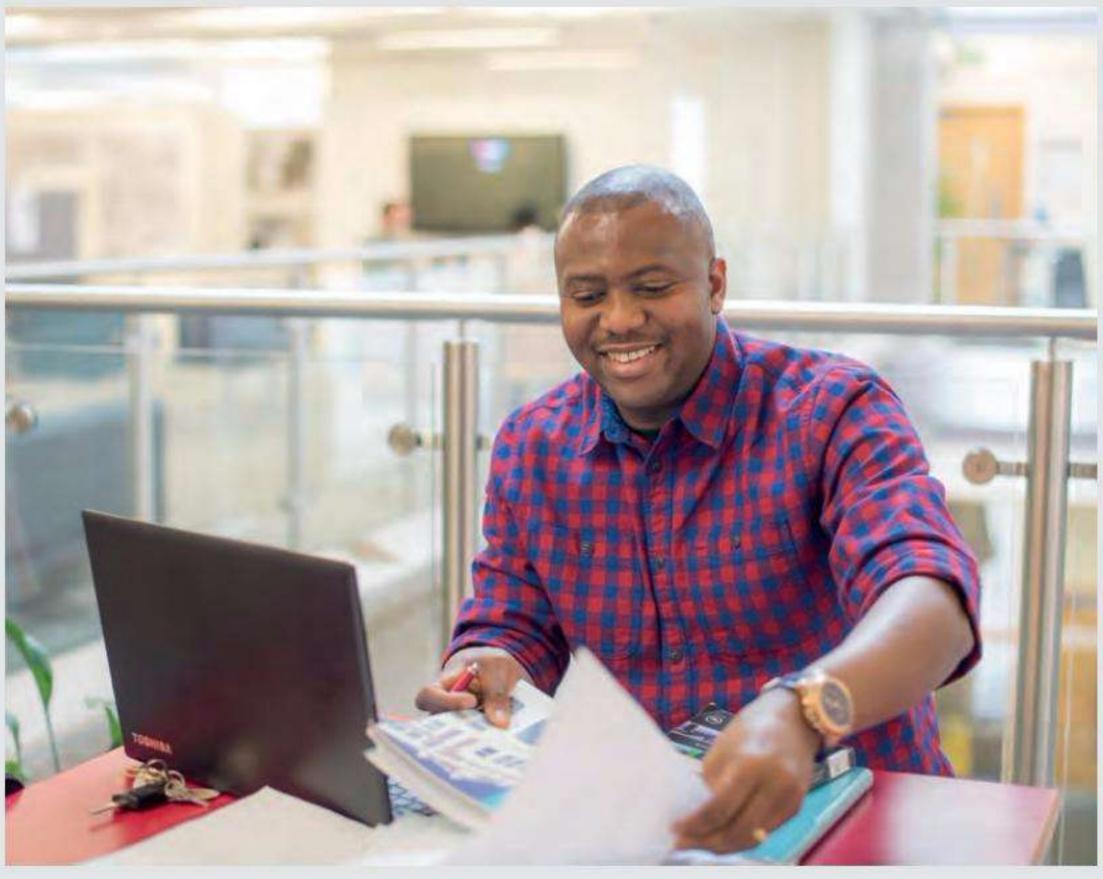
## Water, Engineering and Development Centre (WEDC)

WEDC is involved in many aspects of sustainable and resilient infrastructure and essential service delivery, focusing on sanitation and water in an international context. Some research is primarily concerned with technology while other projects deal with sociological, economic and management factors.

# The London-Loughborough (LoLo) EPSRC Centre for Doctoral Training in Energy Demand

The LoLo Centre is a collaboration between the UK's leading energy research universities: Loughborough University and University College London. The Centre offers both fees and stipends to top graduates from engineering, science and related disciplines for a four-year MRes and PhD programme. Full details, including how to apply, can be found on the LoLo website:





### Taught programmes

### Low Energy Building Services Engineering

MSc 1 year full-time; 2-5 years part-time (block-taught one-week modules)

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in engineering, science, mathematics, or a discipline related to building services engineering. Other qualifications supplemented with relevant industrial experience will also be considered. See full details online.

#### Fees

PGT Band 2 (see page 58 for details).

With global energy consumption being strongly influenced by the design and operation of buildings this programme is designed to combine building services engineering knowledge with specific energy considerations in their design.

Areas studied include low energy building design, designing for suitable indoor air quality and thermal comfort, state-of-the-art control systems, and the design of building heating, ventilating, and air conditioning systems. You will study core modules including: Thermodynamics; Heat Transfer and Fluid Flow; Thermal Comfort and Indoor Air Quality; Building Thermal Loads and Systems; Building Energy Supply Systems' Building Control and Commissioning; Concept Design; Low Carbon Building Design; Advanced Thermal Modelling; Research Project; Research Methods in Building. You'll be assessed by a combination of written exams, coursework and assignments.

You'll have access to our vast range of experimental facilities including: a fully controllable environmental chamber; sophisticated thermal and breathing manikins; an indoor solar simulator; a 'darkroom' facility to carry out optical and high dynamic range measurements; and full-scale houses for pressure testing and studying innovative heating and control strategies.

Previous students have gone on to work for leading consulting engineering companies such as Arup, Pick Everard, Hoare Lea, Cundall, Foster & Partners, and Atkins. Some of these companies offer work placements for students to undertake their research dissertations. Many visit the university to deliver lectures to our MSc students providing ideal opportunities for students to discuss employment prospects.

For more details on studying part-time, please see page 18.

# Low Carbon Building Design and Modelling

MSc 1 year full-time; 2-5 years part-time (block-taught one-week modules)

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in engineering, science, mathematics, or a discipline related to building services engineering. Graduates in architecture with good mathematical skills are also encouraged to apply. Other qualifications supplemented with relevant industrial experience will also be considered. See full details online.

#### Fees

PGT Band 2 (see page 58 for details).

This programme is aimed at anyone interested in learning more about the design and operation of low energy buildings with the added attraction of three modules dedicated to computer modelling of building performance – an essential skill for anyone wishing to work in today's rapidly changing world of building engineering consultancy.

Modules are taught by world-leading experts in the field who have designed some of the world's most innovative low energy buildings. The programme is accredited for further learning for CEng and professional membership by CIBSE and the Energy Institute and benefits from its links with the Royal Academy of Engineering Centre of Excellence in Sustainable Building Design.

You will study core modules including: Building Energy Consumption; Renewable Energy and Low Carbon Technologies; Building Control and Commissioning; Concept Design; Low Carbon Building Design; Thermal Modelling and Performance Simulation; Airflow Modelling and CFD Simulation; Climate-Based Daylight Modelling and Simulation; Research Project; Research Methods in Building. You will be assessed by a combination of written exams, coursework and assignments.

All master's degree students have access to a wide range of building simulation codes and experimental facilities which enable us to validate computer models. These include: a fully controllable environmental chamber; sophisticated thermal and breathing manikins; an indoor solar simulator; a 'darkroom' facility to carry out optical and high dynamic range measurements; and full-scale houses for pressure testing and studying innovative heating and control strategies.

Previous students have gone on to work for leading consulting engineering companies such as Arup, Pick Everard, Hoare Lea, Hulley and Kirkwood, an SE Controls.

### Air Transport Management

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in transport, geography, engineering, economics, management or a related discipline. Other qualifications and relevant industrial experience will also be considered. See full details online.

#### Fees

PGT Band 2 (see page 58 for details).

This programme is aimed at students who wish to specialise in air transport management as well as industry practitioners looking to upskill and move to positions carrying greater management responsibility. The global airline industry continues to grow rapidly and this complex business demands an increasingly skilled workforce.

The programme offers a critical, comprehensive and practical understanding of the structure and operation of the international air transport industry and equips students with a range of transferrable and analytical skills that can be applied in the workplace.

You will study modules including: Research and Communication; International Air Transport Management; Airline Operations and Marketing; Quantitative Analysis in Air Transport; Policy Planning and Design for Air Transport; Environmental Management and Mitigation for Air Transport; Airports, Cities and Development; Aviation Safety; Research Dissertation.

8.7 million individuals worldwide are employed in the aviation industry and demand for highly skilled professionals is growing. Air transport graduates are typically employed by airline operators, airports, regulators, government agencies and consultancy firms.

### Water and Waste Engineering

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in an engineering or scientific discipline. Successful completion of the Postgraduate Certificate stage (i.e. the first four modules of this MSc programme) may be considered as an alternative qualification. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is aimed at engineers or scientists intent on improving the delivery of water and sanitation services in low- and middle-income countries. It will enable you to develop your knowledge, expertise and skills in many aspects of inclusive and sustainable public health infrastructure and services.

Modules are taught by experts with practical experience in a broad range of disciplines. You will study core modules including: Water and Waste Engineering Principles; Management of Water and Sanitation; Water Utilities Management; Data Collection, Analysis and Research; Research Dissertation. You will also be able to select from optional modules such as: Water Source Development; Wastewater Treatment; Integrated Water Resources Management; Small-scale Water Supply and Sanitation; Solid Waste Management; Water Distribution and Drainage Systems. Field visits are made to relevant UK facilities. You will be assessed by a combination of coursework, including written documents, presentations and a dissertation, and class tests.

You will have access to our excellent laboratory facilities which include equipment for field sampling and analysis of water and wastewater, and some of the largest hydraulics equipment in the UK. Practical training includes hand-pump maintenance using the largest single site collection of hand-pumps; latrine slab construction; flow measurements; and water quality sampling and analysis.

The programme is accredited by the Chartered Institution of Water and Environmental Management (CIWEM), and students registered for this programme are eligible for free student membership of CIWEM. The Joint Board of Moderators (JBM) have accredited this MSc degree as meeting the requirements for 'Further Learning'.

Graduates have gone on to work for international NGOs (MSF, Oxfam, SCF, GOAL, WaterAid, etc.) and agencies (such as UNICEF), or national governments. Graduate job titles include Sanitation Technical Manager, Water and Sanitation Consultant, Project Manager, Environmental Engineering Consultant and Civil Engineering Specialist.

### Water and Environmental Management

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in any discipline. Successful completion of the Postgraduate Certificate stage (i.e. the first four modules of this MSc programme) may be considered as an alternative qualification. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is for you if you are a scientist or a professional intent on improving the delivery of water and environmental services in low- and middle-income countries. You will develop your knowledge, expertise and skills in many aspects of water, sanitation and environmental management.

You will study core modules such as: Management of Water and Sanitation; Water and Environmental Sanitation; Integrated Water Resources Management; Water Utilities Management; Data Collection, Analysis and Research; Research Dissertation. You will also select from optional modules including: Water Source Development; Environmental Assessment; Small-scale Water Supply and Sanitation; Solid Waste Management.

You will have access to our excellent laboratory facilities which include equipment for field sampling and analysis of water and wastewater, and some of the largest hydraulics equipment in the UK. Practical training includes hand-pump maintenance using the largest single site collection of hand-pumps; latrine slab construction; flow measurements; and water quality sampling and analysis. Field visits are made to relevant UK facilities. You will be assessed by a combination of coursework and class tests.

The programme is accredited by the Chartered Institution of Water and Environmental Management (CIWEM), and students registered for this programme are eligible for free student membership of CIWEM. The Joint Board of Moderators (JBM) have accredited this MSc degree as meeting the requirements for 'Further Learning'.

Many graduates occupy senior sector positions and work for international NGOs (MSF, Oxfam, ACF, GOAL, WaterAid, etc.) and agencies (such as UNICEF), or national governments. Graduate job titles include Technical Manager, Programme Engineer, Water and Sanitation Consultant, Project Manager, Environmental Health Officer and WASH Coordinator.

# Water and Waste Engineering (Distance Learning)

MSc 2 to 8 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in an engineering or scientific discipline. Successful completion of the Postgraduate Certificate stage (i.e. the first four modules of this MSc programme) may be considered as an alternative qualification. See full details online.

#### Fees

See website.

This programme is aimed at engineers or scientists intent on improving the delivery of water and sanitation services in low- and middle-income countries. You will develop knowledge, expertise and skills in many aspects of inclusive and sustainable public health infrastructure and services. With our distance learning programme, you can study flexibly at home, module by module over a number of years.

Comprehensive study materials are provided, and you can access the university library's electronic search facilities and the WEDC Knowledge Base online. Web-based discussion forums allow all students to communicate with each other and the tutor.

You will study core modules including Management of Water and Sanitation; Water and Environmental Sanitation; Data Collection, Analysis and Research; Case Study; Research Dissertation. You can also choose from optional modules including Wastewater Treatment; Urban Infrastructure; Water for Low-Income Communities; Integrated Water Resources Management; Solid Waste Management; Low-Cost Sanitation; Water Utilities Management. You will be assessed by written assignments, and, in the case of the Research Dissertation, an oral examination (conducted by Skype if you cannot visit the UK).

The programme is accredited by the Chartered Institution of Water and Environmental Management (CIWEM), and students registered for this programme are eligible for free student membership of CIWEM. The Joint Board of Moderators (JBM) have accredited this MSc degree as meeting the requirements for 'Further Learning'.

Graduates from this programme occupy senior sector positions and work for international NGOs (MSF, Oxfam, ACF, GOAL, WaterAid, etc.) and agencies (such as UNICEF), or national governments. Students already working in these sectors find their new skills to be directly relevant and readily applicable to their jobs. Graduate job titles include Sanitation Technical Manager, Water and Sanitation Consultant, Project Manager and Civil Engineering Specialist.

### Water and Environmental Management (Distance Learning)

MSc 2 to 8 years part-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in any discipline. Successful completion of the Postgraduate Certificate stage (i.e. the first four modules of this MSc programme) may be considered as an alternative qualification. See full details online.

#### Fees

See website.

This programme is for you if you are a scientist or a professional intent on improving the delivery of water and environmental services in low- and middle-income countries. You will develop knowledge, expertise and skills in many aspects of water, sanitation and environmental management.

With our distance learning programme, you can study flexibly at home, module by module over a number of years.

Comprehensive study materials are provided, and you can access the university library's electronic search facilities and the WEDC Knowledge Base online. Web-based discussion forums allow all students to communicate with each other and the tutor.

You will study core modules including: Management of Water and Sanitation; Water and Environmental Sanitation; Data Collection, Analysis and Research; Environmental Assessment; Integrated Water Resources Management; Case Study; Research Dissertation. You can also choose from optional modules such as: Wastewater Treatment; Water for Low-income Communities; Solid Waste Management; Low-cost Sanitation; Water Utilities Management. You will be assessed by written assessments, and, in the case of the Research Dissertation, an oral examination (conducted via Skype if you cannot visit the UK.)

The programme is accredited by the Chartered Institution of Water and Environmental Management (CIWEM), and students registered for this programme are eligible for free student membership of CIWEM. The Joint Board of Moderators (JBM) have accredited this MSc degree as meeting the requirements for 'Further Learning'.

Graduates from this programme have gone on to occupy senior sector positions and work for international NGOs (MSF, Oxfam, SCF, GOAL, WaterAid, etc.) and agencies (such as UNICEF), or national governments.

For more details on studying part-time, please see page 18.

# Infrastructure in Emergencies (Distance or Blended Learning)

MSc 2 to 8 years part-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in any discipline. Successful completion of the Postgraduate Certificate stage (i.e. the first four modules of this MSc programme) may be considered as an alternative qualification. See full details online.

#### Fees

See website.

This programme is for graduates hoping to work, or already working, in the emergency water and sanitation sector in low- and middle-income countries. It will enable you to develop your potential and understanding of the principles and practice of infrastructure provision in emergencies and during reconstruction, equipping you with appropriate knowledge, expertise and skills for emergency work.

With the distance learning programme, you can study flexibly at home, module by module over a number of years. Students undertaking the blended learning programme can choose to study some of the modules in Loughborough. Comprehensive study materials are provided, and you can access the university library's electronic search facilities and the WEDC Knowledge Base online. Web-based discussion forums allow all students to communicate with each other and the tutor.

You will study core modules including Introduction to Infrastructure in Emergencies; Emergencies, Management and People; Emergency Water Supply; Emergency Sanitation; Data Collection, Analysis and Research; Research Dissertation. You will also choose from optional modules, such as: Wastewater Treatment; Urban Infrastructure; Environmental Assessment; Integrated Water Resources Management; Water Utilities Management. You will be assessed by written assignments, and in the case of the Research Dissertation, an oral examination (conducted via Skype if you cannot visit the UK.)

The programme is accredited by the Chartered Institution of Water and Environmental Management (CIWEM), and students registered for this programme are eligible for free student membership of CIWEM. The Joint Board of Moderators (JBM) have accredited this MSc degree as meeting the requirements for 'Further Learning'.

Graduates from this programme have gone on to occupy senior sector positions and work for international NGOs (MSF, Oxfam, SCF, GOAL, WaterAid, etc.) and agencies (such as UNICEF), or national governments.

### Construction Management

MSc 1 year full-time, 2-5 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a relevant subject. See full details online.

#### Fees

PGT Band 2 (see page 58 for details).

Society continues to value and shape the built environment resulting in both public and private investment in construction assets and the successful completion of construction projects. As these projects become more socially and technically complex in a changing world dominated by a concern for sustainability, there has been a growing challenge to develop existing and new skills and expertise in construction management.

This programme is designed for recent graduates from construction and related disciplines and introduces the fundamentals and challenges to contemporary construction management. It is also ideally suited to those who have a strong technical background and need to complement it with requisite management know-how for developing their national and international careers in the construction sector.

You will study core modules such as: ICT for Construction Projects; Research and Communication; Principles of Design and Construction; Principles of Project Management; Postgraduate Research Project. You will have the opportunity to select from optional modules including: Design Management; Sustainability in the Built Environment; Management of Construction Processes; Federated 3D Building Information Modelling (BIM); Strategic Management in Construction; People and Teams; Procurement and Contract Procedure; Business Economics and Finance.

Students on the programme significantly benefit from the programme's strong connection with the expertise of the UK's longest-established research group 'Construction Technology and Organisation' and the Royal Academy of Engineering Centre of Excellence in Sustainable Building Design. Accreditation of the programme is provided by the UK's Royal Institution of Chartered Surveyors (RICS), the Engineering Council and The Chartered Institute of Building (CIOB).

Graduates are sought after by a wide range of companies including Arup, Atkins, Bauer Technologies, Carillion plc, Eurovia Group, Kier Group, Morgan Sindall, Skanska and Vinci Construction. Many of these organisations engage with the University in both collaborative research and in delivering lectures on the programmes. This provides an ideal opportunity for students to engage in discussions about employment opportunities.

For more details on studying part-time, please see page 18.

### Construction Project Management

MSc 1 year full-time, 2-5 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a relevant subject and/or full membership of a relevant professional institution. See full details online.

#### Fees

PGT Band 2 (see page 58 for details).

Competency in project management has become a key part of the skills-set of every construction professional and executive, with many construction project managers functioning in a strategic and co-ordinating role in the delivery of the client's physical development and investment programme.

Our programme is therefore tailored for construction professionals looking for a more holistic perspective of construction project processes and the challenge of project management in complex building and infrastructure projects. Accreditation of the programme is provided by the UK's Royal Institution of Chartered Surveyors (RICS), the Engineering Council and The Chartered Institute of Building (CIOB).

Core study areas include: ICT for Construction Projects; Research and Communication; Principles of Design and Construction; Principles of Project Management; Design Management, Sustainability and the Built Environment; Management of Construction Processes; Postgraduate Research Project. You will have the opportunity to select from optional modules such as: Strategic Management in Construction; People and Teams; Procurement and Contract Procedure; Business Economics and Finance; Federated 3D Building Information Modelling (BIM).

Previous students have gone on to work for a variety of organisations nationally and internationally. These include Arup, Atkins, BAM Nuttall Ltd, Balfour Beatty, Kier Group, Morgan Sindall, Skanska and Transport for London. Many of these organisations engage with the University in both collaborative research and in delivering lectures on the programmes. This provides an ideal opportunity for students to engage in discussions about employment opportunities.

### Built Environment: Energy Demand Studies

MRes 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a relevant science, engineering or similar subject related to energy and the built environment. Applicants with extensive relevant industry experience and a capability in engineering, science, or related fields equivalent to graduate level will also be considered. See full details online.

#### Fees

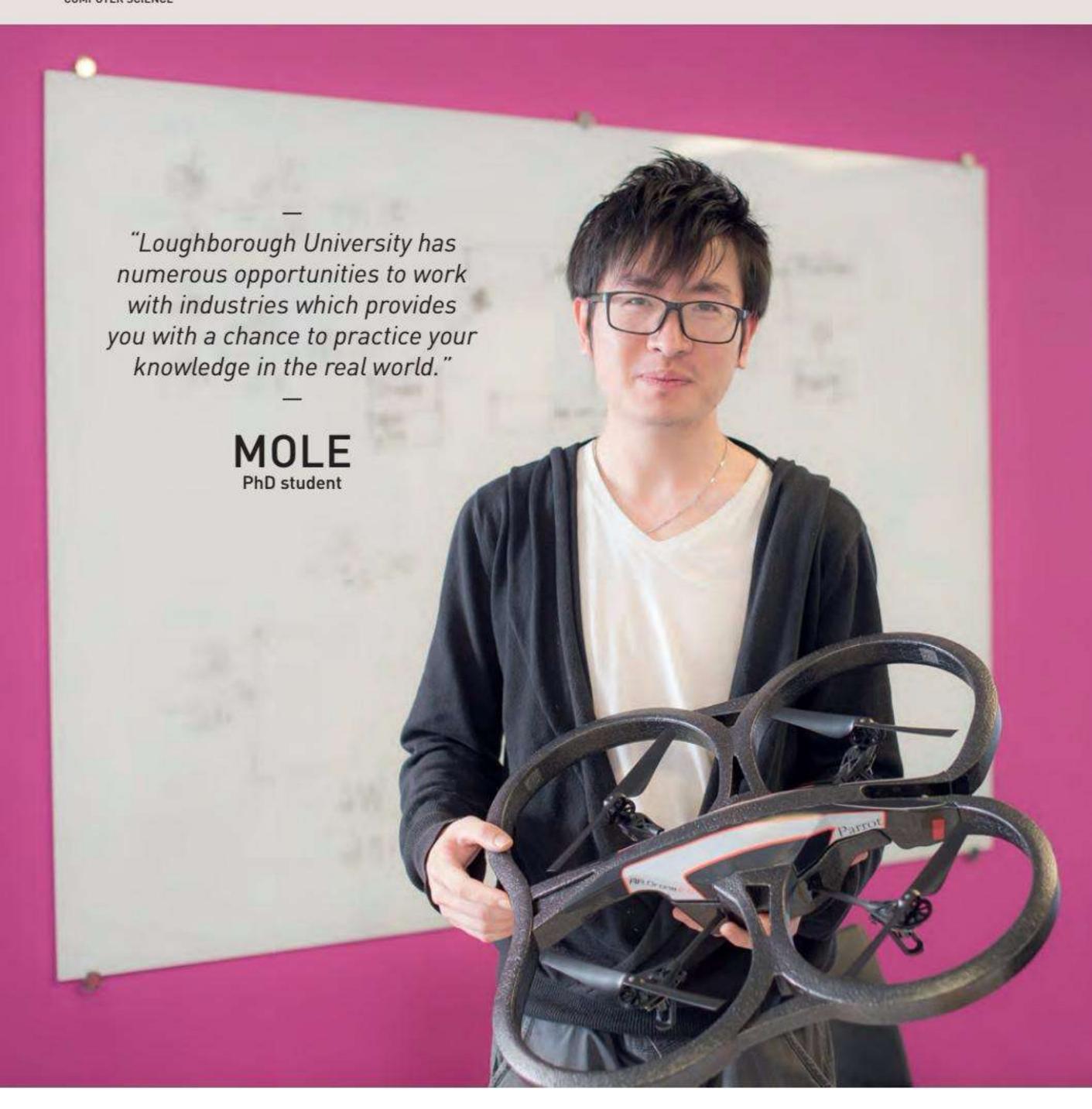
PGT Band 3 (see page 58 for details).

This programme is aimed at students training for a research career in energy and related areas, in either academia or industry. It focuses on energy demand reduction in the built environment, examining technical solutions within the wider social and economic context. The programme is closely linked with the London-Loughborough Centre for Doctoral Research in Energy Demand and is led by internationally-leading research staff at Loughborough University and the Energy Institute at University College, London.

MRes students make use of the extensive laboratory facilities and test houses operated by the School of Civil and Building Engineering. The MRes combines measurements in buildings with modelling studies, allowing students to experience at first hand the 'performance gap' – the difference between modelling and real world behaviour.

You will study core modules including: Energy Demand in Context; Building Energy Systems and Models; Energy Theory, Measurement and Interpretation; Research Development and Dissemination; Energy Demand: Society Economics and Policy; Quantitative and Qualitative Research Methods; Energy Demand Studies Research Dissertation. Assessment is entirely by coursework, including presentations and written work such as essays, reports and press releases. The research project is assessed by a dissertation, anacademic paper and a viva at which students present thework to an expert panel.

The MRes in Energy Demand Studies can be studied as a one year standalone programme and also forms the first year of the four year course for students accepted into the LoLo CDT, who then go on to study for a PhD. The opportunity exists for strong MRes students to join the LoLo Centre at the end of their MRes year.



# Programmes

Research opportunities	p135
Advanced Computer Science	p136
Internet Computing and Network Security	p136



## Computer Science

## Why choose Computer Science at Loughborough?

The Department of Computer
Science is a lively community within
a stimulating learning and working
environment. We regularly welcome
visiting lecturers and researchers
who contribute to the intellectual
and social life of the Department.

Located in the recently refurbished Haslegrave Building, our facilities offer the best all-round experience for learning, enhancing employability and expanding skills. Students have 24-hour exclusive access to computer laboratories, including a dedicated MSc laboratory, supported by a team of systems specialists, and our virtual learning environment provides online access to lectures and other material.

Our graduates have gone on to enjoy careers within a diverse range of organisations, including Google, Credit Suisse, Ocado, Rolls-Royce, Winton Capital and AVG Technologies.

#### Our research

The Department of Computer Science is committed to providing the best learning environment and developing international cuttingedge research. We have a lively research community of staff and around 50 research students.

Research is at the heart of everything we do. Our research is organised under three groups: Vision, Autonomous and Human-Computer Systems (AVCH); Internet Systems and Network Security (ISNS); and Theory and Applications of Formal Systems (TAFS).



RANKED 13TH
FOR COMPUTER
SCIENCE AND
INFORMATION SYSTEMS
THE GUARDIAN
UNIVERSITY GUIDE 2017



### Research opportunities

PhD 3 years full-time; 5 years part-time

Integrated PhD 4 years full-time

MPhil 2 years full-time; 3 years part-time

#### Entry requirements

A 2:1 honours degree or its equivalent, or equivalent experience in an area related to Computer Science.

You will have access to excellent facilities including 24-hour computer laboratories and a range of hardware and software including humanoid robots, body-wearable sensors, eye-tracking systems and visual reality facilities.

The PhD with Integrated Research Studies is a 4 year, full-time PhD which has 120 credits of additional research training spread over the first two years. This additional research training involves taught modules in research methods and in specialist advanced subjects related to the research topic undertaken.

#### Supporting you

You will receive academic and pastoral support from two supervisors and the Director of Research Degree Programmes. The Department also offers a regular, varied programme of seminars with both internal and external speakers, organised social activities and opportunities for research skills training and networking. You will also have access to a workstation, online access to many international journals, access to funds for conference attendance and consumables, and access to library and IT services.

#### How to apply

You should include a research proposal of approximately two pages with your application. This proposal should outline the research context, the main aim and objectives of the proposed research, and some indication of the methodology to be used.

#### Our areas of research

#### Vision, Autonomous and Human-Computer Systems (AVCH)

The research focus of this group is the development of advanced image analysis, coding and computational intelligence technologies that can be used to implement autonomous or decision support systems in a wide range of application areas in both hardware and software. The group also engages in human factors research recognising the importance of the parts that humans play in any system. Research strengths include: computer vision, computer graphics, decision support systems, human factors, image and video processing and analysis, machine learning, multi-agent systems, pattern and object recognition and requirements analysis. The group collaborates extensively with industry to ensure the relevance of its research. It has a strong track record of attracting funding from EPSRC, TSB, EU, Home Office, NHS and UK industry.

#### Internet Systems and Network Security (ISNS)

Theories and technologies in networking, sensing, control and communication play important roles in the modern world and are expected to remain of great significance in the future. Our research focuses on all aspects of networking and communicating systems, and addresses specific issues related to the internet and control, wireless sensor networks, network performance modelling and measurement, performance evaluation with Quality of Service (QoS) constraints and application performance investigation. Work ranges from the underlying mathematical theory to practical creation and operation of networked systems. Research strengths include: internet control, wireless sensor networks, internet Quality of Service and congestion control, coding theory as well as in accessibility and usability.

#### Theory and Applications of Formal Systems (TAFS)

The research of the TAFS Group covers a relatively wide range of established and emerging fields in Theoretical Computer Science, including mathematical logic, formal languages, computability and complexity theory, numerical analysis, cryptography, geometric computation, algorithmic learning theory and energyefficient scheduling.

### Taught programmes

### Advanced Computer Science

MSc 1 year full-time

#### Entry requirements

An honours degree (2:2 or above) or equivalent overseas qualification in Computer Science or an allied discipline which includes programming and networking. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme has been developed with input from UK and international organisations, and equips students with the practical skills sought by employers. The programme will appeal to students who wish to specialise in, for example, image processing, multimedia, artificial intelligence, robotics and theoretical computer science.

You will be taught through a combination of lectures, seminars, presentations, tutorials and computer-based self-managed materials in combination with laboratory exercises. You will study a range of modules, such as: Advanced Programming; Building Secure Networks; Computer Vision and Embedded Systems; Cryptography and Secure Systems; Robotics and Intelligent Systems; Research Methods; Project Preparation; Wireless Networks; Individual Project. You will be assessed by a combination of coursework and in-class tests.

With module content influenced by industry, and specialist equipment supporting experiential learning, the MSc Advanced Computer Science is designed to support future careers in both industry and academia. Graduates have gone on to enjoy careers within a diverse range of organisations, including Google, Credit Suisse, Ocado, Rolls-Royce, Winton Capital and AVG Technologies.

### Internet Computing and **Network Security**

MSc 1 year full-time

#### Entry requirements

An honours degree (2:2 or above) or equivalent overseas qualification in Computer Science or an allied discipline which includes programming and networking. See full details online.

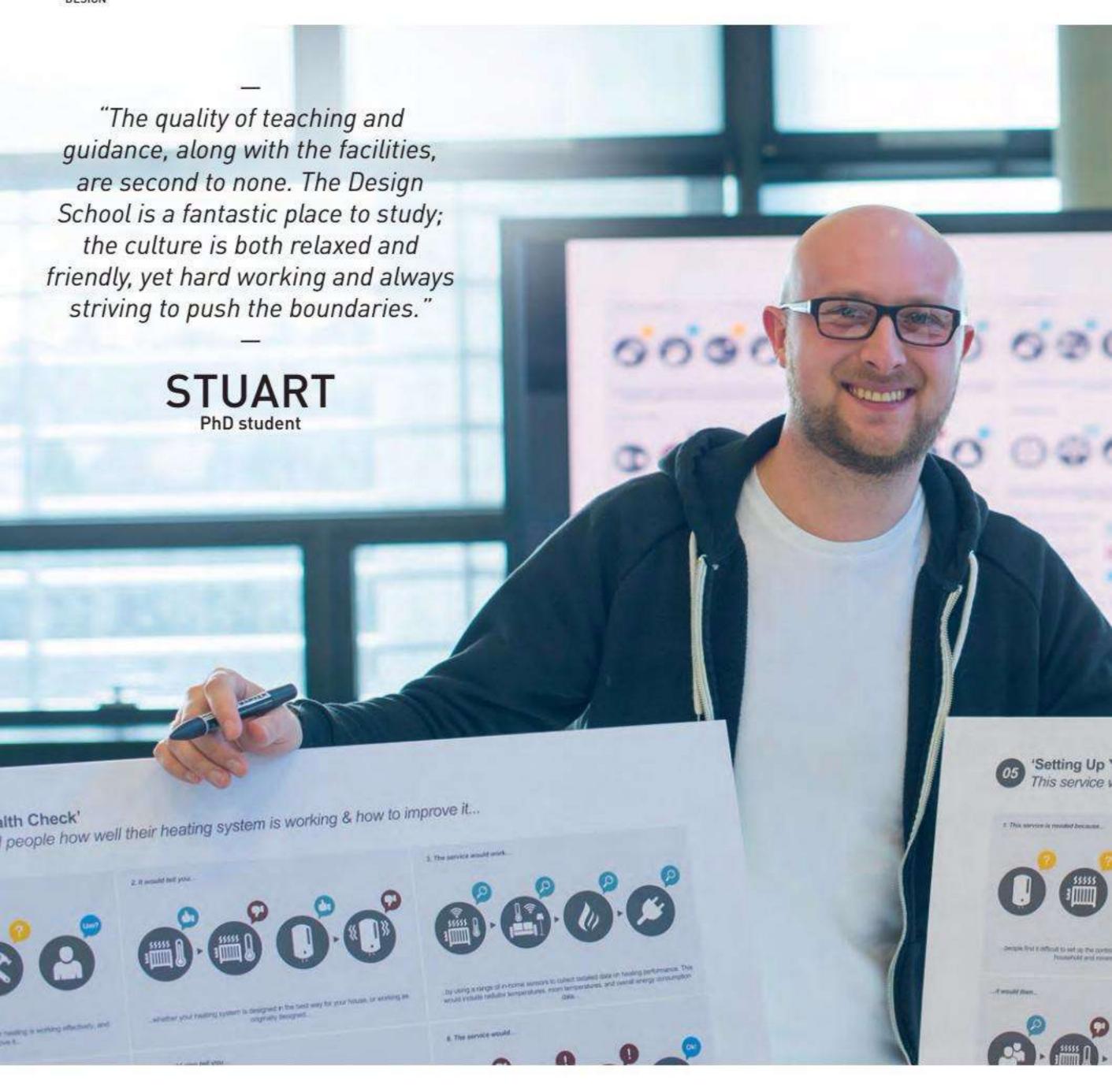
#### Fees

PGT Band 3 (see page 58 for details).

The internet forms a paradigm shift in the way the world operates and communicates. This has huge significance for the future, and a solid understanding of internet technology is almost a guarantee for a successful career. Focusing on all aspects of what is relevant to future network experts, the programme provides a view on network architecture, protocols, security, performance and programming as well as wireless networks.

The course is taught through a combination of lectures, seminars, presentations, tutorials and computer-based self-managed materials in combination with laboratory exercises as applicable. You will study modules such as: Network Modelling and Performance; Internet Systems; Internet Protocol Design; Building Secure Networks; Cryptography and Secure Systems; Wireless Networks; Project Preparation; Research Methods; Individual Project. You will be assessed by a combination of coursework and in-class tests.

Graduates achieve the necessary qualifications to seek employment in industry immediately and gain a solid basis from which to pursue a career in industry or academia.



### Programmes

Research opportunities	p139
Ergonomics and Human Factors	p141
Ergonomics in Health and Community Care	p141
Human Factors and Ergonomics for Patient Safety	p141

Human Factors for Inclusive Design	p141
Human Factors in Transport	p141
Industrial Design and Technology	p142
User Experience Design	p142

## Related programmes available at our London campus:

Design and Culture	p204
Design Innovation	p204
Design Innovation Management	p205
Entrepreneurial Design Management	p205



# Design

## Why choose Design at Loughborough?

At Loughborough Design School we want to share our world-leading knowledge. Our expertise and teaching is built on the design principles of aesthetics, technology and understanding the user.

Offering seven postgraduate programmes, and a range of research opportunities, the School is proud to be helping to prepare the next generation of designers and ergonomists for highly successful careers.

Based in a £21M state-of-the-art building, the School has a wealth of facilities including a variety of software, workshops and laboratories including research facilities such as eye-tracking, driving simulators, additive manufacturing machines and ergonomics testing facilities.

With a fully equipped ergonomics laboratory based close by, our practical and theoretical teaching and research spaces ensure a professional and inspirational experience. The School has particularly close links with Adidas, Cadbury, Coca-Cola, Health and Safety Executive, Department of Health, National Health Service, Age UK, Met Office, Ericsson, IBM, Nissan, Hewlett Packard, BAE Systems, Rolls Royce, Ministry of Defence, Ford Motor Company, Jaguar Land Rover, E.ON, O2, and the Department for Transport.

#### Our research

We have a thriving PhD population of around 60 full-time and part-time UK, EU and international research students. You will be supervised by staff who are internationally recognised as experts in their field and will have access to the world class facilities you need to complete your studies. If you would rather undertake an MPhil, then we also offer these full-time or part-time.



RANKED 2ND FOR ART AND DESIGN THE COMPLETE UNIVERSITY GUIDE 2017



RANKED 38TH IN THE WORLD FOR ART AND DESIGN QS WORLD RANKINGS 2016



### Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent.

The Design School is all about using design to change the world for the better.

Our academic staff are internationally renowned experts in their fields. These staff bring a diverse mix of specialisms and backgrounds to the School which our PhD students benefit from immensely.

#### Supporting you

We will provide you with everything you need to help ensure you have a great experience and are successful in your studies. You will have the opportunity to become part of an exciting community of students, academic staff and researchers. Each student is provided with two supervisors who will provide expert guidance during your PhD. We will also provide: IT equipment including state-of-the-art design and ergonomics software, regular research seminars and training courses, opportunities to support undergraduate teaching, special tutor sessions in your first year, and student led initiatives to provide support throughout your studies.

#### How to apply

You should write a two page research proposal that summarises the background to your intended research, the objectives, proposed methods, and what you hope the outcomes of your research might be. Applicants should email this proposal to dslearning@lboro.ac.uk and discuss their research topic with the Design School before submitting an application.

### Our areas of research

#### Design Ergonomics Research Group

The Design Ergonomics Group has a strong international reputation in research across a broad range of areas including inclusive design, transport (particularly vehicle ergonomics), health and wellbeing, construction ergonomics, human modelling and people's emotional engagement with products. The group's research and consultancy activities impact industry and end users, making a positive difference to people's lives.

#### **Design Practice Research Group**

This is a multidisciplinary team of academics with expertise in the methods, tools and technologies of design and designing. The research focuses on new and improved design processes with results contributing to scholarship and practice in areas such as design education, methods and management and emerging technologies.

#### **Environmental Ergonomics Research Centre**

The Environmental Ergonomics Research Centre studies the interaction of people with their physical environment. This can be an indoor or outdoor environment, in the context of work or leisure activities. The interactions studied can range from comfort to stressful experiences addressing issues such as thermal comfort, human performance, vibration and noise exposures and issues related to vision. The group also addresses issues around patient handling and safety in healthcare.

#### Human Factors in Complex Systems Research Group

This group addresses the interactions between people, products, technologies, services, procedures, policies and culture which, when combined, form complex sociotechnical systems.

#### Sustainable Design Research Group

This group is leading the development of cutting-edge theory which advances the emerging field of sustainable design. We aim to facilitate the integration of sustainable practices into design, resulting in improvements in overall environment performance and quality of life.

#### User Centred Design Research Group

The User Centred Design Research Group conducts world-leading research into products, services, equipment and environments to ensure they meet the needs of the end users. The Group draws upon 40 years of expertise in the development and application of user centred design methods in the home, at leisure, in the workplace and on the move.

#### **Design for Digital Fabrication** Research Group

The Design for Digital Fabrication Research Group focuses on new ways of designing that maximise the potential of the latest automated, computer controlled manufacturing processes. This includes research into new design methods, techniques and tools as well as the psychosocial and economic impacts of these processes. We are one of the world's leading research groups in the field of design for additive manufacturing and 3D printing but we also explore other digital fabrication processes.

#### Behavioural Safety Research Group

The Behavioural Safety Research Group strives to improve safety through design using research expertise in human factors, engineering, psychology, health sciences, education and social sciences. A key focus of the group is understanding behavioural aspects of road users and how this impacts on road safety but we also have an interest in understanding the implications of behaviour in the workplace and how this might impact on workplace health and safety.

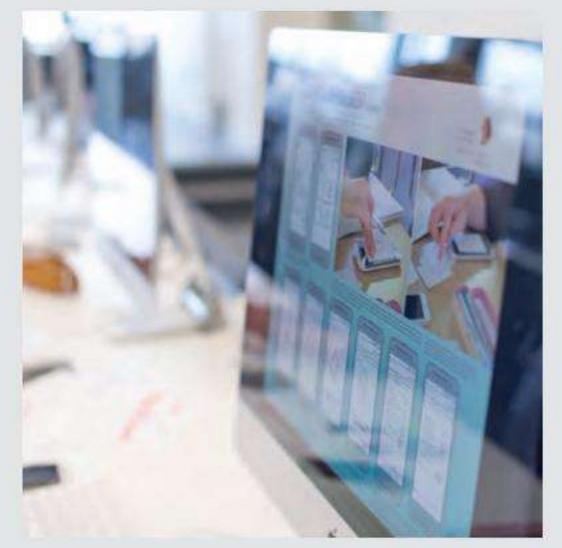
#### Transport Collision Research Group

The Transport Collision Research Group's aim is to better understand how road traffic collisions and injuries occur in order to improve safety for road users, including their vehicles and roads. The research findings are used by vehicle manufacturers to improve road safety.

### Centres for Doctoral Training

Centres for Doctoral Training (CDT) integrate three years of PhD study with one year of research training and have strong industrial links. The School is a partner in the AHRC funded Design Star, with the Universities of Brighton and Reading, Goldsmiths and the Open University and also participates in EPSRC funded CDTs in Additive Manufacturing, Embedded Intelligence and Fuel Cells and Their Fuels.

Find out more: lboro.ac.uk/pg2017/cdts





### Taught programmes

### **Ergonomics and Human Factors**

### **Human Factors in Transport**

### Human Factors for Inclusive Design

# Ergonomics in Health and Community Care

# Human Factors and Ergonomics for Patient Safety

MSc 1 year full-time, up to 3 years part-time

Diploma/Certificate see website for details

#### **Entry requirements**

An honours degree (2:1 or above) in a relevant discipline or closely related subject. Entry onto diploma and certificate programmes are assessed on a case by case basis. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

The field of ergonomics and human factors is about ensuring a good fit between people, the things they do, the objects they use, and the environments they work, travel and play in. We offer five postgraduate taught programmes in the field of ergonomics and human factors which take a scientific look at these interactions and apply theoretical principles, data and methods to ensure that design is optimised for human wellbeing and overall system performance.

Our programmes are awarded separate qualifications but share many core modules. This interdisciplinary approach to teaching and learning means that you benefit from teaching provided by our specialist experts in each area, ensuring that you are trained to the highest professional standard. Joining us on one of these well-respected programmes will provide you primarily with a broad ergonomics education, with further opportunity to focus on a particular area of interest to you.

The programmes are professionally recognised by the Chartered Institute of Ergonomics and Human Factors (CIEHF) and the Centre for Registration of European Ergonomists (CREE). The CIEHF is affiliated with the International Ergonomics Association, opening up employment opportunities worldwide. Our Ergonomics in Health and Community Care programme meets the requirements for you to become a Registered Member of National Back Exchange.

The modules available across these programmes include: Introduction to Ergonomics; Human Function; Human Factors and Systems; Physical Health at Work; Human Computer Interaction; Data Collection and Analysis; Environmental Ergonomics; Project Module (Dissertation); Disability, Ageing and Inclusive Design; Driver and Vehicle Ergonomics; Healthcare Ergonomics and Patient Safety; Transport Safety; Patient Handling; Healthcare Ergonomics and Patient Safety (not all modules are available on all programmes. See the website for details.)

Teaching varies by module and may include a combination of lectures, seminars, demonstrations, practical classes and workshops, fieldwork and guided independent study. Assessment may include: individual report, group evaluation, group presentation, open book test, class test, critique, coursework, dissertation, and a viva voce.

Successful completion of one of these programmes will enable you to become a professional ergonomics/human factors practitioner. The nature of the programmes also opens up possibilities in other scientific and research careers. Example jobs held by our recent graduates include: Chief Trials Officer, Ergonomist, Human Machine Interaction Engineer, Human Factors Consultant, Human Factors Engineer, Human Factors Specialist, Moving and Handling Specialist, and Usability Engineer, at destinations including Atkins, AWE, Canadian Army Trials and Evaluation Unit, Jaguar Land Rover, Pirelli, and QinetiQ.

### Industrial Design and Technology

MA 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) in Industrial Design or closely related subject. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is designed to improve the effectiveness of industrial designers within industry. It is beneficial for both recent graduates and current practitioners in advancing their core design knowledge and specialist skills to a higher level. It aims to further develop critical awareness of major industrial design practice, increasing your input and value to current and potential employers. You will also develop skills in producing a balanced portfolio of high quality designs and innovative thinking which will enable you to deal with complex and interrelated issues both analytically and creatively.

You will study: Design Research Methods; Enterprise and Business; Industrial Design Skills; Design Practice; Design for Behaviour Change, Group Project; Industrial Design Workshop Skills, Industrial Design Major Project. You will be assessed by coursework submissions, including: design projects, presentations, group work, reports and project specifications.

A portfolio must be submitted that demonstrates some proficiency in industrial design skills and suggests that personal and professional aspirations are compatible with the aims of the programme.

Possible careers include: consumer product design; marketing; industrial design consultancy; project planning; technical sales; CAD/CAM; buying; interior/ exterior design; advertising and display design. A number of our students have also gone on to start their own businesses or work freelance in a number of disciplines.

For more details on studying part-time, please see page 18.

### User Experience Design

MA 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) in a relevant subject. See full details online.

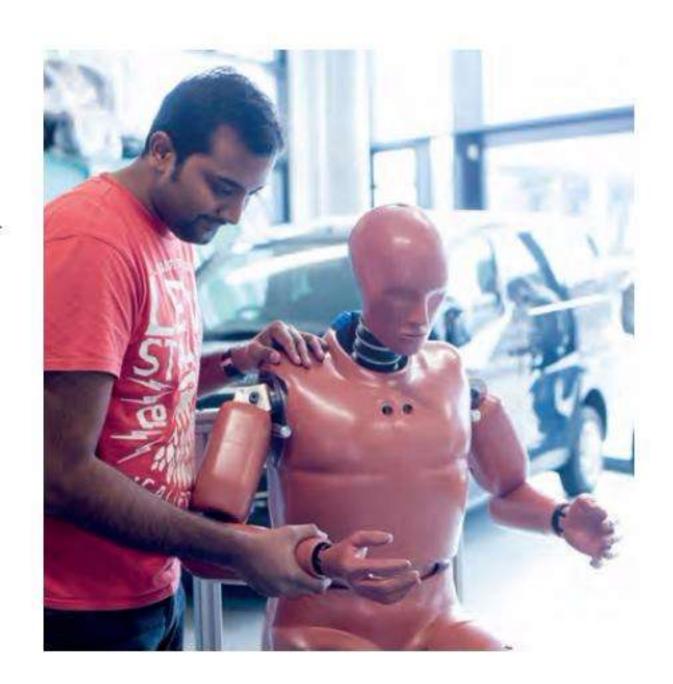
#### Fees

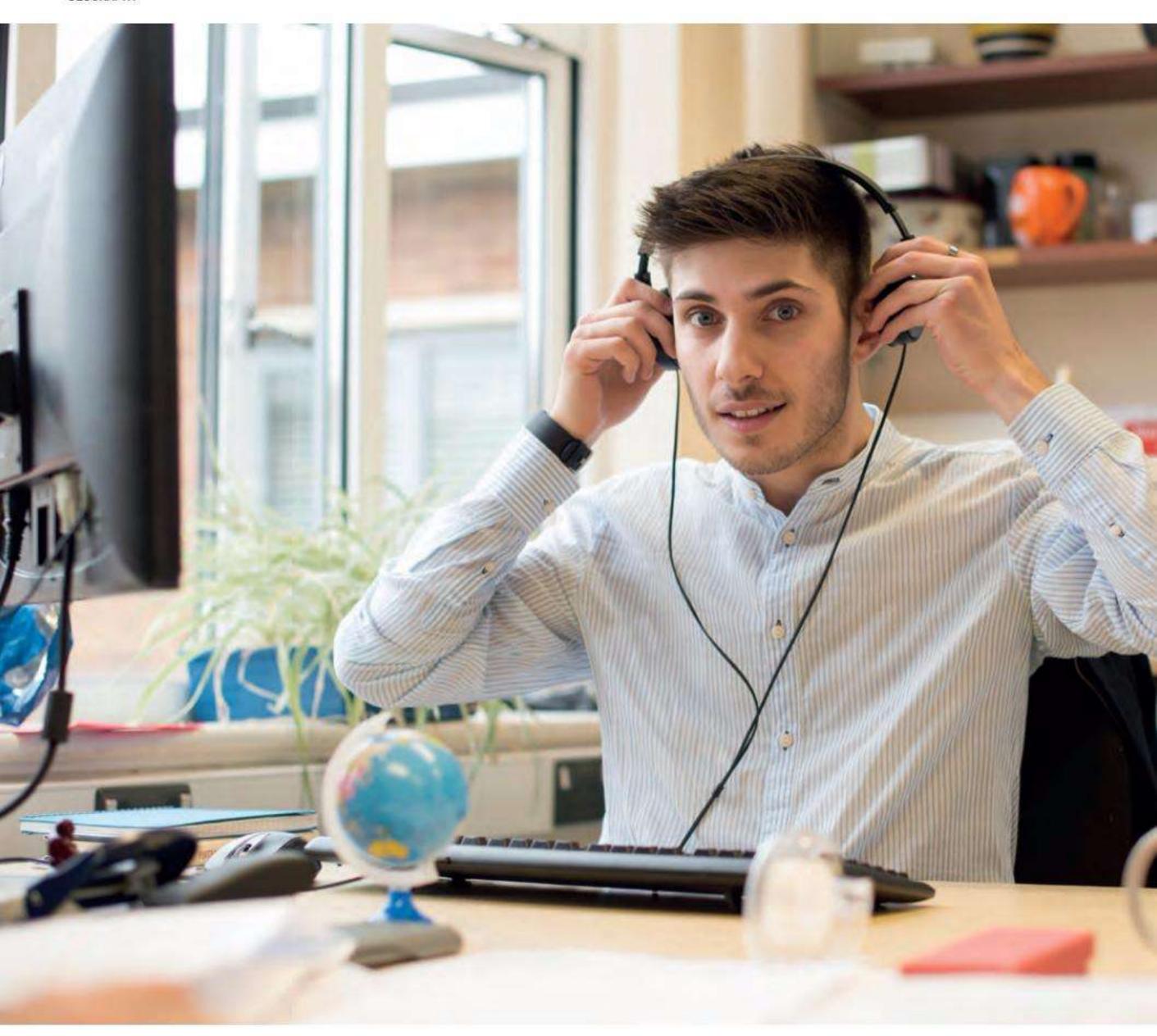
PGT Band 1 (see page 58 for details).

This programme is designed to help you develop your critical awareness of major issues in interaction and user experience design. It aims to improve your effectiveness as a user experience designer within industry and is beneficial to both recent graduates and those currently working within industry, advancing your knowledge and specialist skills to a higher level.

You will study: Design Research Methods; Enterprise Business; Experience Design; Group Project; Service Design for Social Innovation; Usability Principles and Practice; Design for Behaviour Change; User Experience Design Major Project. You will be assessed by coursework submissions including: presentations, group work, reports and project specifications.

Possible careers include: user experience designer; interaction designer; user researcher; usability specialist and service designer.





### **Programmes**

********************************	******
Research opportunities	p145
Environmental Monitoring for Management	p146
Globalization and Cities	p146
International Financial and Political Relations	p147

"My department has a great culture.

Lecturers are friendly, helpful and approachable and always willing to help. The support from my supervisors has been brilliant. Meetings are intellectually stimulating and challenging as well as being a lot of fun!"





# Geography

# Why choose Geography at Loughborough?

The Department of Geography is a dynamic and vibrant place to be a postgraduate student and we are proud of our reputation for creating a friendly and supportive working environment.

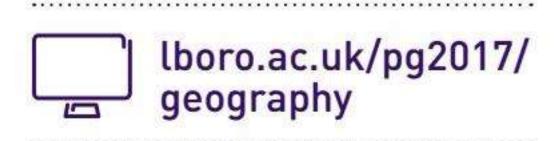
We have over 30 academic staff who are all leading international experts in their fields. Our human geographers conduct research that informs government policy on student housing, international aid, alcohol policy, and community cohesion. Our physical geographers continue to influence climate adaptation and development planning, the management of rivers, flood risk modelling, and hazard management and mitigation.

Our graduates are highly employable. Employability skills are embedded throughout our programmes, with graduates appointed to posts across a full range of industries and sectors. Almost all of our postgraduates are in employment within a few months of graduating, and many others choose to embark on academic research careers.

#### Our research

The work undertaken in our Department spans the breadth of contemporary physical and human geographical research (with strong connections to other disciplines) and deals with many of the most striking environmental, social and economic challenges facing our world.





# Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

**Entry requirements** 

A 2:1 honours degree or its equivalent.

Postgraduate research, whether at PhD or MSc dissertation level, is a very important part of the academic life of our Department, and we invest a great deal of time and resources in supporting postgraduate students in their research.

#### Supporting you

You will be assigned two supervisors who provide academic guidance and pastoral support throughout your studies. We also offer an extensive programme of research training, seminars and discussion groups to help integrate postgraduates into the Department's academic community.

You will be provided with access to a shared office with networked PC and specialist software, the Department's extensive library of over 10,000 maps and atlases, and a wide range of laboratory resources, field equipment and facilities to support physical geography research.

#### How to apply

You should submit a research proposal with your application. Your research proposal should be approximately three pages, with references, and include a summary of the research you wish to undertake. It is usually helpful to contact the Department in advance of submitting an application to discuss your ideas.

## Our areas of research

#### Human Geography Research Group

This Group brings together leading researchers to provide two distinct and cross-cutting views on: Children, Youth and Families (CYF), and Migration, Identity and the State (MIS). CYF research explores the way ideas about and experiences of childhood, youth and families are shaped within and reshape diverse geographical contexts in the Global North and South. MIS has core interests in understanding progressing and deepening understandings of the interconnections between migration, identity and the state in today's globalising society.

#### Physical Geography Research Group

Physical geographers at Loughborough conduct leading edge research with a strong tradition of interdisciplinary and multidisciplinary collaborations.

Research activity is organised into two main groupings: the Polar and Alpine Research Centre (PARC) and the Centre for Hydrological and Ecosystem Science (CHES). PARC research focuses on a wide range of environmental processes and changes that characterise the world's cold places. CHES has core interests in monitoring, modelling and managing hydrological and ecological systems.

# Centres for Doctoral Training

Centres for Doctoral Training (CDT) provide four years of industrially supported, integrated PhD study, with a framework of targeted additional training, personal and professional development.

The School participates in the following centre:

 Central England NERC Training Alliance, in partnership with the Universities of Birmingham, Leicester and Warwick, the Open University, the Centre for Ecology and Hydrology, and the British Geological Survey.

Find out more: lboro.ac.uk/pg2017/cdts

# Taught programmes

# **Environmental Monitoring** for Management

MSc 1 year full-time, 2 years part-time

#### Entry requirements

An honours degree (good 2:2 of 55% or above) or equivalent overseas qualification in geography or other science/engineering discipline or appropriate relevant experience. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

This programme is for graduates who wish to pursue a career in the environment sector in the UK or internationally, or those already working in the sector seeking to enhance their skills and employability. The unique emphasis of this programme is the practical challenge of measuring, analysing and evaluating dynamic environmental data for environmental problem-solving and management purposes. Learning is focused around practical field and laboratory work.

You will study modules designed to teach you a range of key environmental skills: Natural Hazard and Catastrophe Modelling for Environmental Management; Applied Environmental GIS; Hydroclimatological Monitoring and Modelling; Evidence-based Environmental Management; Research Design; and Professional Practice in Environmental Management. There are also modules associated with environment specific theory and skills: Tools for River Management; Lake Monitoring and Management; and Wind Erosion Measurement and Mitigation. You will be assessed by coursework, including a dissertation of up to 50 pages on an agreed topic.

Our graduates have an excellent track record of securing jobs in environmental consultancy, research and government agencies, in the fields of flood risk modelling and engineering, catastrophe risk analysis, water quality monitoring and transport planning.

For more details on studying part-time, please see page 18.

## Globalization and Cities

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in geography or other social sciences/ humanities discipline. Applicants with appropriate professional expertise will also be considered. See full details online.

#### Fees

See website.

Globalization and urbanization are two key social processes shaping the world in the 21st century. This programme provides a unique focus on the economic, social and political dimensions of globalization and the increasingly important role of cities in responding to and affecting global agendas.

Cities in globalization are widely recognized as focal points for the big societal challenges of delivering sustainable economic growth, fostering global citizenship and establishing secure and resilient societies. This programme critically evaluates theories, processes and outcomes of globalization and globalized urbanization. This programme is uniquely positioned to capitalize on the highly acclaimed Globalization and World Cities (GaWC) Research Network which was established in the Department of Geography.

Core study areas include: globalization: key debates and issues; cities in globalization; global communications; doing global research; dissertation. Optional study areas include: global outsourcing and offshoring of services; international politics: issues and policies. You will be assessed by a combination of coursework, presentations and a dissertation of up to 50 pages on an agreed topic. Subject to module choices, there may also be examinations.

This programme equips you with the knowledge and skills relevant for a wide variety of careers within public, private or third-sector companies, ranging from national and international businesses to city governments, urban consultancies and think-tanks and non-governmental organizations (NGOs).

# International Financial and Political Relations

MSc 1 year full-time

#### **Entry requirements**

An honours degree (good 2:2 of 55% or above) or equivalent overseas qualification in geography or other social sciences/humanities discipline. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

Combining the disciplinary expertise of geographers, economists and political scientists, this programme explores the intersection of finance and politics, offering an overview of the changing nature of finance systems and the governance of the global economy, with a specific focus on the forms of money space created across the globe.

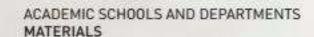
You will study core modules such as: International Relations Theory; The Financial System; Globalisation: Key Debates and Issues; Doing Global Research; International Politics: Issues and Policies; Comparative Foreign Policy: Issues and Cases; Banking and Financial Markets; Dissertation. You will be assessed by a combination of examination, coursework and class presentations as well as a dissertation on an agreed topic.

With its vocational relevance our graduates gain employment in a wide variety of careers across national and international businesses, different levels of government, and the non-government sector.









"After I move forward into the next stage of my life, I will definitely stop and look back at the wonderful time I spent in Loughborough. This period of time made me who I am, taught me where I may be heading and how I could get there."



# **Programmes**

Research opportunities	p151	
Materials Science and Technology	p152	
Polymer Science and Technology	p152	



# Materials

# Why choose Materials at Loughborough?

For nearly 50 years materials science and engineering has been a core strength at Loughborough University and we have a longstanding international reputation for our materials teaching and research.

Our accredited programmes cover the most important materials used in the engineering applications of today and consider the development of materials to meet the needs of tomorrow. Our approach includes materials selection and design considerations as well as commercial and environmental considerations. Accreditation by the Institute of Materials, Minerals and Mining (IOM3) facilitates progression towards professional chartered status (CEng) after a period of relevant graduate-level employment.

The Department has excellent facilities which include STEMLab, a new £17M state-of-the-art laboratory facility opening for our students in 2017. A newly refurbished and extended

process and pilot area, and the Loughborough Materials Characterisation Centre (LMCC) which, with its state of-the-art equipment, is one of the best suites of its kind in Europe.

Materials knowledge and skills are in demand across many industry sectors and job functions, and therefore offer some of the widest range of job choices for graduates. Industry relevance is always a priority and much of our research work and master's degree projects are industry sponsored, with scientists and engineers from industry contributing to our modules.

#### Our research

The Department prides itself on its high level of research activity with a thriving community of research students, who benefit from the considerable experience of our staff. There are outstanding opportunities for study leading to the research degrees of PhD, EngD and MPhil and students studying for a postgraduate research degree in materials work on projects of real-world significance.



RANKED 3RD NATIONALLY FOR RESEARCH QUALITY REF 2014



RANKED 2ND FOR MATERIALS ENGINEERING THE GUARDIAN UNIVERSITY GUIDE 2017



# Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

EngD 4 years full-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent.

Our research activities are organised into five key areas: energy materials, nanomaterials, processing, surface engineering, and sustainability.

Our facilities, used in materials synthesis, processing and characterisation enable us to work on today's global challenges, including sustainability, nanomaterials, composites and processing. We adopt an interdisciplinary approach to our research and frequently interact with other academic departments.

#### Supporting you

You will receive academic, pastoral and progress support from your project supervisor(s) as well as from the Director of Research Degree Programmes. We provide technical, business and presentation skills training and opportunities to attend conferences in the UK and overseas. You will also have your own desk and storage space in a communal research student office, with access to library and IT services.

#### How to apply

You do not need to submit a detailed research proposal with your application, although you are welcome to do so. However, please indicate which area of research you wish to pursue and/or the names of staff you are interested in working with.

## Our areas of research

#### **Energy Materials**

Energy Materials is a strategic research area, and the Group addresses key challenges, particularly in the area of lifetime extension for conventional power plants, high temperature materials for more efficient power generation, advanced materials for nuclear power, and energy storage and generation.

#### **Advanced Ceramics**

The Group focuses on processing, properties and characterisation of engineering ceramic materials and ceramic matrix composites (CMC). Projects include ultra-high temperature heat shielding, ceramic composite braking systems, ceramics nanocomposites for armour application, and advanced ceramic processing and sintering techniques.

#### Surface Engineering

Many of the important properties of materials are dependent on their surface structure and chemistry. This Group is particularly concerned with techniques to modify surfaces to increase their performance within processing and in service.

#### **Advanced Polymers**

This is the largest and probably broadest research group in the Department. Activities range from polymerisation processes, through formulation and additive development, to manufacturing and recycling technologies.

#### Biomaterials

In this emerging area research includes the development of advanced materials for healthcare, biomedical engineering, and pharmaceutics application through exploring new formulations, controlling microstructure, and functionalising surfaces to become biocompatible.

#### Materials Modelling

A world-leading research group focused on the development and application of modelling to: understand materials' microstructure evolution, particularly for high temperature materials; predict the growth of thin film materials at realistic rates; develop connections between composition, structure and in-vivo degradation of bioactive glasses; model the evolution of damage in materials for nuclear power.

#### Research Area for Global Challenges

In addition to our research groups many interdisciplinary projects and topics of global importance are underpinned by the academic expertise of our staff across a number of research areas. These include sustainability, nanomaterials, microstructural characterisation, computing materials, corrosion and degradation, and composites and materials processing.

# Centres for Doctoral Training

Centres for Doctoral Training (CDT) provide four years of industrially supported, integrated PhD study, with a framework of targeted additional training, personal and professional development.

The School participates in the following centre:

 Carbon Capture and Storage and Cleaner Fossil Energy, in partnership with the Universities of Nottingham and Birmingham

Find out more: lboro.ac.uk/pg2017/cdts

# Taught programmes

# Materials Science and Technology

MSc 1 year full-time, up to 4 years part-time

Diploma/Certificate see website for details

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a science or engineering subject. Applicants with a lower second class degree (2:2) will be considered. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This interdisciplinary programme spans the major classes of engineering materials used in modern high technology manufacturing and industry. The programme is designed to meet the requirements of industry, where qualified materials scientists and engineers are highly sought after.

The programme encompasses all aspects of materials; their selection, manufacture, testing, assembly and environmental impact both during production and at the end of life. Through a careful balance of lectures, practicals and case studies, you will develop a thorough understanding of the properties and capabilities of metals, ceramics, polymers and composites. This specialist knowledge can then be applied to a wide range of industrial contexts including aerospace, automotive, power generation and distribution, IT and manufacturing amongst many others.

You will study core modules such as: Advanced Characterisation Techniques; Surface Engineering; Ceramics: Processing and Properties; Design with Engineering Materials; Sustainable Use of Materials; Metals: Processing and Properties; Plastics Processing Technology; Industrial Case Studies; Materials Modelling; Surface Engineering; Adhesive Bonding; Rubber Compounding and Processing (not all modules are available across all awards). You will be assessed by a combination of written examination(s), set coursework exercises and laboratory reports. The project is assessed by a dissertation, literature review and oral presentation.

Typical careers span many industrial sectors including aerospace, power generation, automotive, construction and transport. Possible roles include technical and project management, R&D, technical support to manufacturing as well as sales and marketing. Many of our best master's degree students continue their studies with us, joining our thriving community of PhD students engaged in materials projects of real-world significance.

For more details on studying part-time, please see page 18.

# Polymer Science and Technology

MSc 1 year full-time, up to 4 years part-time

Diploma/Certificate see website for details

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a science or engineering subject. Applicants with a lower second class degree (2:2) will be considered. See full details online.

#### Fees

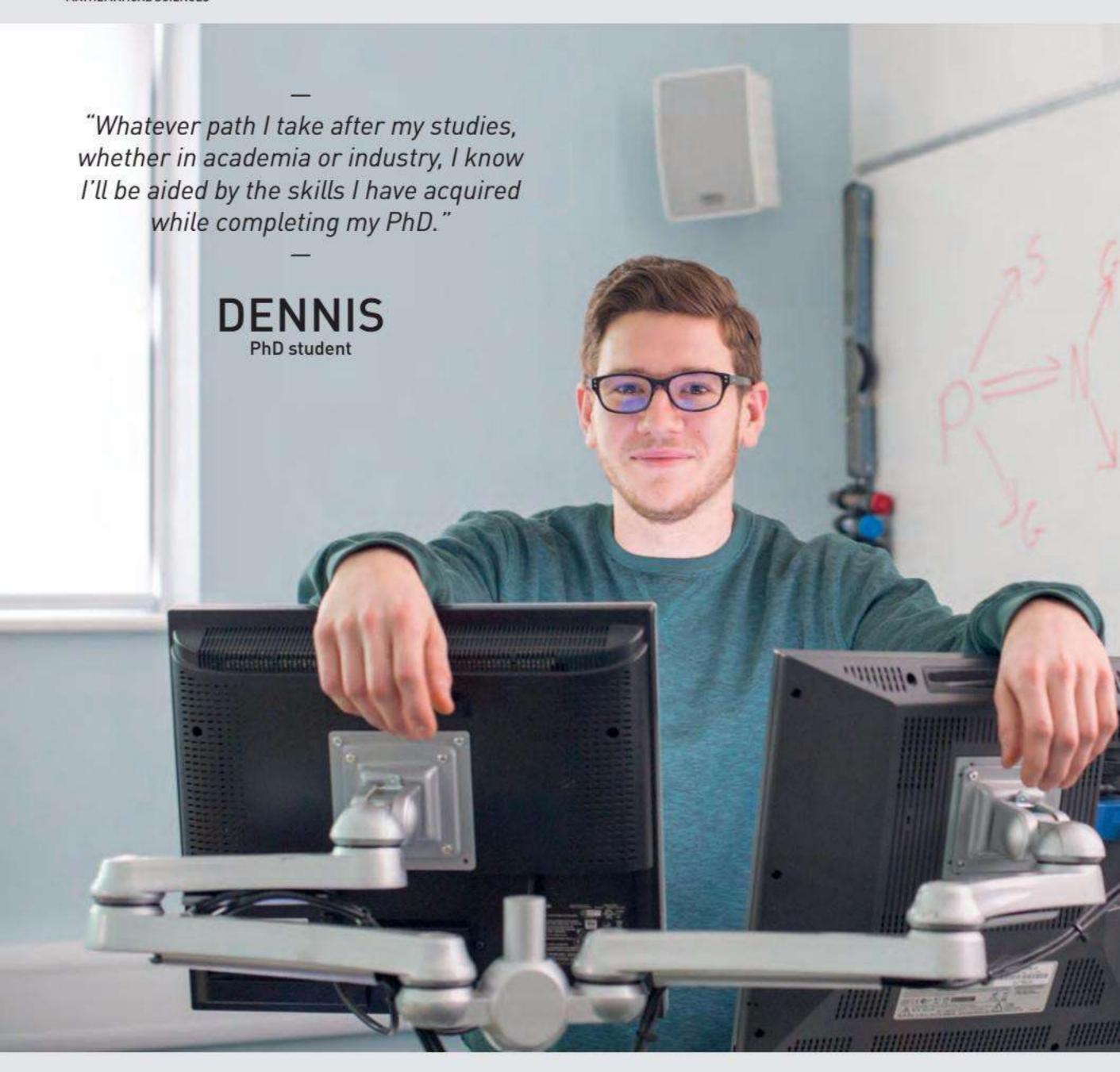
PGT Band 3 (see page 58 for details).

Polymer science is a fast moving field that has had a major impact on the way we live. It allows us to develop ever more sophisticated materials to suit the needs of society and the planet. This programme is designed to give you a broad understanding of polymer science with a focus on the underlying properties of polymers in relation to their utilisation in industrial applications. Taught by a team of international experts, the programme covers the latest science and technology of plastics, rubbers and composites including aspects of nanotechnology and biomaterials. Lectures are supplemented by an extensive variety of laboratory exercises, spanning chemical and physical characterisation, and compounding and processing technology experiments on pilot-scale laboratory equipment.

You will study core modules including: Polymer Science; Polymer Process Engineering; Plastics and Composites Applications; Polymer Properties; Polymer Characterisation; Polymerisation and Polymer Blends; Plastics Processing Technology; Rubber Compounding and Processing; Adhesive Bonding; Sustainable use of Materials; Biomaterials (not all modules are available on all awards). You will be assessed by a combination of written examination, set coursework exercises and laboratory reports. The project is assessed by a dissertation, literature review and oral presentation.

Typical careers span many industrial sectors including plastics, rubber, chemical and additives industries as well as packaging. Possible roles include technical and project management, R&D, technical support to manufacturing as well as sales and marketing. Many of our best master's degree students continue their studies with us, joining our thriving community of PhD students engaged in materials projects of real-world significance.

For more details on studying part-time, please see page 18.



# **Programmes**

Research opportunities	p155		
Industrial Mathematical Modelling	p157		
Mathematical Finance	p157		



# Mathematical Sciences

# Why choose Mathematics at Loughborough?

Mathematics at Loughborough has a long history of innovation in teaching, and we have a firm research base with strengths in both pure and applied mathematics. The programmes on offer reflect our strengths, and in some cases represent established collaborative training ventures with industrial partners.

Graduates go on to work with companies such as BAE Systems, Citigroup, Experian, GE Aviation, Mercedes Benz, Nuclear Labs USA and PwC.

#### Our research

Our Department undertakes research in both pure and applied mathematics and is located in the newly-refurbished Schofield Building. The department consists of around 35 members of staff and 50 PhD students from all over the world.

The Department's work is complemented and underpinned by senior visiting academics, research associates and a large support team.





# Research opportunities

PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

Applicants should have a 1st class or good 2:1 degree in Mathematics or a related discipline.

Our research is organised into six research groups: Dynamical Systems, Geometry and Mathematical Physics, Global Analysis and PDEs, Linear and Nonlinear Waves, Mathematical Modelling and Stochastic Analysis.

#### Supporting you

You will have at least two academic supervisors who will guide you in your research. You'll also enjoy a dynamic research atmosphere with regular workshops, international visitors and a wide range of research seminars to which you'll be invited to make presentations. You'll also be provided with a desk, computer, photocopying facilities and can apply for funds for conference attendance.

#### How to apply

You do not need to submit a detailed research proposal with your application, but please indicate which area of research you wish to pursue and/or names of staff members you are interested in working with.

## Our areas of research

#### **Dynamical Systems**

This group studies a wide range of aspects of dynamical systems theory, such as Hamiltonian and dissipative dynamics, dynamical chaos in classical and quantum systems, dynamics of multi-scale systems, ergodic theory, random matrix theory, and bifurcation theory. Applications include problems of celestial mechanics, plasma physics, semi-classical methods, atomic physics, and the dynamics of chemical reactions.

#### Geometry and Mathematical Physics

The theory of integrable systems studies differential equations which are, in a sense, exactly solvable and possess regular behaviour. Such systems play a fundamental role in mathematical physics providing an approximation to various models of applied interest. Dating back to Newton, Euler and Jacobi, the theory of integrable systems now plays a unifying role in mathematics bringing together algebra, geometry and analysis. The research of the group includes both classical and quantum integrable systems in relation to representation theory and special functions, as well as algebraic, differential and symplectic geometry.

#### Global Analysis and PDEs

Global analysis and the theory of partial differential equations (PDEs) are classical fields of mathematics that have a wide range of applications, for instance in number theory, group theory, geometry and topology. They also have important applications outside of mathematics in physics, engineering and chemistry. The Global Analysis and PDEs Research Group is rooted in pure mathematics and focuses on geometric and topological aspects of analysis. The interests of the group include spectral and scattering theory on manifolds, regularity and existence of global solutions to pseudo-differential equations and boundary value problems, topological questions related to generalisations of the Atiyah-Singer index theorem, applications of theory of PDE to approximation theory, as well as other topics.

#### Linear and Nonlinear Waves

The group's interests are in wave motion in a variety of physical situations including geophysical fluid dynamics, water waves, solid mechanics, Bose-Einstein condensates, electromagnetism and acoustics. The group develop and apply exact, numerical, asymptotic and perturbation techniques to pursue research on linear and nonlinear waves with a focus on solitary waves and soliton theory, stochastic wave systems, wave generation, and diffraction and scattering by obstacles.

#### Mathematical Modelling

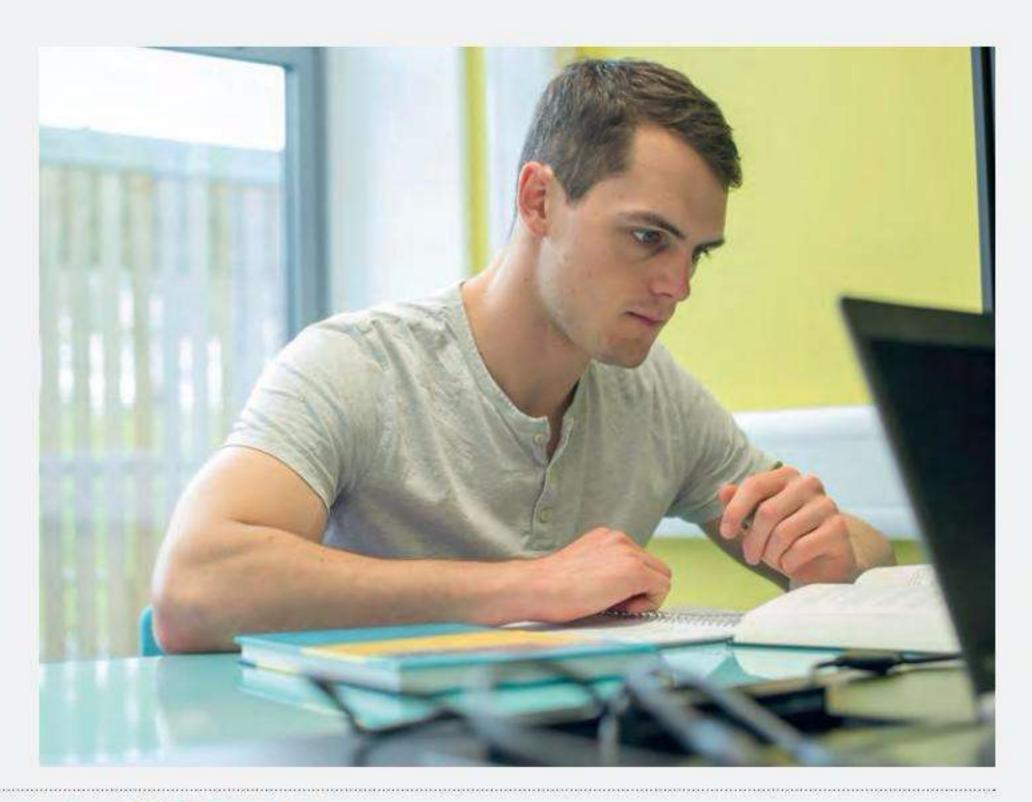
Members of the group apply a variety of techniques from applied mathematics to diverse problems in medicine, biology, fluid dynamics, materials and soft matter science. The biological systems studied range from intracellular processes to those at the scale of organisms and populations. The fluid flows studied range from environmental buoyancy-driven flows to technologically important micro- and nano-fluidic flows.

The modelling of materials involves the use of mathematical and computational techniques to solve a wide and varied class of problems. This includes nanoscale devices where the fate of individual atoms is important. It spans length scales and time scale that vary over many orders of magnitude and involves the solution of equations that range from continuum to quantum mechanical descriptions.

#### Stochastic Analysis

Stochastic analysis is currently a very active and important basic research area in mathematics. Rooted in probability and measure theory and beginning with the fundamental work of Wiener, Kolmogorov, Levy and Ito, stochastic analysis has intrinsic and deep connections and many applications in analysis and partial differential equations, geometry, dynamical systems, physics, geophysics, engineering, biology etc. in which many problems are modelled by stochastic differential equations or stochastic partial differential equations.

Stochastic analysis has become the basic mathematics for mathematical finance thanks to the pioneering idea of Black, Scholes and Merton. It has been a main research area in probability theory in recent years and the trend is still increasing. In our group, the research topics include: stochastic analysis, in particular interactions with analysis; stochastic methods in (nonlinear) partial differential equations and mathematical physics; stochastic dynamical systems; stochastic differential equations; stochastic partial differential equations; infinite-dimensional analysis; stochastic analysis on geometric spaces; Markov processes and Dirichlet forms; quantum stochastic analysis; rough path; Schramm Loewner evolution; and mathematics of finance.



# Taught programmes

# Industrial Mathematical Modelling

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in mathematics or an engineering or science subject with a high mathematical content.

See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

This programme develops your mathematical modelling skills and provides mathematical techniques required by industry.

You will study modules including: Mathematical Modelling; Regular and Chaotic Dynamics; Programming and Numerical Methods; Advanced Reliability; Availability and Maintainability; Elements of Partial Differential Equations; Static and Dynamic Optimisation; Fluid Mechanics. You will be assessed by a combination of examinations, reports, individual and group projects, and verbal presentations.

You will spend approximately 14 weeks at the end of the programme devoted to an individual project either in an industrial or engineering company, or at the University.

Graduate employment spans a wide range of industries encompassing aerospace, automotive electronics, and computer interests as well as software houses, insurance companies, and research establishments and institutions.

## Mathematical Finance

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a subject with a high mathematical content. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

This programme is aimed at those students wishing to develop their mathematical skills, computational techniques and knowledge of finance to lead to employment in a range of finance sectors such as investment banks, hedge funds, insurance companies and the finance departments of large corporations where mathematics plays a key role.

You will study compulsory modules including:
Introduction to Measure Theory and Martingales;
Stochastic Models in Finance; Stochastic Calculus and
Theory of Stochastic Pricing; Research Project. You will
also be able to choose from optional modules including:
Programming and Numerical Methods; Regular and
Chaotic Dynamics; Financial Economics; Functional
Analysis; Elements of PDEs; Lie Groups and Lie
Algebras; Static and Dynamic Optimisation; and either
Asset Management and Derivatives or
Corporate Finance.

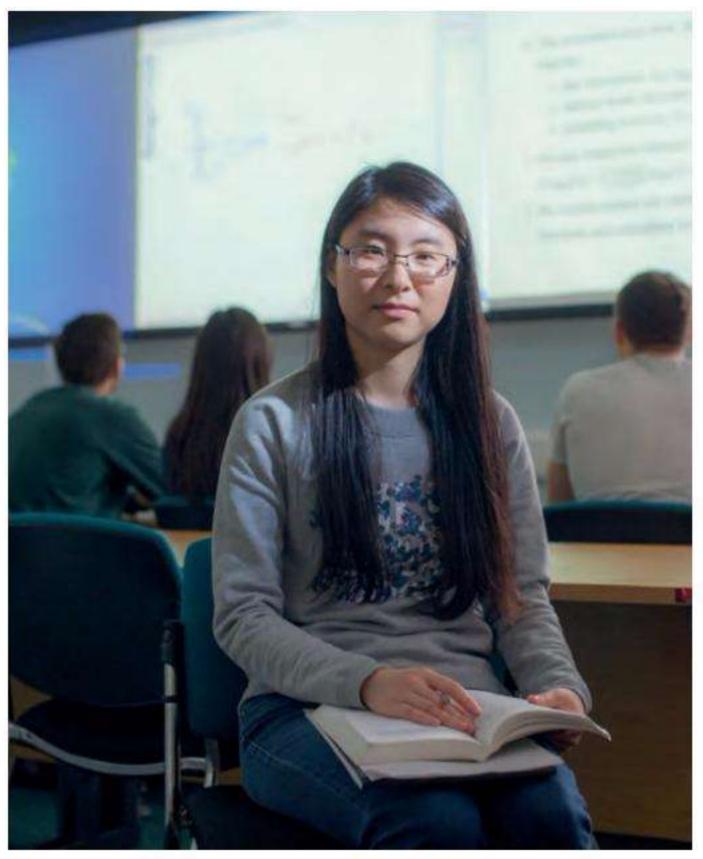
You will spend 14 weeks at the end of the programme devoted to an individual project. Assessment is based on a combination of examinations, reports, individual and group projects, and verbal presentations.

This programme may lead to a wide range of employment within industry, the financial sectors, and research establishments. It may also provide an ideal background for postgraduate research in Stochastic analysis, probability theory, mathematical finance and other relevant areas.

"We regularly have experts in my field coming to talk at the analysis and geometry seminars and often get the chance to present our research both at departmental and national conferences."

> **Joe** PhD student







# **Programmes**

Research opportunities	p161
Mathematics with	p162
Qualified Teacher Status	



# Mathematics Education Centre

# Why choose Maths Education at Loughborough?

The Mathematics Education Centre (MEC) consists of one of the largest groups of mathematics education researchers in the UK. In the 2014 Research Excellence Framework 85% of the Centre's research activity was judged to be "world-leading" or "internationally excellent", the fifth highest proportion of any UK education department. Staff in the MEC have won national and international awards for their excellent research and research informed teaching practices.

Our facilities, set within the newly refurbished Schofield Building at the heart of Loughborough's campus, includes the Schofield Cognition Lab; a child-friendly laboratory for conducting experimental or observational studies with young children, and an eye-movement lab equipped with a state-of-the-art eye-tracker.

#### Our research

Our research explores the fundamental processes involved in learning mathematics, as well as the design and evaluation of innovative pedagogy. We have a vibrant research culture: our monthly research workshops attract colleagues from across the region, and we have a lively group of research students who are supervised by award-winning academic staff.



OVER 85%
OF OUR RESEARCH WAS
RATED INTERNATIONALLY
EXCELLENT OR ABOVE
REF 2014



# Research opportunities

PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A good honours degree (usually at least 2.1) in Mathematics, Education, Psychology or a related discipline. It would be an advantage in some cases to have an MA/MSc in Mathematics Education, Educational/ Psychological Research Methods or in a related discipline. The exact qualifications required will vary according to the nature of the proposed project and prospective students are strongly encouraged, prior to applying, to approach potential supervisors to discuss the suitability of their qualifications and their proposed project.

Research in the MEC focuses on two interest groups which form the focus of our research activity: the Culture, Pedagogy and Identity Interest Group; and Mathematical Cognition Interest Group.

#### Supporting you

You will have access to workshops, international visitors and a wide range of research seminars. Your supervisor(s) will guide you through the research process, and you will have full access to all research facilities, and library and IT services.

#### How to apply

On the online application please indicate the project/ area in which you would like to study and the person with whom you would like to work, if appropriate. You are strongly encouraged to contact this person ahead of making an application to discuss your interests and possible research topics.

Additionally, applicants must submit the following to accompany their application:

- a one-page CV summarising relevant experience and skills
- a one-page cover letter describing their reasons for wishing to undertake research in their chosen area and the personal qualities they will bring
- a two-page essay on one or more issues affecting teaching/learning in mathematics and related to your proposed area of research. This should be a specially constructed piece of writing making reference to relevant academic literature.

## Our areas of research

#### Culture, Pedagogy and Identity

The Culture, Pedagogy and Identity Interest Group has expertise in the analysis of existing pedagogical practice, in the design and evaluation of novel practices, and in the research-based promotion of teaching development. Of particular interest to the Group are the mechanisms by which students' mathematical identity is shaped by their university experiences and the ways in which the practices of university level mathematics influences teaching and learning.

#### Mathematical Cognition

The Mathematical Cognition Interest Group focuses on understanding the processes by which students come to understand mathematical ideas. Academics in this Group have specific strengths in numerical cognition and mathematical reasoning. Recent externally funded research projects have included work on the nature and cause of dyscalculia, on the 'approximate number system' and its links to formal mathematics achievement, on the relationship between studying mathematics and reasoning skills, and on the ways in which experts and novices read mathematical proofs.

# Taught programmes

# Mathematics with Qualified Teacher Status

PGCE 1 year full-time

MSc with QTS 1 year full-time PGCE plus additional parttime modules. See online for details.

#### **Entry requirements**

An honours degree (2:1 or above), awarded by a UK higher education provider, or a recognised equivalent qualification. See full details online.

#### Fees

See website.

This programme is aimed at those graduates wishing to teach mathematics in secondary schools. We prepare future teachers to engage and motivate school students to be mathematical thinkers and not just learners of items in a mathematics curriculum. Sessions are taught by a highly experienced teacher and teacher trainer with sessions also run by teachers from partner schools with particular specialisms.

The programme is practically based with 24 of the 36 weeks spent in our partner schools. University weeks are organised with half a day on General Professional Studies and two full days on Mathematics Education. The Mathematics Education sessions are mainly seminar based with carefully prepared activities and reflective discussion.

In accordance with current government requirements, all applicants must be interviewed before a place can be offered in order to assess their suitability for teaching. It is normally expected that candidates should have had at least three full days' experience in a state secondary school before applying for any programme leading to Qualified Teacher Status. Recent experience of working with young people will also be valuable experience although this is not a necessary requirement.

A Loughborough PGCE gives you excellent career prospects. Our newly qualified teachers have gone on to successful teaching careers in many different schools throughout the UK and overseas. The majority of our PGCE trainees have secured teaching posts by the time they complete their training.

"The course opened my eyes
to the world of teaching and
inspired me to explore the many
factors that contribute to this
brilliant profession."

Alex
PGCE Mathematics



# **Programmes**

Research opportunities	p165	Electronic and Electrical	p171	<b>Networked Communications</b>	p173
Advanced Manufacturing Engineering and Management	p167	Engineering Engineering Design		Renewable Energy Systems Technology	
Continuing Professional p174 Development Courses for Industry		European Master's in Renewable Energy	p170	Renewable Energy Systems Technology (Distance Learnin	p169 ng)
Digital Communication Systems	p171	Mechanical Engineering	p168	Sustainable Engineering	p168
		Mobile Communications	p173	Systems Engineering	p170

# Mechanical, Electrical and Manufacturing Engineering



AWARDED THE 2013 QUEEN'S ANNIVERSARY PRIZE FOR HIGH VALUE MANUFACTURING



RANKED 6TH FOR MECHANICAL ENGINEERING THE COMPLETE UNIVERSITY GUIDE 2017

#### Why choose Mechanical, Electrical and Manufacturing Engineering at Loughborough?

The School is a leader in technological research and innovation, with extensive national and international industrial links, and a long standing tradition of excellent teaching.

We develop and nurture the world's top engineering talent to meet the challenges of an increasingly complex world by integrating our research and education programmes in order to support the technical and commercial needs of society and to extend the boundaries of current knowledge.

A number of our master's degree programmes are accredited by one or more of the following professional bodies: the IET, IMechE, InstMC, Royal Aeronautical Society and the Energy Institute. The School has laboratories devoted to disciplines such as: dynamics and control, automation, fluid mechanics, healthcare engineering, internal combustion engines, materials, mechatronics, metrology, optical engineering, additive manufacturing, sports engineering, structural integrity and thermodynamics, with the latest electrical and electronic experimental facilities using industry standard software.

Our graduates are highly sought after by industry and commerce worldwide and have gone on to work with companies such as Accenture, Airbus, BAE Systems, Caterpillar, EDF Energy, E.ON, Ford, Hewlett Packard, IBM, Jaguar Land Rover, Millbrook Proving Ground, Mitsubishi, Rolls Royce, Siemens AG and Tata Steel.

#### Our research

The School has a multi-national community of research students who form an important part of our internationally recognised research activities.



# Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

EngD 4 years full-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent in a relevant discipline or equivalent substantial relevant experience.

We are passionate about our research and continually strive to strengthen and stimulate our portfolio.

#### Supporting you

You will be assigned supervisors with expertise in the chosen research area, with additional guidance and pastoral support available from the Director of Research Programmes, and other departmental academic staff as appropriate. We provide a structured induction programme to familiarise you with the School and University, and training and research seminars throughout your studies. You will be provided with a computer plus access to library and IT services.

#### How to apply

Please contact the School for an information and application pack. You are encouraged to approach appropriate members of academic staff to discuss your proposal prior to submission.

## Our areas of research

Our six research themes are underpinned by the School's Research Centres and Groups, which specialise in specific research areas. You can find out more about the School's Research Centres and Groups by visiting lboro.ac.uk/pg2017/mem-eng-research

#### **Engineering Systems**

Systems engineering research includes research into the science and methodologies of systems engineering (including product, process and organisational challenges) as well as the applications of systems engineering principles to many engineering activities, such as control, embedded electronics, socio-technical organisation, manufacturing systems, and automation and virtual reality systems research.

#### Advanced Manufacturing

Manufacturing is one of our significant research areas and addresses leading edge, next generation manufacturing processes (such as bio-manufacturing, laser processing, additive manufacturing), manufacturing technologies (automation, robotics, digital manufacturing), organisation (people, processes and operations) and sustainability (resource efficiency, circular manufacturing).

#### Communications

The Communications Research Division has wide ranging research interests in all aspects of modern communication systems and the processing to support them. Particular strengths include antennas, bioacoustics, biomedical electronics, computer networks, microwave measurements, mobile communications, signal processing and wireless communications.

#### Engineering for Health

Our healthcare engineering covers a broad range of activities, from novel, leading edge medical device technologies and cell therapy manufacturing, to sports technology and human performance engineering interventions for Paralympians, and wearable robotics for healthcare application.

#### Engineering Design and Analysis

Research and delivery of new design and analytical technologies and solutions as well as the utilisation of such state-of-the-art techniques across our engineering research disciplines are a significant activity across many of our research groups and centres.

#### **Energy Engineering**

Energy engineering is a core strength of the School, with a very broad reach from energy generation, storage, transmission, utilisation and energy systems management through to energy delivery and utilisation in power train activities.

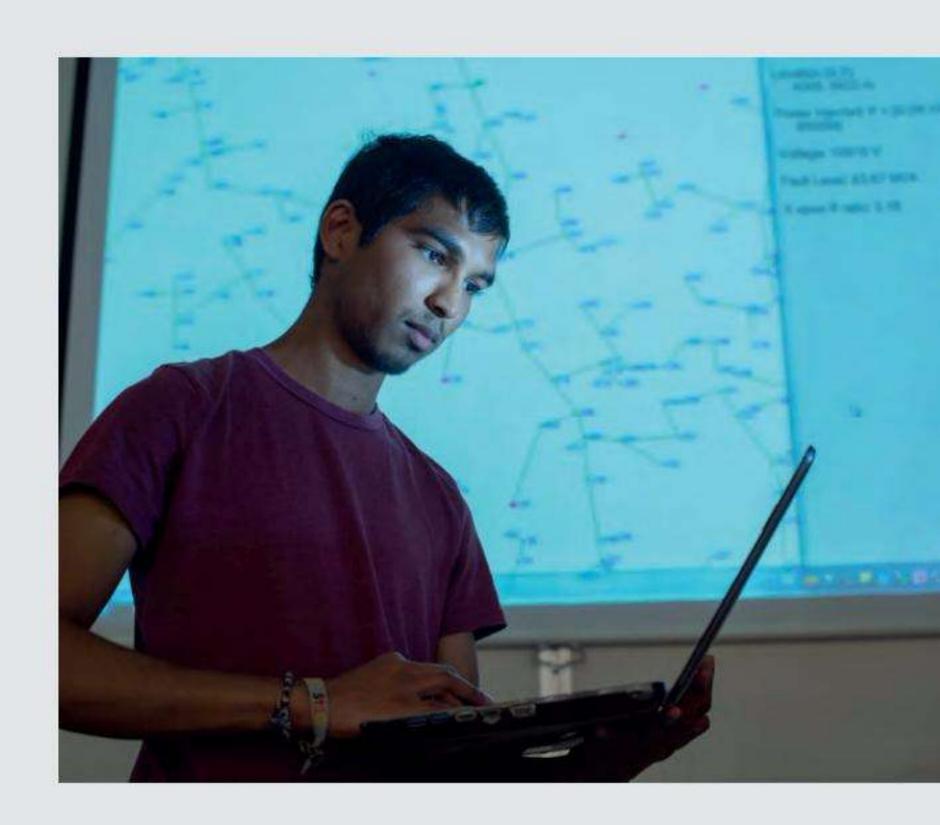
# Centres for Doctoral Training

Centres for Doctoral Training (CDT) provide four years of industrially supported, integrated PhD study, with a framework of targeted additional training, personal and professional development.

The School participates in the following centre:

- · Embedded Intelligence, in partnership with Heriot-Watt University
- New and Sustainable PV, alongside the Universities of Liverpool, Bath, Cambridge, Oxford, Sheffield and Southampton
- · Additive Manufacturing and 3D Printing, with the Universities of Nottingham, Newcastle and Liverpool

Find out more: lboro.ac.uk/pg2017/cdts



# Taught programmes

# Advanced Manufacturing Engineering and Management

MSc 1 year full-time, 3 years (typical) part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in any engineering discipline, or HND with appropriate industrial experience. Applicants with a lower second class honours degree (2:2) will be considered on a case-by-case basis. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is aimed at both new graduates and engineering professionals who wish to develop the highly skilled techniques of manufacturing management and its related technologies. It is designed to prepare students for effective careers as technologists and managers who can meet the challenges of rapidly changing global manufacturing industries.

Modules are directly informed by both our close industry links and our research expertise in areas including rapid manufacturing, laser processing and automation. You will study modules including: Lean and Agile Manufacture; Engineering Management and Business Studies; Product Information Systems - Product Lifecycle Management; The Innovation Process and Project Management; Sustainable Development: The Engineering Context; Advanced Manufacturing Processes and Automation; Additive Manufacturing; Project.

You will have access to a range of state-of-the-art equipment, with high-tech laboratories devoted to: dynamics and control; electronics; fluid mechanics; materials; mechatronics; metrology; optical engineering; structural integrity; and thermodynamics.

Recent graduates from this programme have gone on to work at companies including Caterpillar, K C Engineering, National Oilwell Varco and Siemens.

For more details on studying part-time, please see page 18.

# **Engineering Design**

MSc 1 year full-time, 3 years (typical) part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in any engineering discipline, or HND with appropriate industrial experience. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme enables students to work effectively in an engineering design role, whether that role concerns the design of products, processes or systems, at an overall or detail level. A balance of theory and practice is applied to the solving of real engineering design problems. All projects meet the product design requirements of one of our many co-operating companies.

You will study modules including: Structural Analysis; Engineering Management and Business Studies; Computer Aided Engineering; Product Design and Human Factors; Engineering Design Methods; Sustainable Product Design; The Innovation Process and Project Management; Sustainable Development: The Engineering Context; Project.

Graduates have gone on to engineering design related jobs in product, process and system design environments, providing project management and communication skills and direct technical input. A number of graduates have progressed to further study.

For more details on studying part-time, please see page 18.

# Mechanical Engineering

MSc 1 year full-time, 3 years (typical) part-time

#### Entry requirements

An honours degree (2:1 or above) or equivalent overseas qualification in any engineering discipline, or HND with appropriate industrial experience. Applicants with a lower second class honours degree (2:2) will be considered on a case-by-case basis. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

The programme is aimed at both new graduates and engineering professionals who wish to develop advanced skills in engineering science, design and technology. It will equip you with the technical and transferable skills highly sought after by industry or academic research.

Modules are directly informed by the latest industry advancements and our research expertise, and are taught by leading experts in the field. You will study modules including: Experimental Mechanics; Simulation of Advanced Materials and Processes; Structural Analysis; Computer Aided Engineering; Engineering Design Methods; Sustainable Development: The Engineering Context; The Innovation Process and Project Management; Thermofluids; Project.

You will have access to a range of state-of-the-art equipment, with high-tech laboratories devoted to: dynamics and control; electronics; fluid mechanics; materials; mechatronics; metrology; optical engineering; structural integrity; and thermodynamics.

Our graduates are highly employable and work all over the world in various industries. Many also go on to complete their research degrees at universities across the globe. Some examples of recent graduate destinations include: Airbus – Mechanical Engineer; BAE Systems – Structural Engineer; Chicago Bridge and Iron – Pipeline Engineer; Jaguar Land Rover – Product Development Engineer.

For more details on studying part-time, please see page 18.

# Sustainable Engineering

MSc 1 year full-time, 3 years (typical) part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in any engineering discipline, or HND with appropriate industrial experience. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

The MSc in Sustainable Engineering programme is designed to provide students with the knowledge and skills to enable them to help industry and commerce reduce their environmental impacts and support the objectives of sustainable development. Delivered by internationally leading researchers from the field of sustainable manufacturing and supported by real industrial case studies, the programme is intended to analyse and promote the role of sustainable engineering.

You will study modules including: The Innovation Process and Project Management; Sustainable Development: The Engineering Context; Sustainable Business Management; Waste Management and Product Recovery; Life-cycle Assessment; Environmental Management Standards; Legislation and Directives; Sustainable Energy Systems; Sustainable Product Design; Project. Assessment is by a range of formats such as reports, presentations, and analysis of case studies.

You will have access to a dedicated sustainable manufacturing research laboratory, which will be used for demonstrations, investigative work as part of module coursework and for use in your individual project work. The laboratory is equipped with a state-of-the-art 6-axis robot used for automated disassembly of products, a novel shoe recycling facility developed within the university, and a hybrid vehicle which is used for advancing knowledge on recycling of vehicles with a high percentage of electrical components. Students will also use the latest life cycle analysis software (SimaPro) during the programme in one of the department's modern computing laboratories.

Students who take our MSc in Sustainable Engineering may have recently finished their undergraduate studies and wish to gain additional education in this particular field. Many others have worked in industry for a number of years and, having realised the need and opportunities for sustainability in industry, wish to advance their career through the development of their knowledge in this field.

For more details on studying part-time, please see page 18.

# Renewable Energy Systems Technology

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in any engineering or physical science subject. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This MSc is aimed at engineers and natural scientists pursuing or wishing to pursue a career in the renewable energy sector, particularly those in technical positions e.g. systems designers, technical consultants and R&D engineers and scientists. You will learn about the latest advances in clean power developments and how to design and develop benign renewable energy solutions that can be implemented in countries around the world.

Core study areas include Solar Power; Wind Power; Water Power; Biomass; Sustainability and Energy Systems; Integration of Renewables; Research Project. You will also be able to choose from optional modules including: Advanced Solar Thermal; Advanced Photovoltaics; Advanced Wind; Energy Storage; Energy System Investment and Risk Management. Assessment is a combination of written and practical coursework and examinations.

Our industrial equipment and laboratories include Photovoltaic (PV) cell production, PV module production, qualification testing, PV quality control, energy storage research facilities, vacuum glazing, wind flow measurement, and instrumentation for energy consumption and monitoring.

There is a worldwide shortage of skilled engineers in this field and so the combination of hands on experience with global industry standard tools and techniques and the strong theoretical knowledge which graduates of this programme acquire, makes them highly attractive to employers.

# Renewable Energy Systems Technology (Distance Learning)

MSc Typically 3 years by part-time distance learning

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in any engineering or physical science subject. See full details online.

#### Fees

See website.

By using the same programme materials, distance learning students are able to achieve the same outcomes as those on the full-time MSc in Renewable Energy Systems Technology. We have developed new ways of learning which offer students flexibility in place, pace and mode to meet the demand for this highly sought after qualification but who cannot attend traditional university classes.

Instead of face-to-face lectures and tutorials, the main learning routes for distance learning students are via the University's virtual learning environment (LEARN). The learning resources for each study unit include online study materials, live streamed and recorded lectures, virtual and remote laboratories, tutorials, assignments and computer aided assessments, and access to past exam papers. You will be assessed by examination, coursework, group work and research project. (Distance learning students will sit their examination at a suitable local venue.)

By the end of this course you will have gained a comprehensive understanding of renewable energy technologies and developed a range of important transferable skills.

Core study areas include Solar Power; Wind Power; Water Power; Biomass; Sustainability and Energy Systems; Integration of Renewables; Research Project. You will also select from optional modules including: Advanced Solar Thermal; Advanced Photovoltaics; Energy Storage; Energy System Investment and Risk Management.

The flexibility offered by this MSc allows graduates already working in, or seeking to enter, the sector the opportunity to gain strong technical knowledge whilst continuing to work. This combination of knowledge and practical experience makes them highly attractive to existing and future employers worldwide.

For more details on studying part-time, please see page 18.

# European Master's in Renewable Energy

MSc 1 year 4 months full-time

#### Entry requirements

An honours degree (2:1 or above) or equivalent overseas qualification in any engineering or physical science subject. See full details online.

#### Fees

See website.

The European Master's in Renewable Energy is a collaborative programme offered by nine leading European universities. The programme teaches students about the latest advances in clean power developments, and how to design and develop benign renewable energy technologies that can be implemented in countries around the world to reduce our fossil fuel emissions.

The programme is composed of three sections. It begins with a core first semester, taught at Loughborough, that presents modules in Solar Power, Wind Power, Biomass Energy and Water Power. For the second semester, you will study at a second university to specialise further. In the last six months of the degree you will carry out a major individual research project internship in a renewable energy company.

Due to the unique nature of the programme not only do students develop technical and scientific competencies in renewable energy, they also develop soft skills such as flexibility, adaptability, team spirit, and the ability to work in a multicultural environment, which are essential when working in an expanding global renewable energy market.

# Systems Engineering

MSc 1 year full-time, 3 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in any science, technology, engineering or mathematical subject. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme has been designed with industry to meet the challenge of interdependence between sophisticated engineered systems of all kinds, and is aimed at engineers who have specialised in a traditional discipline but are now expected to understand, operate in, develop and integrate entire systems that are not only increasingly complex but rapidly changing.

The block taught format of the programme and the option to elect assessment by coursework rather than exam makes it a popular part-time programme and a CPD option.

Core study areas include Systems Thinking; Systems Architecture; Systems Design; Verification and Validation; and an individual project. You can choose from optional study areas such as: Enterprise Systems Management; Holistic Engineering (industry-led module); Sensors and Actuators for Control; Imagineering Technologies; Engineering and Management of Capability and Understanding Complexity.

We employ advanced modelling, simulation and interactive visualisation tools and techniques to enable you to gain greater understanding of the performance, behaviour and emergent properties of advanced technology and complex systems.

Graduates of this programme gain capabilities that are in global demand across a range of sectors and which can be applied to the challenges and issues posed by any complex system design and operation. Promotion within their company for sponsored students is common since the programme enables them to match higher job expectations and demands. Employed students often bring a work-relevant topic to their individual project giving the opportunity to display newly acquired skills.

For more details on studying part-time, please see page 18.

# Electronic and Electrical Engineering

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in electronic/electrical engineering, computer engineering or physics. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is suitable for recent graduates and engineers with experience of microelectronics who have good mathematical ability. It provides a thorough knowledge of the principles and techniques of this exciting field and has been developed in consultation with industry advisors to ensure it is relevant to today's workplace. Modules are block taught so can also be studied separately by working engineers as continuous professional development either to enhance their knowledge in particular subject fields or to widen their portfolio.

Core study areas include ASIC Engineering; Sensors and Actuators; Technology and Verification of VLSI Systems; Embedded Software Development and an individual project. You can also choose from optional study areas including: Communication Networks; Information Theory and Coding; Solar Power; Wind Power; Systems Architecture; Advanced FPGAs; DSP for Software Radio; Advanced Photovoltaics; Mobile Network Technologies and Advanced Applications.

Consultation with industry to craft the syllabus ensures that you'll have an advantage in the job market. The in-depth knowledge acquired can be applied wherever embedded electronic systems are found including mobile phones (4/5G), acoustics, defence, medical instrumentation, radio and satellite communication and networked systems, control engineering, instrumentation, signal processing and telecommunications engineering.

# Digital Communication Systems

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in electronic/electrical engineering, computer engineering or physics. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

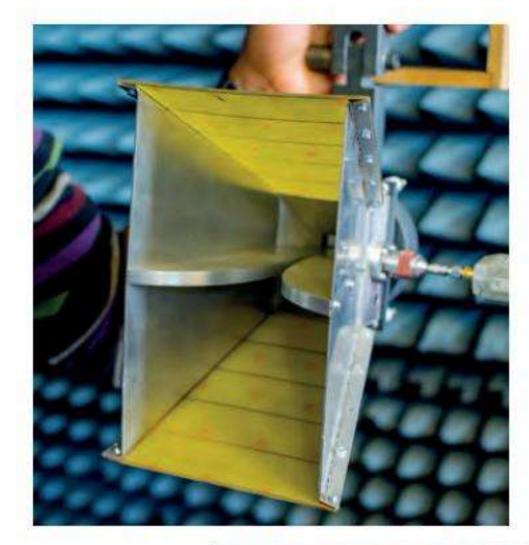
Modern information systems continue to transform and progress the ease with which information can be accessed across the globe and to underpin digital society and economy. This programme is aimed at recent engineering, physics and computer science graduates and/or those with a number of years' industry experience in the communications industry who wish to acquire in-depth knowledge of this key specialism in order to progress their careers.

Core study areas include: Fundamentals of Digital Signal Processing; Information Theory and Coding; and a research project.

Optional modules include: Communication Networks; Personal Radio Communications; Communication Channels; Digital Signal Processing for Software Defined Radio; Multimedia over Networks; Mobile Network Technologies; Intelligent Signal Processing.

You will have access to laboratories, industry standard software and hardware including equipment provided by Texas Instruments, and a range of anechoic chambers including the largest microwave chamber at any UK university.

Job opportunities include both senior technical and managerial activities in the fields of communications engineering including high speed digital design, communication systems engineering, software/ firmware engineering, algorithm development and signal processing engineering.





## Mobile Communications

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in electronic/electrical engineering, computer engineering or physics. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

Engineers with a good knowledge of mobile communications systems are much sought after and careers in this industry offer both high rewards and opportunities to work on the latest technical advances. Our specialised curriculum will equip you with the skills and knowledge needed to design and develop next generation mobile communication and wireless systems. As fresh technologies emerge in this ever-expanding field, you will have the essential formal theory and confidence in your practical skills to support your long-term career development.

Core study areas include: Fundamentals of Digital Signal Processing; Personal Radio Communications; Information Theory and Coding; Communication Channels; Digital Signal Processing for Software Defined Radio; Mobile Network Technologies; Intelligent Signal Processing; Individual Project.

Gaining this master's degree shows potential employers that you have achieved the highly developed and complex levels of knowledge, and thus you are able to develop in-depth and creative responses to hardware and software technical challenges in this field.

## **Networked Communications**

#### MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in electronic/electrical engineering, computer engineering or physics. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

Engineers with a good knowledge of mobile communications systems are much sought after and careers in this industry offer both high rewards and opportunities to work on the latest technical advances. Our specialised curriculum will equip you with the skills and knowledge needed to design and develop next generation mobile communication and wireless systems. As fresh technologies emerge in this ever-expanding field, you will have the essential formal theory and confidence in your practical skills to support your long-term career development.

You will study core modules including: MATLAB as a Scientific Programming Language; Communication Networks; Personal Radio Communications; Channel Coding for Networks; Communication Network Security; Mobile Network Technologies; Advanced Networks; Advanced Individual Project.

You will use professional network performance measurement equipment during the programme, including our extensive Network Testbed and Internet Testbed.

Graduates of this programme will have the practical skills and theoretical knowledge for employment in a variety of communications engineering roles for example: network managers; designers and analysts; Cisco engineers; and router design engineers. Your graduate skill set will be particularly attractive to companies with a global or distributed workforce and operation. Many graduates stay on to study for a PhD.

# Continuing Professional **Development Courses for** Industry

CPD 3 days - one semester

#### Entry requirements

To get the most from our courses, you need to be a science or engineering graduate, or equivalent, who is working in a relevant industry.

In addition to a full range of MSc programmes, we also offer numerous Continuing Professional Development (CPD) courses. These courses are advantageous to employers and employees because they initiate improvements in business and individual knowledge and skills, provide access to university facilities and expertise, require only a short period away from the workplace, often only one week, and are linked to a postgraduate qualification.

Each of our short courses is a module on one or more of our MSc Programmes. If a course is taken with assessment, successful delegates can gain module credits towards a postgraduate qualification.

> "The availability and accessibility to the labs, along with my 'hands-on' project have really increased my theoretical and practical skills."

> > Bolutife

MSc Electronic and **Electrical Engineering** 



# **Programmes**

Research opportunities	p177		
Advanced Physics	p178		
Physics of Materials	p178		



# **Physics**

# Why choose Physics at Loughborough?

We provide an academically stimulating and supportive environment for our community of approximately 30 postgraduates, 16 full-time academic staff, seven support staff, and several visiting and part-time academic staff.

Our graduates have gone on to work with companies such as BT, Nikon Metrology, Prysmian Group, Rutherford Appleton Laboratory ISIS and Smart Manufacturing Technology.

#### Our research

Our research is focused on condensed matter and quantum physics. Experimental facilities include pulsed laser deposition, atomic force microscopy, Raman scattering and X-Ray diffraction. The departmental observatory has a 16-inch equatorially-mounted Meade telescope and other astronomical equipment.





# Research opportunities

PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time

#### Entry requirements

A good degree (1st or 2:1) in Physics or related discipline.

Our research strengths are in the areas of condensed matter and materials, with a good balance between theory and experiment. Our research has a flexible network structure with four main areas, each with a wide range of national and international collaborations. The quality of our researchers is recognised internationally and we publish in highly ranked physics journals.

#### Supporting you

You will be assigned supervisors with expertise in the selected research area, as well as opportunities to consult other departmental academic staff if appropriate. We also provide departmental seminars and training courses to support your research, and you can develop your skills further by supporting undergraduate teaching through employment in teaching laboratories, computer classes or drop-in sessions. You will have a desk and computer in a shared research student office or laboratory, and access to library and IT facilities.

#### How to apply

Applicants should give an indication of their general research field of interest, but are advised not to provide a detailed research proposal. If you have already made contact with a potential supervisor, please give details.

## Our areas of research

#### **Novel Materials**

Research covers novel materials such as hightemperature superconductors, graphene and topological insulators, thin films, the magnetocaloric effect and spintronics.

#### Quantum and Nano-engineering and Design

The interdisciplinary Quantum Systems Engineering Research Group brings together a unique team from diverse backgrounds including scientists, quantum technologists, engineers and end-users. Research in this area ranges from fundamental ideas in quantum mechanics and quantum behaviour in condensed matter to applications to quantum technology.

#### High Frequency Solid State Physics and Engineering

Arrays of Josephson junctions have applications as low-noise magnetic sensors. Terahertz radiation sources have many important applications in physics, astronomy, chemistry, biology and medicine.

#### Physics of Complexity

Research covers areas such as econophysics, biophysics and Brownian motion.

"The best thing about my experience so far is the opportunity to build my own machine from scratch, and knowing that my research has applications to current and future technologies."

> Will PhD student



# Taught programmes

# Advanced Physics

MSc 1 year full-time

#### Entry requirements

An honours degree (2:2 or above) or equivalent overseas qualification in science or engineering, or appropriate professional experience. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is delivered by recognised experts, allowing you to acquire specialist knowledge of one or more topics at the cutting edge of contemporary physics.

You will study core modules including: Mathematical Methods for Interdisciplinary Sciences; Research Methods in Physics; Superconductivity and Nanoscience; Research Project. You'll also have a choice of optional modules such as: Characterisation Techniques in Solid State Physics; Quantum Information; MATLAB as a Scientific Programming Language; Advanced Characterisation Techniques; Quantum Computing; Physics of Complex Systems.

Your research project will be devoted to one of several topical areas of modern physics including high-temperature superconductivity, terahertz semiconductor and superconductor electronics, quantum computing and quantum metamaterials, and physics of extreme conditions.

The aim of the programme is to equip students with key skills they need for employment in industry, public service or academic research.

# Physics of Materials

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in science or engineering, or appropriate professional experience. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

We have a long history of internationally recognised research in the study and development of new materials, and this programme provides the opportunity to work with expert researchers in the physics of materials. The programme contains a combination of supervised research work, development of research skills and taught material.

You will study core modules including: Mathematical Methods for Interdisciplinary Sciences; Research Methods in Physics; Superconductivity and Nanoscience; Research Project; Characterisation Techniques in Solid State Physics. You'll also have a choice of optional modules such as: Polymer Properties; Polymer Science; Advanced Characterisation Techniques; Simulation of Advanced Materials and Processes; Materials Modelling.

The theme of your research project will be one of the topical areas in physics of materials including graphenebased materials, thin film materials, shape memory compounds or nanomaterials or experimental study of properties of materials.

The aim of the programme is to equip students with key skills they need for employment in industry, public service or academic research.





# Politics, History and International Relations



RANKED 19TH FOR POLITICS THE COMPLETE UNIVERSITY GUIDE 2017

# Why choose Politics, History and International Relations at Loughborough?

The Department of Politics, History and International Relations (PHIR) is a vibrant and convivial centre for advanced research. Our aim is to stimulate innovative research that has the potential to transform academic and public debates.

We conduct research in:
contemporary politics and political
theory, early modern and modern
history, international organisation,
and critical security studies. Most
of our research falls between
the humanities and the political
and social sciences, but we also
produce a substantial body of
interdisciplinary work, notably
in the history of ideas, radical

movements and activism, in gender politics, international history, and international politics, government and governance, art and politics, religion and politics, media studies and history, and digital humanities.

Graduate destinations have included Citizen's Advice, International Medical Corps UK, Lakehead Social Planning Council, Ministry of Defence and RWS Translation.

#### Our research

We currently have 15 postgraduates working closely with 21 specialist supervisors, and conducting research in: contemporary politics and political theory, early modern and modern history, international organisation, and critical security studies.



# Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

PhD: Good undergraduate degree (2:1/1st).

Applicants without a postgraduate qualification will be required to complete research training in tandem with their research.

MPhil: Good undergraduate degree (2:1/1st).

The Department is home to two research centres: the Centre for the Study of International Governance, and the Centre for Research in Communication and Culture. Our research is organised into six research clusters.

### Supporting you

You will receive guidance from two supervisors. The Department offers opportunities to teach undergraduate seminars and you will be able to apply for funding to take part in seminars and workshops. You will also have your own workspace (in a shared research student office) and access to library and IT services.

## How to apply

You should prepare a research proposal giving details of the research you wish to undertake. Detailed information about what the proposal should include can be found on our website.

# Our areas of research

### Anarchism Research Group

Founded in 2008 the Group provides an informal space for the discussion, exploration and analysis of anarchist ideas and practices, in order to support anarchism research across scholarly disciplines in the University and to help raise the profile of anarchist studies through scholarship and public engagement.

# Critical Citizenship, Activism and Art

A collaboration of the Anarchism Research Group and the Politicised Practice Research Group based in the School of the Arts, English and Drama, that exhibits and reflects on diverse forms of art to question prevailing political, economic and cultural orthodoxies.

# **Ethics in Public Life Research Group**

A network of academics from departments across
Loughborough and beyond committed to debating
issues concerning ethics in public life. The Group hosts
conferences, symposia, and public lectures from high
profile speakers on a range of issues, from the role
of MPs, political lobbying, and economic inequality,
to public health, international aid, and the ethics of
scientific research.

# Loughborough University Nationalism Network

Founded in 2014, this network is a cross-disciplinary research group which promotes the study of the nation(al) through sociological, psychological, geographical, organisational, literary and artistic perspectives.

### Media and Communication History Group

A cross-campus research network established in 2015 to provide a historical perspective on the discussion of media and communications and to promote interdisciplinary collaboration in researching media and communications.

#### Sexual Politics Research Network

A multidisciplinary group whose work encompasses historical, empirical, theoretical and practical research across the broad areas of feminism, sexual difference, gender identity and queer theory, especially as these pertain to the arts and humanities, sciences and social sciences.







# **Programmes**

Research opportunities	p185
Digital Media and Society	p187
Global Media and Cultural Industries	p187
Global Political Communication	p188
Media and Cultural Analysis	p188

Related programmes available at our London campus:

Media and Creative Industries p228

# Social Sciences



RANKED 2ND FOR COMMUNICATION AND MEDIA STUDIES THE COMPLETE UNIVERSITY GUIDE 2017



RANKED 9TH FOR SOCIOLOGY THE COMPLETE UNIVERSITY GUIDE 2017



RANKED 2ND NATIONALLY FOR RESEARCH QUALITY REF 2014



RANKED 41ST
IN THE WORLD
FOR COMMUNICATION
AND MEDIA STUDIES
QS WORLD RANKINGS

# Why choose Social Sciences at Loughborough?

The Department of Social Sciences has long been recognised as an international centre of academic excellence and for its cutting-edge interdisciplinary work.

We have a lively community of postgraduate students, taught by an internationally renowned interdisciplinary team, through the use of contemporary case studies and research-informed applied teaching and learning.

Our programmes provide training in digital culture, media, communications, sociological and anthropological theory, as well as quantitative and qualitative methods.

Graduates from the department go into the television industry, marketing, academia, publishing, plus many more industries. They work for companies and organisations such as China Development
Research Foundation, Elsevier
Ltd, Image Line Communication,
Institute of Psychiatry, Metropolitan
Police Service, Oxfam and X-Pert
Med GmbH.

#### Our research

Loughborough is home to world-leading, original and internationally excellent research in communication, media studies, sociology, and social psychology.

Our research has impact; staff work with a wide range of public and third sector bodies (e.g. BBC Trust, Metropolitan Police, the Electoral Commission, the College of Mediators, UK Drug Policy Commission, Department of Health). Our social policy and criminology research has world-leading impact, particularly in services for children and minimum income standards.



# Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent.

The Department of Social Sciences comprises the disciplines of communication and media studies, criminology and social policy, social psychology and sociology. All of our academic staff are active researchers, working within and across the following disciplinary boundaries – Communication and Media Studies, Criminology, Social Policy, Social Psychology, and Sociology.

# Supporting you

You'll be assigned two supervisors, who are international experts in their respective fields, plus the Director of Research who can provide academic and pastoral support throughout your research. You'll have access to courses in teaching and research skills and methods organised by the university and the department, and will be encouraged to submit and present your work in national and international conferences. You will also have access to a shared office and labs, library and IT services and allowances for photocopying and interlibrary loans.

### How to apply

You are strongly advised to contact the postgraduate admissions tutor before making an application. This will allow us to ensure that supervision is available and that your proposal falls into an area of established expertise. Guidance on preparing your proposal can be found on our website.

# Our areas of research

#### Communication and Media Studies

This Group uses multidisciplinary approaches to analyse media and the communications industries, and to develop theory. Comparative perspectives feature strongly in much of its work and members are internationally renowned for their research and publications.

# Criminology and Social Policy

Analysis of issues associated with crime and social policy, and on the evaluation of policy in practice. Members of the Group have been invited to contribute to government policy debates and proposals, and have published widely in their areas of specialism.

# Social Psychology

This Group is internationally renowned for its research on social interaction across a range of everyday and institutional contexts, and on social identities, groups, and processes. Leaders in the areas of conversation analysis, discursive psychology, and political psychology, the group publish prolifically on topics such as prejudice, identity, children and families, and communication in professional and clinical contexts.

### Sociology

Members of the Group are recognised internationally for contributions to their specialist fields, which include, among others, qualitative and digital research methods, gender, policing, health and illness, tourism, citizenship and social theory. Often of interdisciplinary significance, colleagues publish in leading journals and university presses as they engage in a wide range of issues of contemporary society and culture.

### Centre for Child and Family Research

The Centre conducts a programme of research and development work to inform, influence and support policy and practice for children and families. The current programme covers three streams: safeguarding and promoting the wellbeing of children in need; transitions from care to adulthood; and exploring costs and outcomes.

# Centre for Research in Social Policy (CRSP)

CRSP is one of the UK's most established centres specialising in innovative and applied social policy research and critical policy analysis. Our core business is undertaking research for the government, so we are always involved in the burning issues of the day. As the welfare state faces fundamental change the Centre's work has never been more urgent.

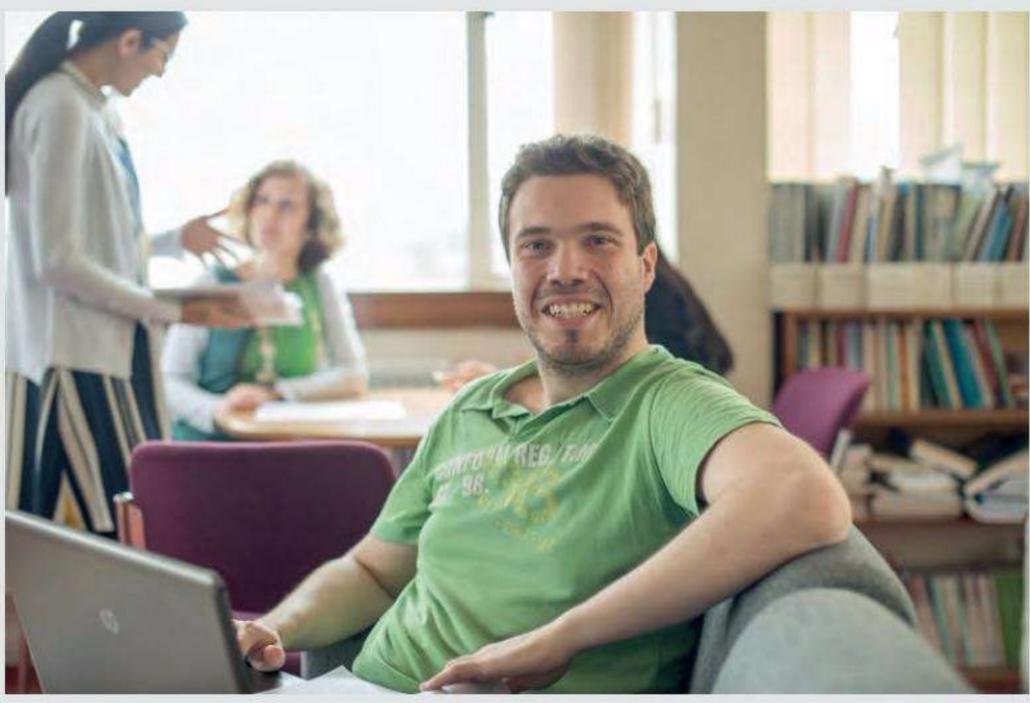
# Centre for Research in Communication and Culture

Comprises the world-leading Discourse and Rhetoric Group (DARG) and Culture and Media Analysis Research Group (CAMARG) involving staff from across the Department. Their influential research has real world impact through their engagement with private and public sector organisations.

### Crime Science Research Group (CSRG)

A newly established multidisciplinary group, it brings together expertise to find real world solutions to a broad range of crime problems using scientific methodologies.





# Taught programmes

# Global Media and Cultural Industries

MA 1 year full-time

### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in the social sciences or humanities. Applicants with appropriate professional expertise will also be considered. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

Global media and cultural industries are important sources of employment and economic growth internationally. They are also important carriers of meaning about the world. This programme focuses on the growth of these global industries and the roles that states play in governing them. The products of media and cultural industries are increasingly produced, governed, and consumed transnationally.

You will study core modules including: Media and Cultural Industries; Digital Futures; Media and Cultural Work; Textual Analysis Research Techniques; Production and Reception Analysis; Key Debates in Global Media and Cultural Industries; Dissertation. You will also have a choice of optional modules such as: Politics of Representation; Media and Modernity; Communication and Citizenship; Sex Industries; Global Communications; Popular Music and Modern Times; Media, Nations, and Nationalisms; Digital Cultures; Digital Economics; Cultural Memory and the Heritage Industries; Marketing Politics. You will be assessed by coursework plus a dissertation of 10,000 words on an agreed topic.

The degree is designed to enhance specialist knowledge and methodological expertise of relevance to professionals working in communications, to students interested in media and cultural studies, and those wishing to progress to a research degree in these fields.

# Digital Media and Society

MA 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in the social sciences or humanities.

Applicants with appropriate professional expertise will also be considered. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

This programme offers a comprehensive understanding of current developments in digital media and their wider social significance. Smartphones; social networking, blogging and tweeting; online shopping; communication by email; and the delivery of news, film, music and e-books over the internet: these are just some of the most striking ways in which digital media is penetrating and transforming contemporary society.

The programme is delivered by a diverse interdisciplinary team with a strong profile in, for example, digital culture, media, sociology, anthropology and communication studies.

You will study core modules including: Digital Cultures; Digital Futures: Explorations in New Media; Production and Reception Analysis; Digital Economies; Digital Methodologies; Key Debates in Digital Media and Society; Dissertation. You will also have a choice of optional modules such as: Media and Modernity; Media and Cultural Industries; The Politics of Representation; Popular Music and Modern Times; Citizenship and Communications; Media, Nations and Nationalisms; Global Communications; Media and Cultural Work; Tourism, Culture and Society; Sex Industries; Cultural Memory and the Heritage Industries; Marketing Politics. You will be assessed by coursework plus a dissertation of 10,000 words on an agreed topic.

The degree is designed to develop specialist understanding of contemporary developments in digital media and culture. This will be relevant to anyone pursuing a professional career in this rapidly growing sector and to those with an interest in these significant social changes. Students will also acquire research skills which will be of value in both media-related and academic careers.

# Media and Cultural Analysis

MA 1 year full-time

#### Entry requirements

An honours degree (2:1 or above) or equivalent overseas qualification in the social sciences or humanities. Applicants with appropriate professional expertise will also be considered. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

The programme offers a comprehensive understanding of social sciences, media, and cultural analysis. Interdisciplinary in conception, it provides students with a critical introduction to key areas of media and cultural analysis, including the media and political economy; modernity and post-modernity; and cultural 'difference', prejudice and power.

While there are several core modules, students undertake research directly related to their specialist interests in the dissertation.

You will study core modules including: Media and Modernity; The Politics of Representation; Production and Reception Analysis; Media and Cultural Industries; Textual Analysis Research Techniques; Key Debates in Media and Cultural Analysis; Dissertation. You will also have a choice of optional modules such as: Popular Music and Modern Times; Citizenship and Communications; Media, Nations and Nationalisms; Global Communications; Digital Futures; Media and Cultural Work; Digital Cultures; Digital Economics; Cultural Memory and the Heritage Industries; Marketing Politics. You will be assessed by coursework plus a dissertation of 10,000 words on an agreed topic.

Our students go on to work in media, marketing and PR divisions of major public and private institutions. They also go on to work in mainstream media careers such as journalism and broadcasting. Many of our students have also gone on to do PhDs in media, communications and culture in the UK and abroad.

# Global Political Communication

MA 1 year full-time

#### Entry requirements

An honours degree (2:1 or above) or equivalent overseas qualification in the social sciences or humanities. Applicants with appropriate professional expertise will also be considered. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

Communication lies at the heart of politics and is essential to understanding it in contemporary media saturated countries. This programme focuses on political communication in a global context, looking at the development of message production, transmission, and reception across nations as well as key theories, themes and controversies.

You will study core modules including: Global Communications; Marketing Politics; Politics of Representation; Textual Analysis Research Techniques; Production and Reception Analysis; Key Debates in Global Political Communications; Dissertation. You will also be able to choose from selection of the following options: Media and Modernity; Communication and Citizenship; Sex Industries; Popular Music and Modern Times; Media, Nations and Nationalisms; Digital Cultures; Digital Economies; Cultural Memory and the Heritage Industries. You will be assessed by coursework plus a dissertation of 10,000 words on an agreed topic.

The degree is designed to enhance specialist knowledge and methodological expertise of relevance to professionals working in communications, to students interested in global political communication and to those wishing to progress to a research degree in these fields.



# **Programmes**

Research opportunities	p191
Exercise Physiology	p192
Musculoskeletal Sport Science and Health	p196
Physical Education with Qualified Teacher Status	p195

Sport and Exercise Nutrition	p193
Sport and Exercise Psychology	p193
Sport Management	p195
Sports Biomechanics	p192

# Related programmes available at our London campus:

Sport Business and Innovation p223
Sport Business and Leadership p223
Sports Digital and Media p224
Technologies



# Sport, Exercise and Health Sciences

# Why choose Sport, Exercise and Health Sciences at Loughborough?

Staff within the School are renowned internationally for the quality of their teaching and research, which has influenced policy and practice around the world. Knowledge gained from our research underpins the teaching and variety of learning experiences offered through the School's comprehensive range of postgraduate taught and research degrees.

Our staff expertise, combined with on-going investment in buildings, teaching facilities, laboratories and equipment, makes the School of Sport, Exercise and Health Sciences a stimulating, multidisciplinary environment in which to study.

Our graduates go on to work with companies such as APR Psychology, Adidas, BUPA, Badminton England, British Red Cross, Ministry of Education, KPGM, Lucozade, NHS, Nuffield Health and Youth Sport Trust.

#### Our research

The School of Sport, Exercise and Health Sciences is a large, vibrant international research community of approximately 90 members of academic staff and more than 120 students studying for an MPhil or PhD. Research within the School is classified broadly into three themes: Performance in Sport, Lifestyle for Health and Wellbeing, and Participation in Sport and Exercise.



RANKED 2ND FOR SPORTS SCIENCE THE COMPLETE UNIVERSITY GUIDE 2017



# Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

Applicants are normally required to have at least a 2:1 degree at undergraduate level, or a master's degree.

Our aim is to increase knowledge, skills and experience in sport, exercise and health sciences through internationally excellent research in the themes of Performance, Lifestyle and Participation. We have extensive links and research contracts with industry and education partners as well as with sport and healthorganisations.

The School has extensive state-of-the-art facilities, including the new National Centre for Sport and Exercise Medicine, which span a range of disciplines: physiology, nutrition and biochemistry; psychology; human biology; sports policy and management; physical activity and health; biomechanics; physical education. You will have access to these facilities and learn the most advanced skills and techniques in order to conduct leading research.

# Supporting you

You will be assigned a primary and secondary supervisor who provide academic and personal support, along with the Director of Research Degree Programmes who oversees progress. We provide research training, including seminars and modules in advanced research methods, and events such as the School's Research Student Conference and Research Café, which provide opportunities for exchange and networking. You will have a desk, workstation, allowance for photocopying and inter-library loans, plus the opportunity to apply for conference travel grants.

### How to apply

Please apply online and submit your degree certificate (if already graduated), academic transcript, two academic references and evidence of your English language ability. Your research proposal should be a maximum of 1,000 words and include the aims of the study, a brief literature review, an outline of the proposed research methods, and your preferred member of staff to supervise your project. You are strongly recommended to contact the University before submitting your application for preliminary discussions regarding topics, availability and funding.

# Our areas of research

### **Sports Performance**

The objectives of this theme are to understand and enhance sport and exercise performance across the ability range by investigating the factors influencing, and methods for improving, human performance in sport and exercise. These objectives encompass the physiological, pedagogical, biomechanical and psychological aspects of performance as well as injury prevention and rehabilitation. A further objective is to analyse the social, political and economic context within which performance sport takes place.

### Lifestyle for Health and Wellbeing

The objectives of the theme are to improve human health and wellbeing throughout the lifespan by considering the social, behavioural and biological determinants and consequences of human lifestyles with specific emphases on physical activity, nutrition and chronic disease.

# Participation in Sport and Exercise

The objectives of the theme are to analyse the sociological, economic, psychological, political, organisational and behavioural factors which inhibit and facilitate community participation in sport and exercise.



# Taught programmes

# Exercise Physiology

MSc 1 year full-time

#### Entry requirements

An honours degree (good 2:1 or above) or equivalent overseas qualification in sports science or other relevant biological science that contains a substantial element of exercise physiology; such as applied human physiology or physiotherapy. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is designed for graduates possessing a good degree in sports science or other relevant biological sciences, and provides you with the opportunity to gain an in-depth understanding of the physiological, nutritional and metabolic demands of exercise and training, and their implications for participation in sport and for the maintenance of good health.

You will study core modules including: Physiology of Endurance Performance; Current Research in Exercise Physiology; Laboratory Techniques in Exercise Physiology; Quantitative Research Methods; Research Project. You are also able to select from optional modules such as Exercise and Immunology; Vocational Skills in Exercise Physiology; Sport and Exercise Nutrition; Neuromuscular Function. Modules are assessed by both coursework and examinations.

This programme is available for part-time applicants who have a prearranged, confirmed placement (e.g. with the Loughborough University Sports Development Centre, Sport National Governing Body, English Institute of Sport etc).

Previous students have gone on to work in many high profile sports settings including the English Institute of Sport, Premier League football clubs, English and Wales Cricket Board, England Rugby, British Swimming, British Triathlon, British Cycling, UK Athletics, UK Sport, in addition to working in the NHS, Spire and Nuffield Health. Many students also go on to further study.

# Sports Biomechanics

MSc 1 year full-time, part-time available

#### Entry requirements

An honours degree (2:1 or above) or equivalent overseas qualification in sports science with a strong biomechanics component, engineering, mathematics, physics or similar field. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This well-established programme provides the opportunity to gain an in-depth understanding of all aspects of sports biomechanics, ranging from experimental equipment requirements and use through to the latest theoretical considerations and research problems. Work consists of hands-on laboratory and field techniques, theoretical modelling and computer simulation of human movement, as well as critical analysis, discussion and presentation of research projects.

All academic staff involved with this programme are active researchers in various aspects of sports biomechanics spanning gymnastics, athletics, martial arts, racket sports and cricket, and bring examples and insights to the modules.

You will study modules including: Orthopaedic Sport Biomechanics; Theoretical Biomechanics; Neuromuscular Function; Quantitative Research, Current Research in Sports Biomechanics; Research Project. The assessment of the taught modules has an equal split between coursework and examination with laboratory reports accounting for 40% of the coursework assessment. The research project is assessed on a journal article style report of up to 5000 words.

You will have the opportunity to use our biomechanics laboratory, which includes equipment such as Vicon motion analysis systems, force plates, EMG, dynamometer, together with software for simulation and inertia modelling.

Graduates from this programme have gone on to biomechanics teaching in higher education, athlete support within the English Institute of Sport, and PhD research.

For more details on studying part-time, please see page 18.

# Sport and Exercise Psychology

MSc 1 year full-time, part-time available

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in sport and exercise science, psychology, or a related field. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

This programme provides students with a critical understanding of sport and exercise psychology. It is designed and delivered primarily with a view to best preparing students for two specific career pathways: sport and exercise psychologist/sport and exercise scientist or a lecturer/professor of sport and exercise psychology/sport and exercise science, specialising in psychology. The programme is accredited by the British Psychological Society (BPS).

You will study modules including: Psychology of Sport and Physical Activity in Youth; Current Research in Performance Psychology and Management; Psychology of Exercise for Clinical Populations; The Psychology of the Coach-Athlete Relationship; Mental Health in Sport and Exercise; Professional Practice in Sport Psychology; Quantitative or Qualitative Research; Project. You will be assessed by a combination of coursework (including project reports and research project) and examination(s).

Graduates from this course have gone on to careers including: sport and exercise psychologist, performance psychologist, sport and exercise scientist, lecturer in sport and exercise psychology, and coach. Other students have progressed to doctoral research in the field of sport and exercise psychology.

For more details on studying part-time, please see page 18.

# Sport and Exercise Nutrition

MSc 1 year full-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in nutrition, dietetics, physiology, sports science with a strong biological sciences component, or a related subject. See full details online.

#### Fees

PGT Band 3 (see page 58 for details).

This programme is designed to provide graduates with training in sport and exercise nutrition which will equip them for future careers in research, teaching in higher education, in industry, or in applied sports nutrition support. It is not a substitute for a diatetics qualification.

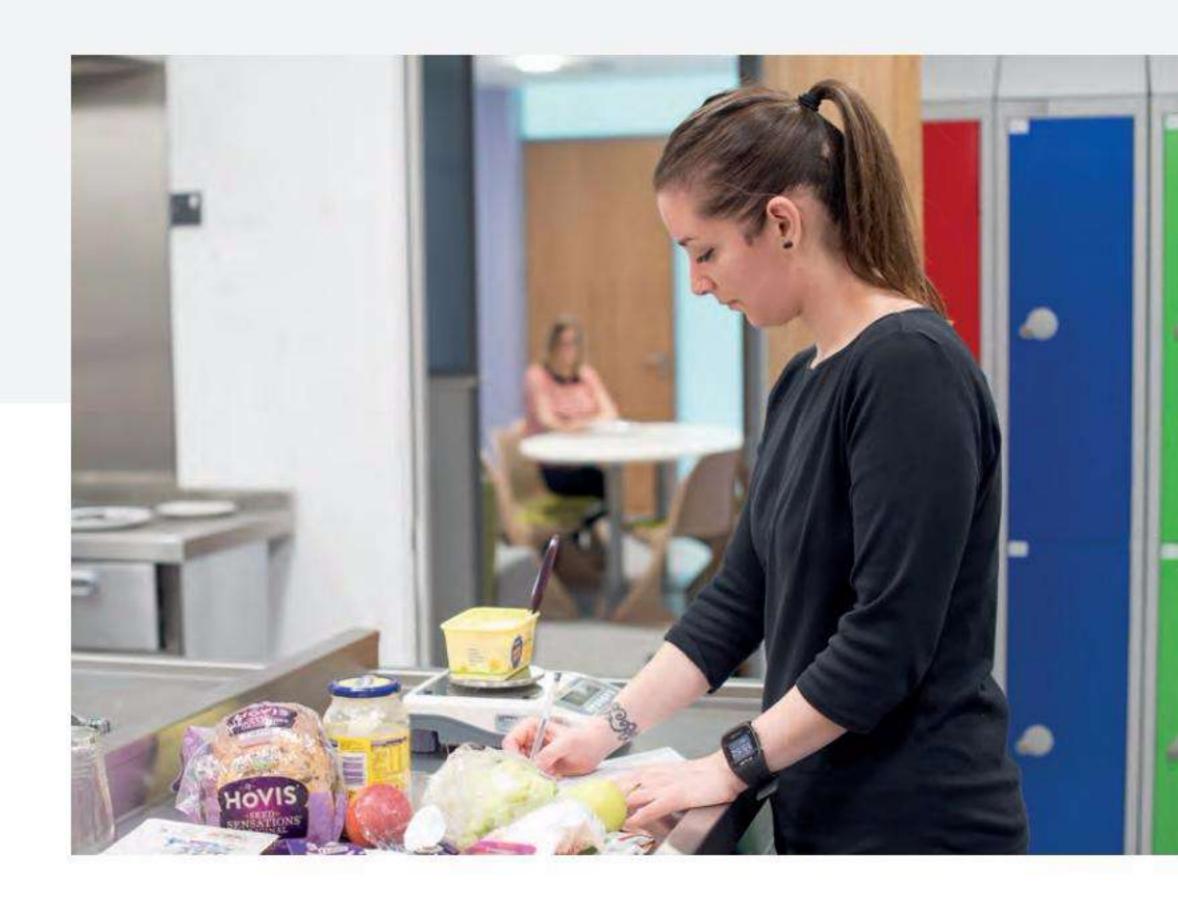
This programme provides an opportunity to gain in depth understanding of the nutritional and metabolic demands of exercise, of the interactions between diet, exercise and health, and of how nutrition influences sports performance. You will study modules including: Sport and Exercise Nutrition; Physiology of Endurance Performance; Exercise and Immunology; Applied Nutrition; Advanced Sport and Exercise Nutrition; Laboratory Techniques in Sport and Exercise Nutrition; Quantitative Research; Research Project. You will be assessed by a combination of coursework (including project reports and research project) and examination(s).

This programme is available for part-time applicants who have a pre-arranged, confirmed placement (e.g. with the Loughborough University Sports Development Centre, Sport National Governing Body, English Institute of Sport etc).

Graduates from this programme have gone on to positions including teaching in higher education, athlete support within the English Institute of Sport, and PhD research.

"The two reasons why I chose Loughborough were the excellence in sports science research, but also the diverse sporting activities I could get involved with. Since I came to Loughborough, I've tried many different sports, and become more active than ever before."

> Asya PhD student



# Sport Management

MSc 1 year full-time, part-time available

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in sports science or social science discipline. See full details online.

#### Fees

PGT Band 1 (see page 58 for details).

This programme prepares you for a career in sport management. It is taught jointly by the School of Sport, Exercise and Health Sciences and the School of Business and Economics. You will benefit from the expertise of our diverse teaching staff who are focused on equipping you with the skills and knowledge to work in the rapidly expanding global sports industry.

You will study core modules including: Sport Markets and Industries; Managing Service Quality in Sport; Economics of Sport and Leisure; Management of Human Resources; Research Methods for Sport Management; Sport Management: Theory and Practice; Introduction to Financial Management; Marketing Management; Strategic Management; Project. You will be assessed by a combination of group presentations, marketing plans, essays and examinations.

The final, major piece of assessment is the Research Project. Each student is assigned a supervisor, and constructs a real research project aimed at producing new knowledge about an area of sport management they are interested in. Sport marketing, management, economics and policy projects are all popular.

Loughborough Sport Management graduates are known around the world for their engagement in the sport sector. Typical roles include sport marketing managers, health and fitness/facility managers, sport and leisure consultants, sports development officers, local authority sport and leisure officers, and national sport federation officers. Some graduates go on to undertake PhD research as a gateway into academic or high level policy positions.

For more details on studying part-time, please see page 18.

# Physical Education with Qualified Teacher Status

PGCE 1 year full-time

MSc with QTS 1 year full-time PGCE plus additional part-time modules. See online for details.

#### **Entry requirements**

An honours degree (2:1 or above), awarded by a UK higher education provider, or a recognised equivalent qualification. See full details online.

#### Fees

See website.

We have a strong tradition of teacher education and a history of successfully producing outstanding teachers who are in great demand by schools and colleges in the UK and overseas. The PGCE prepares students to teach the 11-18 age range and is offered as a full-time one year programme. It provides practical professional preparation for teaching in secondary schools, and is designed and delivered in partnership with schools in up to 10 Local Authorities.

The PGCE represents both a standalone qualification and the first year (contributing half the credits) of an MSc in Education with Qualified Teacher Status (QTS). This therefore provides an opportunity for you to gain a relevant master's degree during your early teaching career.

Students have the opportunity to be taught and supervised by staff whose teaching and research excellence has been formally acknowledged as of national and international renown and to be at the cutting edge of educational innovation. Many of the staff who teach on the modules have written key texts and books in their area of expertise.

A Loughborough PGCE gives you excellent career prospects. The majority of our PGCE trainees have secured teaching posts by the time they complete their training, and have gone on to successful careers in many different schools throughout the UK and overseas.

# Musculoskeletal Sport Science and Health

MSc 1 year full-time, part-time available

Diploma see website for details

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a relevant subject, or equivalent professional experience. See full details online.

#### Fees

PGT Band 4 (see page 58 for details).

This programme aims to provide you with further knowledge of the scientific concepts and procedures underpinning sport and exercise related musculoskeletal function, measurement, injury and treatment. It will allow you to adopt a multidisciplinary approach to the scientific study of sport and exercise related musculoskeletal health and performance including anatomy, physiology, biomechanics, bioengineering, and kinesiology. You will have the opportunity to carry out indepth and critical research in selected areas of interest.

This programme is delivered in connection with the National Centre for Sport and Exercise Medicine – East Midlands (NCSEM-EM), and is primarily taught at Loughborough University. The NCSEM-EM is an Olympic legacy funded project aimed at improving the health and wellbeing of the nation. The programme is delivered in conjunction with The University of Nottingham with some teaching at the Queen's Medical Centre (assistance with travel expenses between campuses is included within the programme fees).

You will study modules including: Orthopaedic Sport Biomechanics; Neuromuscular Function; Physiology of Endurance Performance; Immediate and Pre-Hospital Care of the Injured Athlete\*; Research Methods for Sport and Exercise\*; Basic Science and Regenerative Therapy; Emerging Technologies for Health and Wellbeing; Motion Analysis of Human Movement; Developing Computer Models for Sports Biomechanics; Clinical Sports Injury\*; Research Project. You will be assessed by a combination of coursework and examination, project reports and research project.

Typical career destinations include teaching in further and higher education, sports science support with the English Institute of Sport, working in rehabilitation and exercise therapy, working with professional sports organisations. Other graduates progress to PhD study.

For more details on studying part-time, please see page 18.

\* Modules taught at Queen's Medical Centre, University of Nottingham





Dean, Loughborough University London



MRes programmes	p199
Institute for Design Innovation	p201
Institute for Digital Technologies	p207

Glendonbrook Institute for	p213
<b>Enterprise Development</b>	Α
***********************************	
Institute for Sport Business	p219
***************************************	
Institute for Media and	p225
Creative Industries	

The Academy of Diplomacy p229 and International Governance



# Loughborough University London

Loughborough University London enhances Loughborough's existing world-class partnerships and excellence in research, to deliver a postgraduate learning experience that is second to none.

## Delivering inspiring teaching

Innovative teaching and experiential learning are at the core of our curriculum. A key feature of many of our programmes is the Collaborative Project module, in which students from different programmes address a relevant business or social problem, provided by a external organisations. You will develop a relationship with an existing business, build real industry experience and gain knowledge of current issues facing your sector.

# Accelerating your career

We will provide you with targeted, professional guidance and support to sit recruitment tests; attend assessment centres; complete video interviews and more. We will monitor your achievements throughout your studies, allowing you to track and keep stock of your own personal skills development. You'll benefit from exclusive talks and networking events with our wide network of industry thought and influencers, giving you a unique insight into a range of sectors.

# Enhancing your discipline

Our programmes have been designed to offer in-demand skills, experiences and opportunities to boost your professional profile and enhance your employability. Most students will take a Second Subject module delivered by a complementary institute, allowing you to acquire knowledge and skills that would not normally be attainable within your existing discipline. Embracing a new learning environment will give you the opportunity to apply current knowledge to a fresh subject or sector, stimulating innovative behaviour and interdisciplinary thinking.

# Providing outstanding research

Loughborough University London is committed to bringing benefit to local and international communities through applied research and sociocultural, interdisciplinary problem solving. Our collaborations with businesses, as well as with multi-national corporations, governing bodies and regional and international organisations, will ensure that you have the tools to realise your ambitions and gain relevant work experience.



# Master's by Research

# Your launchpad to a PhD with Loughborough University London



MRes 1 year full-time, up to 4 years part-time

#### **Entry requirements**

Minimum of an upper second class honours degree or equivalent in a wide range of subjects. In exceptional circumstances an applicant may be admitted to the degree who does not possess the requirements mentioned, but who has substantial relevant work experience.

#### Fees

Band 1 (see page 82 for details).

"Students on our multi-disciplinary
MRes programme will be part of our
growing community of researchers.
We are actively looking for exceptional,
committed and talented students to
progress from our MRes programme
onto PhD study and we offer supportive
routes to make this possible."

#### Professor Ahmet Kondoz

Associate Dean for Research and Director, Institute for Digital Technologies From September 2017, Loughborough University London will be delivering six new multi-disciplinary MRes programmes, to enable students with a passion for research to widen their skills, focus their interests and take the next step towards an MPhil, PhD or analytical career.

Studying an MRes with Loughborough University London will give you a fascinating introduction into the life of a postgraduate researcher. Each MRes programme has been carefully designed to empower graduates with rigorous research and analytical skills, in order to progress onto high-level researcher positions within their chosen sector or field.

Each programme will explore the research processes, and uncover the designs, practices and methodologies used by experienced researchers from each discipline. Whilst a traditional taught master's degree programme focuses on the development of expertise in a chosen area, an MRes places more emphasis on the individual to uncover new knowledge and develop their own research expertise.

#### Your career as a researcher

Research skills are greatly in demand across the high value industries of the UK. Alongside the taught elements of the programme you will be able to access a tailor-made professional development programme mapped to the Researcher Framework that will support you to market yourself and your skills for a rewarding career. You will get access to:

- Exclusive workshops on diverse topics suitable for a research career
- Mentoring
- Employability Profiling and Careers Support

For more information on studying an MRes or to find out what scholarships are available, please visit lborolondon.ac.uk/pg2017/mres



PHD STUDENTSHIP FUNDING AVAILABLE TO MRES GRADUATES ON A COMPETITIVE BASIS

# MRes in Diplomacy and International Governance

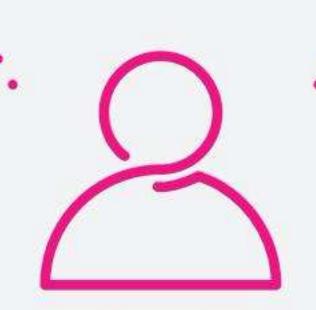
Students undertaking Masters by Research at the Academy of Diplomacy and International Governance will gain specialist knowledge and relevant skills for research on various aspects of the practice of diplomacy and International governance.

# MRes in Media and Creative Industries

Research plays a critical role in the understanding and forecasting of media and the creative industries. An MRes from the Institute for Media and Creative Industries will enable you to become immersed in a colourful and passionate research community, and gain specialised knowledge on media context and practices, as well as critical perspectives on different media platforms and industries.

# MRes in Entrepreneurship and Innovation

Our MRes in Entrepreneurship and Innovation gives students the opportunity to develop their critical thinking and analytic abilities to develop their career as a researcher. Students will learn in a research rich, multi-disciplinary environment taking taught modules that dissect the makeup of the entrepreneur and investigate the process of successfully managing innovation



All students studying an MRes programme will complete taught units such as: The Collaborative Research Project; Research Design, Practice and Ethics; Quantitative Research Methods; Foundations in Qualitative Research; in addition to a major research project.

## MRes in Design Innovation

Students who choose to study an MRes in Design Innovation will be able to build on their research skills with the choice to focus on areas such as Identity, Culture and Communication, and Design Thinking, which builds on the idea that design supports and encourages innovation in multiple ways.



#### MRes in Sport Business

Our Sport Business MRes will develop students' knowledge of the current research into the business of sport. Alongside the core research skills and practical experiences offered through the shared elements of the programme, students will have the opportunity to develop their understanding of leadership in the context of the business of sport through taking taught modules in Leadership Models and Practices: Application to a Sport Context and Analysing and Constructing Leadership for a Sport Context.

#### MRes in Digital Technologies

Students who choose an MRes in Digital Technologies will receive guidance from academics leading research in the fields of internet and multimedia technology. Academics will share their expertise on Internet and Communication Networks and Fundamentals of Multimedia Signals, to enable students to gain specialised knowledge of these fields.



# **Programmes**

Research opportunities	p203
Design Innovation	p204
Design and Culture	p204
Design Innovation Management	p205
Entrepreneurial Design Management	p205



lborolondon.ac.uk/ pg2017/ designinnovation/ about



# Institute for Design Innovation

# Why choose Design Innovation at Loughborough University London?

The Institute for Design Innovation combines research, teaching and enterprise to deliver comprehensive programmes in design innovation.

The Design Innovation programmes allow students to engage in externally connected creative projects whilst studying in the 'design capital of the world'. These projects will provide students with experience of working in cross-cultural and interdisciplinary design-driven teams, facilitating the development of skills which are increasingly required by industry.

Loughborough University London typifies Loughborough's outstanding reputation amongst employers by engaging with even more businesses and collaborating with industry leaders and the public sector based in the capital.

# Career prospects

As a student with the Institute for Design Innovation, you will have the opportunity to turn a passion for design into a desirable portfolio of experience and skills. Graduates of these programmes are extremely sought after by employers, who actively seek out innovators and creative designers in order to thrive in the current marketplace.



RANKED 2ND FOR ART AND DESIGN THE COMPLETE UNIVERSITY GUIDE 2017



RANKED 38TH IN THE WORLD FOR ART AND DESIGN QS WORLD RANKINGS 2016



lborolondon.ac.uk/ pg2017/designinnovation

# Research opportunities

PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent.

The Institute for Design Innovation welcomes explorative research proposals with novel methodologies and creative approaches to the grey areas of design research. The Institute for Design Innovation has an interest in the issues of design that have received scant attention to date, but have the potential to deliver outstanding outcomes for design.

## Supporting you

Research students within the Institute for Design Innovation are provided with:

- supervisors who, together with the Director of Research Degree Programmes, provide academic and pastoral support
- 24-hour access to a dedicated research space
- hot desks
- meeting rooms
- individual study space
- kitchen and dining area
- · free photocopying
- · inter-library loan funding

Research students are expected to attend appropriate training and departmental seminars. You will also be required to present at least one paper at a departmental seminar.

## How to apply

Applications for research should indicate the institute within which you would like to study and preferably the member(s) of staff whose research area is of most interest to you. A brief research proposal should be included with your application.

Contact: Professor Mikko Koria, Director of the Institute for Design Innovation - m.koria@lboro.ac.uk, or to apply direct, please follow the link lborolondon.ac.uk/phdapply

# Our areas of research

Research at the Institute for Design Innovation builds on the idea that design supports and encourages innovation in multiple ways. The Institute is currently focused on the following research areas:

## Design Value

This area of research is focused on the perspective of value creation in and through the application of design into multiple contexts, involving users, organisations, ecosystems and society.

### Design Meaning

This research area examines design-driven innovation of meaning, with a focus on the role and impact of design and designers as cultural intermediaries.

# Design Delivery

This research area links the study of the development of innovative policies to the research on relevant and coherent services that help to deliver innovation that matters.

### **Design Practice**

This area of research investigates teams and groups in creativity and design driven contexts, through exploring collaborative, interdisciplinary and multicultural practices and approaches.

### Design Exploration

This research area aims to give space to and explore the grey areas of design research that have received scant attention to date but represent potentially valuable avenues of investigation.

# Taught programmes

# Design Innovation

MA/MSc 1 year full-time, up to 4 years part-time

#### Entry requirements

Minimum of a lower Second Class Honours degree (2:2) in Design, Innovation, Business, Media, Technology or related subjects. Applicants from non-Design backgrounds require 55% and above in their final year. See full details online.

#### Fees

Band 2 (see page 82 for details).

The focus of this programme is to communicate the latest knowledge and advances in design innovation practices. You will take part in a series of taught modules and industry focused projects that will build and enhance your portfolio of work.

You will learn how to enhance and develop innovative design skills and will discover how to replicate collaborative behaviour, through a mixture of active learning and team work. All students will develop their knowledge by analysing and evaluating problems and responding to genuine industry challenges in real time. This learning environment will inform critical thinking and improve students' effectiveness as innovation designers.

Core modules include: Identity, Culture and Communication; Design Thinking; Reflection and Action; Meaning Making in Design; Foresight and Strategy; Design Innovation Project; Collaborative Project; and Dissertation.

Second subject modules include: Introduction to Mobile Internet and Media Clouds; Principles of Entrepreneurship and Innovation; The Key Topics in Media and Creative Industries; Sport Media and Marketing and Business Model Generation.

Upon graduating, you will be equipped with advanced knowledge to enhance your career opportunities in design and branding consultancies, in-house design and marketing departments as designers and design managers. You will become a professional versed with design skills and interdisciplinary teamwork.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

# Design and Culture

MA 1 year full-time, up to 4 years part-time

#### **Entry requirements**

Minimum of a lower Second Class Honours degree (2:2) in Design, Innovation, Business, Media, Technology or related subjects. Applicants from non-Design backgrounds require 55% and above in their final year. See full details online.

#### Fees

Band 2 (see page 82 for details).

This programme expands the question: does culture inform design or does design inform culture? Through a series of processes and projects, students will build a portfolio of work informed by the study of culture delivered by the Institute for Media and Creative Industries.

This programme supports students to explore the dynamic, contingent relationships between design and its many cultural contexts. You will acquire advanced knowledge of the concepts and skills required for undertaking ethnographic research for design projects. These skills will be applied and developed in both the interdisciplinary and international design projects that provide the core of the programme.

Core modules include: Identity, Culture and Communication; Reflection and Action; Meaning Making in Design; Design Innovation Project; Collaborative Project; Media and Creative Industries: Context and Practices; Media and Creative Industries: Critical Perspectives; Researching Media Industries; and Dissertation.

This programme will provide you with the right skills and knowledge to enhance your career prospects in user-centred design. You will be a qualified professional versed with many new and developed design skills, and will be experienced in interdisciplinary teamwork.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

# Design Innovation Management

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

Minimum of a lower Second Class Honours degree (2:2) in Design, Innovation, Business, Media, Technology or related subjects. Applicants from non-Design backgrounds require 55% and above in their final year. See full details online.

#### Fees

Band 2 (see page 82 for details).

How can the innovation process support the development of new products and services? This programme investigates the processes of design and innovation, and evaluates and tests your own ideas through a series of individual and group projects. This programme has been established to develop innovative thinkers from creative designers. You will be provided with concepts and skills for a variety of consumer, commercial, national and international markets across industry sectors.

This process will involve responding to briefs set by industry partners, as well as developing products and real-life business concepts.

Core modules include: Design Thinking; Reflection and Action; Meaning Making in Design; Design Innovation Project; Innovation Management; Entrepreneurship; Intellectual Property; Collaborative Project; and Dissertation.

This programme enables you to pursue a broad range of design management careers in the private and public sector. In particular, we aim to enhance your career prospects and prepare you for roles in innovation management. On completion, you might expect to gain senior management roles in a range of sectors, including marketing, new product development, innovation, research and development, and technology.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

# Entrepreneurial Design Management

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

Minimum of a lower Second Class Honours degree (2:2) in Design, Innovation, Business, Media, Technology or related subjects. Applicants from non-Design backgrounds require 55% and above in their final year. See full details online.

#### Fees

Band 2 (see page 82 for details).

Entrepreneurship is the focus of this programme. You will learn about the practicalities and challenges of establishing and running your own product design or manufacturing business.

Our MSc Entrepreneurial Design Management programme explores the makeup of a successful entrepreneur, and looks to uncover how entrepreneurial behaviour and skills can influence and inform the design process.

This programme builds on the strengths of our Design Innovation programmes, by supporting students to develop the skills required to take an idea from the drawing board to the marketplace. Through a series of individual and group projects, you will analyse entrepreneurial behaviour, and evaluate which contributions lead to the success of new product ideas.

Core modules include: Design Thinking; Reflection and Action; Meaning Making in Design; Design Innovation Project; Entrepreneurship; Collaborative Project; Identity, Culture and Communication; and Dissertation.

Optional modules include: Strategy and Planning; Funding; Understanding Business Failure.

You will be well prepared for work within organisations or equipped for self-employment routes. The programme enables you to pursue a broad range of management careers in the private and public sector. In particular, we aim to enhance your career prospects and prepare you for roles in entrepreneurship and the management of small enterprises.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

"From tutorials and presentations to group studio sessions, everything has been really fun and motivational. Loughborough University London has been committed to delivering a programme which gives me the tools and skills I need."

Federico Current student, MA Design Innovation







"Digital technologies with a vast amount of information sensing and data processing capabilities are entering into all parts of our lives. The way we use and share the created digital data is shaping the way we conduct our daily activities ranging from working, entertaining and socialising.

The Institute for Digital Technologies specialises in the latest advances in digital technologies providing exceptional possibilities for its students."

# PROFESSOR AHMET KONDOZ

Associate Dean for Research and Director, Institute for Digital Technologies

# Institute for Digital Technologies



lborolondon.ac.uk/ pg2017/ digitaltechnologies/ about

# Why choose Digital Technologies at Loughborough University London?

The Institute for Digital Technologies combines specialist teaching, research and enterprise to give you expert knowledge of the latest advances in digital technology.

Our programmes are taught in the heart of East London, the innovation and technology capital of the UK. You will work with real clients to shape the future of audio, visual and digital media systems, whilst discovering the latest in advanced 5G networks.

### Career prospects

The Institute for Digital Technologies is proud to work in collaboration with national and international academic, research and industrial groups including Thales, BBC, Telefonica, IRT, Rohde & Schwarz, Technicolor, Arcelik, Telecom Italia, Airbus Defence and Space as well as Disney Research.

On completion of our programmes, all students will have the knowledge and skills required to secure a wide variety of desirable roles in the digital and technological industries. Students will also receive the necessary skills and knowledge to set up their own venture.

#### Our research

Research is a crucial part of our work, allowing us to deliver a unique teaching experience that is at the forefront of our discipline.

By pursuing one of our postgraduate research programmes, you will have the opportunity to work with top researchers and industry leaders, and gain first-hand experience of real-life problem solving.

# **Programmes**

Research opportunities	p209
Cyber Security and Big Data	p210
Digital Engineering and Innovation Management	p210
Digital Creative Media	p211
Internet Technologies with Business Management	p211
Mobile Communication Systems	p212



# Research opportunities

PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time **Entry requirements** 

A 2:1 honours degree or its equivalent.

The Institute for Digital Technologies provides exciting cutting-edge research opportunities for postgraduate students. Our PhD students are linked to major companies, have access to extensive research and computing facilities, and participate in large scale international collaborative projects, providing them with exceptional postgraduate research experience.

## Supporting you

Research students within the Institute for Digital Technologies are provided with:

- · supervisors who, together with the Director of Research Degree Programmes, provide academic and pastoral support
- 24-hour access to a dedicated research space
- hot desks
- meeting rooms
- individual study space
- kitchen and dining area
- · free photocopying
- · inter-library loan funding

Research students are expected to attend appropriate training and departmental seminars. You will also be required to present at least one paper at a departmental seminar.

#### How to apply

Applications for research should indicate the institute within which you would like to study and preferably the member(s) of staff whose research area is of most interest to you. A brief research proposal should be included with your application.

Contact: Professor Ahmet Kondoz, Associate Dean for Research and Director of the Institute for Digital Technologies - a.kondoz@lboro.ac.uk, or to apply direct, please follow the link lborolondon.ac.uk/phdapply

# Our areas of research

### Interactive 3D Media

Interactive 3D Media involves integrating various digital media components including audio and video into a structured immersive digital environment, with multimodal interfaces allowing users to interact.

# Advanced 5G Systems

The 3G and 4G mobile broadband technologies have mainly focused on providing mobile video, web/data, music and file sharing. This will continue through to future 5G systems which will offer enhanced capacity, higher data rates and wireless access to all, driven by highly advanced applications and services.

# Big Multimedia Data

The aim of this research is to handle the masses of usergenerated and professionally created content uploaded continuously through social networks, video sites, blogs and more, in order to consolidate the data and facilitate decision making processes for different applications.

### Smart Living

Smart Living includes several cognitive systems working together in harmony to provide a healthy, safe and convenient life in smart environments. Smart living involves deploying sensors to collect information and intelligence in order to deliver a desired reaction.

## Cyber Security

Whether you are an individual, a professional, an organisation or a business, cyber security is an essential part of operating safely online. Our cyber security research is committed to investigating better solutions to the core issues of cyber security, including confidentiality, integrity, authenticity and nonrepudiation.

# Taught programmes

# Digital Engineering and Innovation Management

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in an appropriate engineering, science or technological discipline. See full details online.

Band 2 (see page 82 for details).

This programme is aimed at providing an opportunity to advance your knowledge and widen skills through guidance and interaction with industry professionals and academic staff from the current, cutting edge product and manufacturing fields of Digital Engineering and Innovation Management. This course is for engineering, science, technology or computing graduates who wish to develop a career in the automotive or related industries, by further specialising their existing knowledge and skills. The programme is also beneficial for those who wish to update their skills and gain a refreshing outlook on digital engineering and management, following time spent working in industry.

Thus, this programme will provide the opportunity to enhance career prospects in a range of advanced technology and engineering related disciplines. Industry led seminars will transfer first-hand knowledge from leaders in the field. Each module has been designed to develop a strong foundation of next generation engineering and will provide students with the skills required to undertake design and manufacturing maintenance and testing of high-value products.

Core modules include: Internet of Things and Applications; Principles of Entrepreneurship and Innovation; Collaborative Project; Engineering Simulation and Gaming Technologies; Manufacturing Systems Integration; Digital Design Tools to Support Zero Prototyping; and Dissertation.

Optional modules include: Design Thinking; Foresight and Strategy; Advanced 3D User Environments; Internet and Communication Networks; Introduction to Programming and MatLab.

Graduates of this programme will be well qualified for a range of managerial positions in design and manufacturing, as well as in advanced engineering and testing in the automotive and technologies industries.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

# Cyber Security and Big Data

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above), or an equivalent overseas qualification recognised by Loughborough University in electronics, computing, physics, mathematics or a related discipline. See full details online.

#### Fees

Band 2 (see page 82 for details).

This programme is aimed at providing students with the very latest Cyber Security principles, practices, tools and techniques through analysing and evaluating practical application problems in Cyber Security and the data industry and responding to important challenges the world is facing.

After completing this programme, you will have a comprehensive understanding of the challenges in Cyber Security faced by industry and society, and have the necessary skills to address those challenges in the most effective way. The programme is designed to build your knowledge and develop expertise in network security, cryptography and big data analytics through actionbased learning, analysis and evaluation of application problems. An essential element of the programme is to develop employment skills that are essential to the Cyber Security and data industries or related businesses, e-commerce, and governmental organisations.

Core modules include: Collaborative Project; Network Security; Applied Cryptography; Mobile Networks and Clouds: and Dissertation.

Optional modules include: Fundamentals of Multimedia Signals; Media Processing and Coding; Advanced 3D User Environments; Internet and Communication Networks; Internet of Things and Applications; Introduction to Programming and MatLab.

Second modules include: Design Thinking, Principles of Entrepreneurship and Innovation, The Key Topics in Media and Creative Industries, Sport Media and Marketing, and Business Model Generation.

Graduates from this programme will be in a very strong position to take on digital technology posts in a wide range of sectors, including Internet and cloud based businesses, finance firms, governmental organisations, consultancy companies operating in information, communication and network security, as well as those sectors dealing with massive personal data, such as health and wellbeing, where users' privacy and data security needs safeguarding.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

# Digital Creative Media

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above), or an equivalent overseas qualification recognised by Loughborough University in electronics, computing, physics, mathematics or a related discipline. See full details online.

Band 2 (see page 82 for details).

This programme is aimed at building your knowledge and developing expertise in a range of digital creative media topics, so as to be able to help understand, design and develop creative media applications which are growing in popularity including smart phone applications. User interaction techniques with human perception and quality of users' experience assessment methods are also included in the programme. Specific modules dedicated to gaming technologies, 3D media processing and users' perception evaluation, creative media context and practices are taught by the leading experts in the area. You will also benefit from experience in 3D creative media and studio environments first-hand, all of which will provide a unique opportunity to engage with advanced research motivated problems in the exciting topics related to digital creative media.

Core modules include: Fundamentals of Multimedia Signals; Advanced 3D User Environments; Media and Creative Industries: Context and Practices; Collaborative Project; and Dissertation.

Optional modules include: Creative Industries in a Global Perspective; Gaming Technologies and Systems; Media Processing and Coding; Content and Network Security; Internet of Things and Applications; Media Cloud Applications and Services; Introduction to Programming and MatLab.

Second subject modules include: Design Thinking, Principles of Entrepreneurship and Innovation, The Key Topics in Media and Creative Industries, Sport Media and Marketing and Business Module Generation.

Graduating from this programme will provide students with job opportunities in media technologies and creative industries (e.g., studios, film and music makers), broadcasters as well as communication industries and service providers. Graduates will also have the knowledge required to enter a wide research field related to creative media including their design and applications.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

# Internet Technologies with **Business Management**

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above), or an equivalent overseas qualification recognised by Loughborough University in electronics, computing, physics, mathematics or a related discipline. See full details online.

Band 2 (see page 82 for details).

This programme is aimed at providing knowledge and expertise in Internet technologies with relevant business management aspects for not only providing and managing the usual internet service businesses, but also for generating new internet enterprise opportunities. The programme is designed in such a way that the technological expertise is provided with the latest advancement in internet technologies through researchinformed teaching, whilst the business management knowledge is provided through advanced business analysis and related case studies. This programme will equip you with the necessary knowledge and skills to further your career in either technology development fields or technology management with possible new business management opportunities.

The programme is most desirable for technologists with business aspirations as well as business entrepreneurs for the design of future Internet architectures, systems, services, business models and entrepreneurship in the Internet-connected world.

Core modules include: Internet and Communication Networks; Internet of Things and Applications; Innovation Management; Collaborative Project; and Dissertation.

Optional modules: Entrepreneurship; Understanding Business Failure; Strategy and Planning; Intellectual Property.

Optional modules from the Institute for Digital Technologies: Fundamentals of Multimedia Signals; Media Processing and Coding; Mobile Broadband and Wireless Networks; Media Applications Design and Quality of Experience; Advanced 3D User Environments; Content and Network Security; Introduction to Programming and MatLab; Cloud Technologies and Systems; Media Cloud Applications and Services.

Taking this programme will equip students with key technologies and skills on how to combine Internet technologies to create services with viable business management. Graduates are likely to develop their own start-ups by applying their strong technological background and entrepreneurial knowledge. Others may join new SMEs or work at established Internet technology and telecommunication companies with accelerated career development prospects.

For more details on studying part-time, please see page 18.

# Mobile Communication Systems

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above), or an equivalent overseas qualification recognised by Loughborough University in electronics, computing, physics, mathematics or a related discipline. See full details online.

Band 2 (see page 82 for details).

This programme is aimed at providing knowledge and expertise in the latest mobile and wireless communications technologies driving the evolution of mobile Internet. The demand for low-latency, high-speed mobile data access is increasing, with the use of smart phones and bandwidth-intensive wireless multimedia applications.

This exciting programme has been designed to uncover these key areas and provide advanced knowledge of broadband, mobile, and wireless communication networks, as well as discuss future internet and related application areas.

Core modules include: Mobile Broadband and Wireless Networks; Internet and Communication Networks; Internet of Things and Applications; Content and Network Security; Collaborative project; and Dissertation.

Optional modules include: Advanced 3D User Environments; Media Processing and Coding; Media Applications Design and Quality of Experience; Cloud Technologies and Systems; Media Cloud Applications and Services; Introduction to Programming and MatLab.

Second subject modules include: Design Thinking, Principles of Entrepreneurship and Innovation, The Key Topics in Media and Creative Industries, Sport Media and Marketing and Business Model Generation.

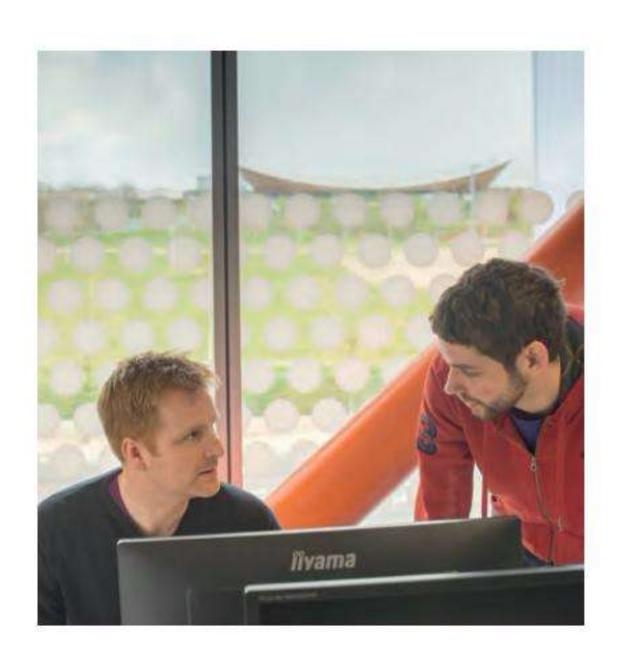
As the Internet is part of our everyday lives, providing us with the means for many of our personal and business-related activities, choosing this programme will provide a great opportunity to gain the essential knowledge and skill set to be placed in the telecommunications, Internet and mobile communication technologies industry, as well as research, development and academic positions.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

"I chose my programme because I want to discover the latest developments in the internet and technical data sector. Having knowledge that is at the forefront of my discipline will make me highly employable."

Jasjoot Current MSc student, Institute for Digital Technologies





# Programmes

Research opportunities	p215
Entrepreneurship, Finance and Innovation	p216
Entrepreneurship and Innovation Management	p216
Managing Innovation in Creative Organisations	p217



lborolondon.ac.uk/ pg2017/enterprise/ about



# Glendonbrook Institute for Enterprise Development



# Why choose Enterprise Development at Loughborough University London?

The Glendonbrook Institute for Enterprise Development offers an exciting suite of programmes to enable individuals to develop an idea into a success story, and transform a passion into a career.

The Institute is committed to delivering challenging, career-enhancing programmes that look to offer real value to individuals and organisations across the globe. The Institute combines expert teaching and research support alongside an exciting series of master classes and public lectures from international business leaders across the world.

### Career prospects

Entrepreneurial behaviour is a key competency required by a growing number of employers, in order to enhance the innovative success of a firm. Our programmes have been designed with this crucial concept in mind, to provide you with a robust understanding of business and

the innovation process, along with the skills required to take action. Whether you are a launching or supporting a new business, concept or idea, the Glendonbrook Institute for Enterprise Development will ensure that you are ready to succeed in today's marketplace.

#### Our research

You will have the opportunity to work with top researchers and industry leaders, and gain first-hand experience of real-life problem solving. Presentation of research findings at key national and international conferences will be an important part of your training.

You will be actively encouraged to engage with research communities across the globe and you will become part of a talented research community across Loughborough University's two campuses. Our academics are actively involved in business support in a variety of industry sectors and have links with innovative organisations who work with us on a variety of research projects based on and off the campus.





# Research opportunities

PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent.

Cutting edge research is at the heart of the Glendonbrook Institute for Enterprise Development and we welcome research proposals from interested students wishing to undertake PhD programmes.

# Supporting you

Research students within the Glendonbrook Institute for Enterprise Development are provided with:

- · supervisors who, together with the Director of Research Degree Programmes, provide academic and pastoral support
- 24-hour access to a dedicated research space
- hot desks
- meeting rooms
- individual study space
- · kitchen and dining area
- · free photocopying
- · inter-library loan funding

Research students are expected to attend appropriate training and departmental seminars. You will also be required to present at least one paper at a departmental seminar.

#### How to apply

Applications for research should indicate the institute within which the applicant would like to study and preferably the member(s) of staff whose research area is of most interest. A brief research proposal should be included with your application.

Contact: Professor Wilfred Dolfsma, Director of the Glendonbrook Institute for Enterprise Development - w.a.dolfsma@lboro.ac.uk, or to apply direct, please follow the link lborolondon.ac.uk/phdapply

# Our areas of research

Research plays a key role in understanding business success, by providing individuals and businesses with insights and resources to transform an innovative idea into a successful product or service, making new or existing enterprises more successful.

Our research focuses on harnessing the innovative strategy of enterprises resulting in more and more successful entrepreneurial behaviour.

Specific themes include:

- Collaboration between organisations to create innovation from a social network perspective
- Adoption of technological innovation by small firms
- Entrepreneurial creativity and imagination
- Entrepreneurship and family firms
- · Management buy-outs in family owned companies
- Digital enterprise
- Online entrepreneurial activity
- Gender intersectionality and entrepreneurship

#### Taught programmes

#### Entrepreneurship, Finance and Innovation

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2, 55% or above) or equivalent overseas qualification. See full details online.

#### Fees

Band 3 (see page 82 for details).

This programme analyses the entrepreneur, the innovation process and the role of financial support when creating and sustaining new entrepreneurial organisations and businesses, supporting growth and affecting innovation. This programme gives you the opportunity to explore and reflect on the skills needed for success and the role of old and new financing models in business.

This programme provides you with a robust understanding of the acquisition of funding, financial management skills that support and sustain the innovation process, along with the skills required to take action, you will be well placed to succeed in today's marketplace.

Core modules include: Innovation Management; Funding; Entrepreneurship; Strategy and Planning; Small Business Finance; Governance for Start-up Companies; Collaborative Project; and Dissertation.

Second subject modules include: Design Thinking (Managing Design and Innovation Process); Introduction to Mobile Internet and Media Clouds; The Key Topics in Media and Creative Industries; Sport Media and Marketing and Business Module Generation.

As well as the ability to set up and understand the finance models for their own venture, graduates of this programme will also have the skills to progress into large blue chip companies and work in finance management, developing new products, markets and customer segments.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

#### Entrepreneurship and Innovation Management

MSc 1 year full-time, up to 4 years part-time

#### Entry requirements

An honours degree (2:2, 55% or above) or equivalent overseas qualification. See full details online.

#### Fees

Band 3 (see page 82 for details).

This programme analyses the entrepreneur and the innovation process, giving you the opportunity to explore and reflect on the skills needed for success.

This programme provides you with in-depth teaching of subjects that are often only briefly mentioned in traditional business programmes - intellectual property, sources of funding for small business and business failure will all be studied as complete modules.

Entrepreneurial behaviour is a key competency required by a growing number of employers. As this programme provides you with a robust understanding of business and the innovation process, along with the skills required to take action, you will be well placed to succeed in today's marketplace.

Core modules include: Innovation Management; Funding; Entrepreneurship; Strategy and Planning; Intellectual Property; Understanding Business Failure; Collaborative Project; and Dissertation.

Second subject modules include: Design Thinking (Managing Design and Innovation Process); Introduction to Mobile Internet and Media Clouds; The Key Topics in Media and Creative Industries; Sport Media and Marketing and Business Module Generation.

As well as the ability to set up their own venture, graduates of this programme will also have the skills to progress into large blue chip companies and work in R&D management, developing new products, markets and customer segments.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

#### Managing Innovation in Creative Organisations

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification. See full details online.

#### Fees

Band 3 (see page 82 for details).

This programme builds upon the internationally recognised profiles of the Loughborough Design School and the School of Business and Economics. The combined expertise of academic staff from these two schools offers a unique experience in London to develop your skills and knowledge.

You will study entrepreneurship in the context of both academic theory and self-reflection to assess whether you possess the qualities required to take action and make an idea happen. You will also establish the areas in which you need to develop in order to demonstrate entrepreneurial behaviour in all aspects of your work. Intellectual property is of vital importance to the entrepreneur in creative industries, and we have devoted a module to this subject.

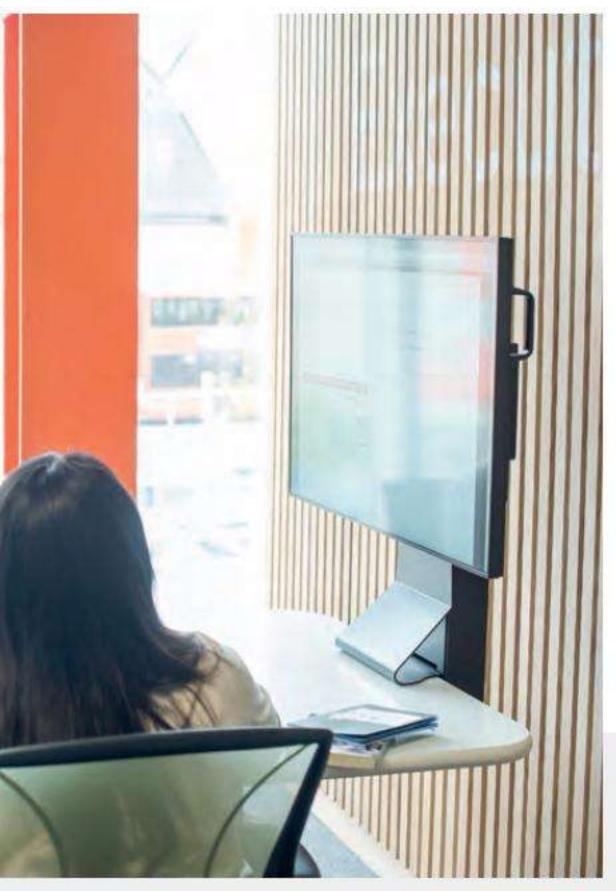
Core modules include: Innovation Management; Foresight and Strategy; Entrepreneurship; Strategy and Planning; Intellectual Property; Understanding Business Failure; Collaborative Project; Design Thinking; and Dissertation.

Entrepreneurial behaviour is a key competency required by a growing number of employers and this programme will prepare you whether you wish to pursue a career in the creative industries, in an innovative SME, an established organisation or self-employment.

A robust understanding of business and the innovation process coupled with the skills required to take action, will be fundamental to your success in the current marketplace.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.





"When I heard Loughborough University was opening a postgraduate campus in London and was offering courses in business and entrepreneurship, I knew I wanted to study here."

#### **Jamie**

Current student, MSc Entrepreneurship and Innovation Management





## PROFESSOR JAMES SKINNER

Associate Dean for Enterprise and Director, Institute for Sport Business

"The Institute for Sport Business at Loughborough University London aims to consolidate Loughborough's position as a world-class institution for teaching and research in the business of sport."

### Institute for Sport Business



lborolondon.ac.uk/ pg2017/ sportbusiness/ about

## Why choose Sport Business at Loughborough University London?

The UK operates one of the most dynamic and forward-thinking sports markets in the world. Supporting over 450,000 jobs and generating £20bn for the economy over the last five years, the capital is becoming the new hub for sport business, as experts suggest more money will be invested into the sport industry over the coming years.

Following the success of London's 2012 Olympic Games, Loughborough University London is ideally located as a base for dynamic sport business professionals and innovative sport leaders to discover the skills and knowledge required to capitalise on the nation's growth and raise the global profile of the UK's sport industry to a historic level.

#### Career prospects

Studying with the UK's premier university for sport will allow you to gain genuine industry awareness and understanding from some of the world's leading figures in sport, business and leadership.

The Institute for Sport Business has close working relationships with a range of influential companies and organisations, such as World Rugby, Sport Industry Group, BT Sport, Speedo, London Sport, Global Sports Jobs, Foundation of Leadership through Sport, Populous, London Legacy Development Corporation, AECOM, London & Partners and West Ham FC.

#### Our research

The Institute for Sport Business is an interdisciplinary, research-led team, incorporating internationally recognised researchers interested in the business of sport. The Institute seeks to examine the rapid growth in the business of sport and its impact, in an era of significant social, economic and technological change.

The major research problem that the Institute is seeking to address is what impact the hypercommodification of sport has on society. In addressing this problem, the Institute maintains a focus on three key areas: leadership and change, innovation and enterprise, and social responsibility.

#### **Programmes**

Research opportunities	p221
Sport Business and Innovation	p223
Sport Business and Leadership	p223
Sports Digital and Media Technologies	p224

......



#### Research opportunities

PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent.

The Institute for Sport Business strongly believes in the importance of student engagement across local, national and international communities of learning. In order to promote these values, the Institute will dedicate efforts to support all PhD students by encouraging publishing and presenting at local, national and international conferences, both throughout and at the completion of their research.

#### Supporting you

Research students within the Institute for Sport Business are provided with:

- supervisors who, together with the Director of Research Degree Programmes, provide academic and pastoral support
- 24-hour access to a dedicated research space
- hot desks
- meeting rooms
- individual study space
- · kitchen and dining area
- · free photocopying
- · inter-library loan funding

Research students are expected to attend appropriate training and departmental seminars. You will also be required to present at least one paper at a departmental seminar.

#### How to apply

Applications for research should indicate the institute within which the applicant would like to study and preferably the member(s) of staff whose research area is of most interest. A brief research proposal should be included with your application.

Contact: Professor James Skinner, Director of the Institute for Sport Business - j.l.skinner@lboro.ac.uk, or to apply direct, please follow the link lborolondon.ac.uk/phdapply

#### Our areas of research

The Institute for Sport Business is an interdisciplinary research group incorporating internationally recognised researchers interested in the business of sport. The Institute seeks to examine of rapid growth in the business of sport and its accompanying impacts in an era of significant social, economic and technological change.

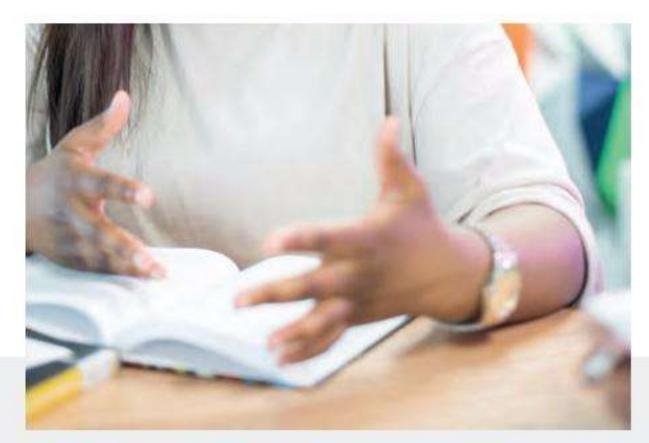
#### Institute for Sport Business

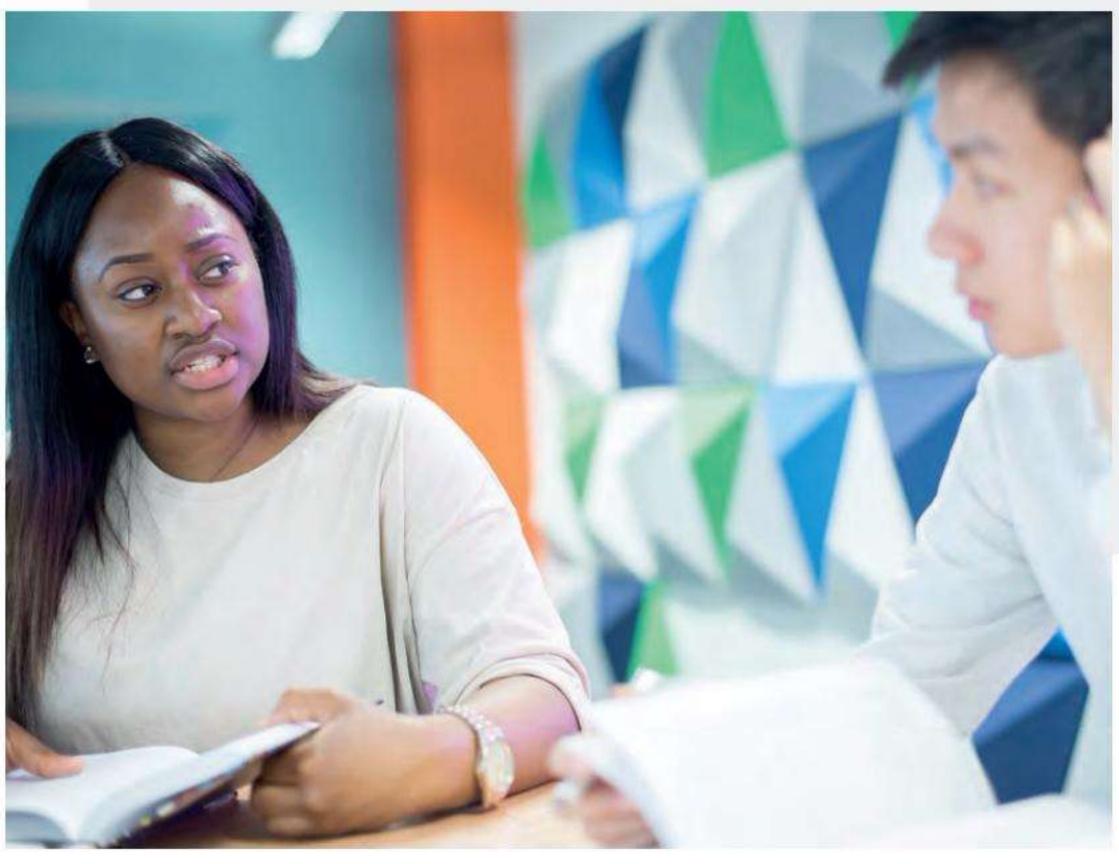
The Institute for Sport Business offers an engaging, and intellectually stimulating environment for research students interested in the following topics:

- Sport Integrity and Governance
- Leadership, Innovation and Culture in Sport
- New Sport Digital and Media Technologies
- Sport for Development
- Women and Leadership
- · Race, Ethnicity and Leadership
- · Servant Leadership and Sport
- · Leadership, Culture and Change in Sport
- Organisational Behaviour in Sport
- Sport Corruption
- Doping in Sport
- Sport Policy
- Sport Governance
- · Sport and Social Capital
- Sport for Development
- Sport Digital Media Technologies
- Sport Media Analytics
- Sport and Social Media
- Creating Innovative Cultures in Sport
- Regulation and Sport

"Our PhD students undertake theoretically informed research that bridges the gap between practice and policy."

Dr. Steve Swanson Programme Director for Sport Business and Leadership





#### Taught programmes

#### Sport Business and Innovation

MSc 1 year full-time, up to 4 years part-time

#### Entry requirements

An honours degree (2:1 or above) or equivalent overseas qualification from a wide range of subjects/disciplines. See full details online.

#### Fees

Band 2 (see page 82 for details).

This programme focuses on the key principles of innovation and enterprise which are cornerstones to the world of sport business. Acquiring these essential skills will enable you to recognise the link between theory and practice and improve your management skills. This programme provides you with opportunities to develop innovative solutions to real problems that are currently facing sport businesses today, allowing you to gain a competitive advantage when applying for positions in the sector.

Students will examine the rapid growth in the business of sport and its accompanying impacts in an era of significant social, economic and technological change. Through this examination you will be able to identify industry trends, understand customer needs, and establish and evaluate the organisational practices required to remain competitive in a global sport marketplace.

Core modules include: Sports Markets and Industries; Managing Service Quality in the Sports Industries; Sports Management Theory and Practice; Innovation Management; Collaborative Project; Strategy and Planning; and Dissertation.

Optional modules include: Entrepreneurship; Understanding Business Failure; Funding; Leadership Models and Practices; Digital Technologies and Sport: Evolution and Application; New Media and Analytics for Sport Business; Analysing the Construction of Leadership for a Sport Context.

An MSc in Sport Business and Innovation prepares you for career paths in the fields of sport, business and business innovation. Opportunities may include careers in commercial sporting organisations, international governing bodies of sport, the government and the notfor-profit sector. You will also acquire the skills required to establish your own sport enterprise if desired.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

#### Sport Business and Leadership

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification from a wide range of subjects/disciplines. See full details online.

#### Fees

Band 2 (see page 82 for details).

This programme is designed for individuals who wish to improve their impact and effectiveness in leading and managing individuals, teams, and organisations within the sport business industry. Students will immerse themselves in the business of sport, enhancing their leadership capacity and business acumen in relation to the complex and rapidly emerging global sport business environment.

Students will enhance their understanding of leadership and business through on-location site visits at top sport organisations and other complementary leadership environments. In this format students have the opportunity to immerse themselves in various different management contexts and gain first-hand perspective from top leaders in their field.

Core modules include: Collaborative Project; Leadership Models and Practices: Applications to a Sport Context; Sustainability and Leadership for Sport Organisations; Analysing the Construction of Leadership for a Sport Context; Leadership Retreat; Critically Reflexive Leadership and Sport Management Practice; and Dissertation.

Optional modules include: Sports Management Theory and Practice; Strategy and Planning; Intellectual Property; Digital Technologies and Sport: Evolution and Application.

Second subject areas include: Design Thinking; Introduction to Mobile Internet and Media Clouds; Principles of Entrepreneurship and Innovation; The Key Topics in Media and Creative Industries; Sport Media and Marketing; Business Module Generation.

This programme prepares students for careers in middle and senior leadership positions in government, commercial, not-for-profit and international sporting organisations.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

#### Sports Digital and Media Technologies

MSc 1 year full-time, up to 4 years part-time

#### Entry requirements

An honours degree (2:1 or above) or equivalent overseas qualification from a wide range of subjects/disciplines. In exceptional circumstances an applicant may be admitted to the degree who does not possess the requirements mentioned, but who has substantial relevant work experience. See full details online.

#### Fees

Band 2 (see page 82 for details).

You will develop a critical understanding of how technology is impacting on sport, in particular the growing sport digital and media sectors. Sport is embracing digital technologies to improve performance and shake-up tired and redundant business practices. The sports media provides valuable content and audiences for broadcasters, companies and sponsors. Thus understanding the importance of how technology is shaping the business of sport is essential for future sport business professionals and entrepreneurs. New technological applications in the business of sport requires graduates with new knowledge and skills to navigate this rapidly changing sector.

Core modules include: Collaborative Project; Advanced 3D User Environments; Introduction to Mobile Internet and Media Clouds; Media Audiences, Users and Markets; Dissertation; Digital Technologies and Sport: Evolution and Application, New Media and Analytics for Sport Business.

Optional modules include: Sports Markets and Industries; Sports Management Theory and Practice; Sustainability and Leadership for Sport Organisations; Analysing the Construction of Leadership for a Sport Context.

This programme will provide you with knowledge of the technologies driving sport digital and media development, and other related activities. You will have the opportunity to develop advanced networking skills and will work in collaboration with others in order to compete in today's global sport business environment.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

"This programme has offered a different and interesting perspective into the world of business and sport. It's added an extra dimension, which has complemented my undergraduate studies perfectly."

#### Phil

Current student, MSc Sport Business and Innovation



"Our programmes give students a professional understanding of how the media and creative industries operate, along with critical insights into the broader economic, social and political issues facing this rapidly developing sector."

#### PROFESSOR TOBY MILLER

Director, Institute for Media and Creative Industries



lborolondon.ac.uk/ pg2017/media/ about

# Institute for Media and Creative Industries



2ND IN THE UK FOR COMMUNICATION AND MEDIA STUDIES COMPLETE UNIVERSITY GUIDE 2017



RANKED IN THE WORLD TOP 50 FOR COMMUNICATION AND MEDIA STUDIES QS WORLD RANKINGS 2016

## Why choose Media and Creative Industries at Loughborough University London?

The Institute for Media and Creative Industries focuses on research and teaching about the principal media and creative industries: music, the press, radio, film, television, electronic games, literature, museums, drama, dance, art, tourism, journalism, and the internet. We work with the arts, social sciences, and humanities to ascertain fresh and exciting trends in the production, distribution, meaning, and reception of the media.

Loughborough University London forms part of the city's hub for the creative, new media and digital industries, and is home to more artists, creators and makers than anywhere else in Europe.

#### Career prospects

Based in the former Olympic International Broadcast Centre, our neighbours include BT Sport broadcasting company, owners of Europe's largest sport TV studios. Along with providing a strong theoretical foundation, these connections mean that the Institute can also offer unique opportunities for students to gain industry exposure and insight into the practical aspects of the media industry.

#### Our research

Research within the Institute for Media and Creative Industries underpins our ability to deliver a teaching experience at the forefront of our discipline. The Institute focuses on four key research areas: infrastructure, labour, output and audiences. The Institute for Media and Creative Industries attracts research students from a range of disciplines across the globe, creating a multinational, interdisciplinary research community.

#### Programmes

Research opportunities

Media and Creative Industries p228

p227



lborolondon.ac.uk/ pg2017/media

#### Research opportunities

PhD 3 years full-time; 5 years part-time

MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent.

The housing of our five institutes and one academy within a single building provides a unique opportunity to promote inter and multidisciplinary research. Organisations from London, the UK and around the world will work in close partnership with the Institute for Media and Creative Industries, allowing transfer of new knowledge to all sectors.

#### Supporting you

Research students within the Institute for Media and Creative Industries are provided with:

- supervisors who, together with the Director of Research Degree Programmes, provide academic and pastoral support
- 24-hour access to a dedicated research space
- hot desks
- meeting rooms
- individual study space
- kitchen and dining area
- free photocopying
- · inter-library loan funding

Research students are expected to attend appropriate training and departmental seminars. You will also be required to present at least one paper at a departmental seminar.

#### How to apply

Applications for research should indicate the institute within which the applicant would like to study and preferably the member(s) of staff whose research area is of most interest. A brief research proposal should be included with your application.

Contact: Professor Toby Miller, Director of the Institute for Media and Creative Industries b.t.a.miller@lboro.ac.uk, or to apply direct, please follow the link lborolondon.ac.uk/phdapply

#### Our areas of research

The Institute for Media and Creative Industries has four key research areas:

#### Infrastructure

We will analyse technological innovation, regulation, labour, meaning, and ownership, utilising ethnographic, political-economic, environmental, activist, and publicpolicy research.

#### Labour

We will engage the legal, economic, training, environmental, and organisational context of work, drawing on institutional and ethnographic methods to engage both structural and experiential determinations.

#### Output

We will teach students cultural production and address both content analysis and textual analysis, combining statistical and hermeneutic methods to establish patterns of meaning.

#### Audiences

We will address ratings, uses-and-gratifications, effects, active-audience, ethnographic, and psychoanalytic traditions, combining quantitative and qualitative measures to establish the audience's composition and conduct in the wake of cultural consumption.

#### Taught programmes

#### Media and Creative Industries

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:1 or above) or equivalent overseas qualification in a social sciences, humanities or associated subject. See full details online.

#### Fees

Band 1 (see page 82 for details).

This programme examines the ways in which individuals and organisations consume and use media to fashion identities and forge relationships. You will develop a detailed understanding of media and cultural theories, history, cultural policy, gender and social movements, in one of the world's principal cities for international communications and media.

You will learn from a passionate faculty of leading professionals and academics, offering a vibrant insight into the media and creative industries, through the sharing of specialised knowledge in information science, law, anthropology, political economy, political and social theory, ethnic studies and more.

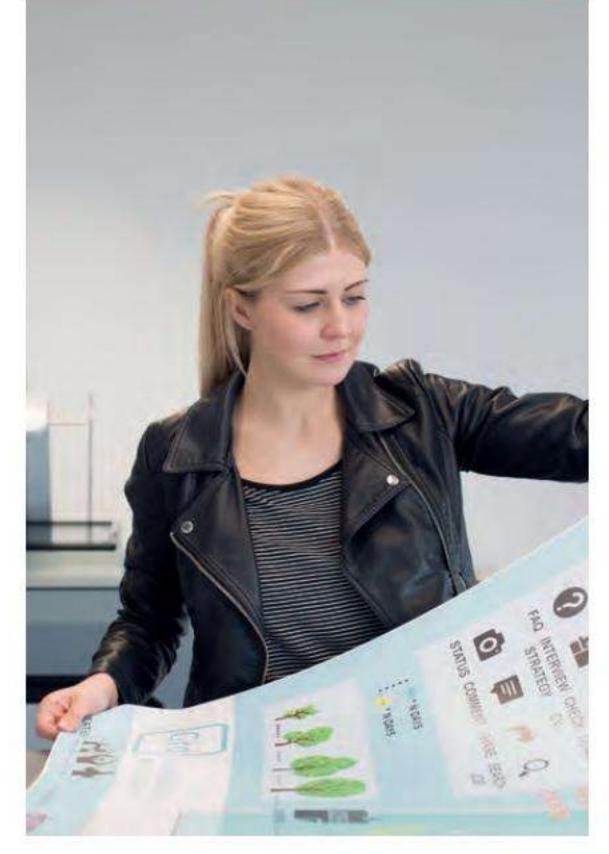
Core modules include: Media and Creative Industries: Context and Practices; Media and Creative Industries: Critical Perspectives; Researching Media Industries; Collaborative Project; Dissertation.

Optional modules include: Creative Industries in an International Perspective; Tourism and Heritage Industries; Media Audiences; Users and Markets; Cultural Industries and Creative Labour/Cultural Work; Global Cities, Media and Communication; The History of Media Technology; Media and Social Movements; Social Identities and Digital Media.

Second subject modules include: Sport Media and Marketing Design Thinking (Managing Design and Innovation Process).

Our graduates are highly-qualified to work in a variety of media and communication roles within public, private or third-sector companies, ranging from sport, gaming and technology, to press, policy and communityled initiatives.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.







"The Academy offers programmes for those aspiring to work directly in the diplomatic sector or for those looking to gain a full understanding of international relations within governmental, non-governmental, economic and cultural contexts."

#### PROFESSOR NABIL AYAD

Director, The Academy of Diplomacy and International Governance

# The Academy of Diplomacy and International Governance



lborolondon.ac.uk/ pg2017/diplomacy/ about

## Why choose Diplomacy and International Governance at Loughborough University London?

The Academy of Diplomacy and International Governance distinguishes itself by responding to the professional needs of governments, organisations and multinational corporations.

The Academy offers high-quality masters programmes taught by outstanding teaching staff and professionals that are well connected within their field.

The campus is ideally located within one of the world's major capital cities, meaning students are within easy reach of all principal diplomatic missions, as well as major government departments and multinational media and financial headquarters.

#### Inspiring teaching

Students within the Academy will benefit from the guidance and tuition of an academic team with an unrivalled track record in the teaching of Diplomacy and other related disciplines. Students will receive training and support to develop a professional diplomatic career, or enter a regional, international and multinational organisation or governing body.

#### Career prospects

Under the tuition and guidance of Professor Nabil Ayad, students have continued into senior positions as Ministers and Ambassadors for their home countries.

Other graduates are currently employed within leading international and regional organisations such as the United Nations, NATO, the European Union and the League of Arab States. Graduates have also entered multinational defence organisations and global security operations, as well as various positions within the media.

#### Our research

The Academy of Diplomacy and International Governance adopts an interdisciplinary approach in its research areas. These areas deal with national and global issues and their relevance to diplomatic practice, international security, trade and finance and communication, such as the impact of information technology on diplomatic missions and other government departments; emerging patterns of diplomacy, regional integration, conflict resolution and crisis management; the role of religion in international relations; environmental diplomacy; the role of the media and NGOs in the formulation of foreign policy as well as terrorism and violent non-state actors.

#### **Programmes**

Research opportunities p231

Diplomacy, Statecraft and p232
Foreign Policy

Diplomacy, Business and Trade p232

Security, Peace-Building p233
and Diplomacy

Diplomacy and the Digital State p233



#### Research opportunities

PhD 3 years full-time; 5 years part-time MPhil 2 years full-time; 3 years part-time

#### **Entry requirements**

A 2:1 honours degree or its equivalent.

Research is at the heart of the Academy of Diplomacy and International Governance. Active research underpins our ability to deliver an outstanding teaching experience at the forefront of our discipline. Students will have the opportunity to work with leading researchers and practitioners of diplomacy and related disciplines in order to gain first-hand experience of real-life problem solving.

#### Supporting you

Research students within The Academy of Diplomacy and International Governance are provided with:

- · supervisors who, together with the Director of Research Degree Programmes, provide academic and pastoral support
- 24-hour access to a dedicated research space
- hot desks
- meeting rooms
- individual study space
- · kitchen and dining area
- · free photocopying
- · inter-library loan funding

Research students are expected to attend appropriate training and departmental seminars. You will also be required to present at least one paper at a departmental seminar.

#### How to apply

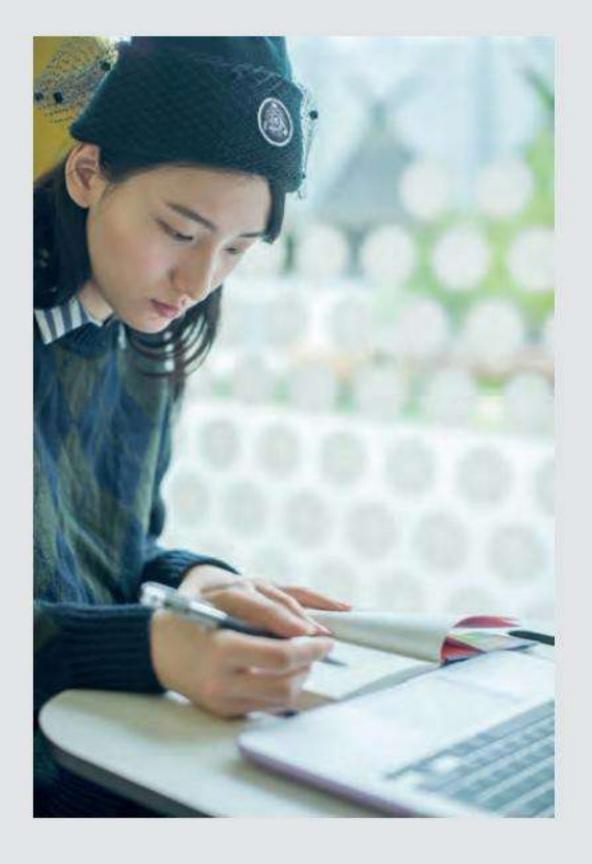
Applications for research should indicate the institute within which the applicant would like to study and preferably the member(s) of staff whose research area is of most interest. A brief research proposal should be included with your application.

Contact: Professor Nabil Ayad, Director of the Academy for Diplomacy and International Governance n.ayad@lboro.ac.uk, or to apply direct, please follow the link lborolondon.ac.uk/phdapply

#### Our areas of research

The Academy of Diplomacy and International Governance adopts an interdisciplinary approach to its research areas, which include:

- Diplomatic History, Theory and Practice
- Science Diplomacy
- Statecraft
- Security Studies
- Peace Studies
- Economics, Business and Trade
- Gender Studies
- Foreign Policy
- Culture and Community Studies
- Human Capital Development
- Environmental Studies
- Image Projection and Reputation Management
- Identity and Discourse
- International and Regional Organisations
- The Digital State



#### Taught programmes

#### Diplomacy, Statecraft and Foreign Policy

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in a social sciences, humanities or associated subject. See full details online.

#### Fees

Band (Diplomacy) (see page 82 for details).

This programme explores the link between theory and practice, providing training in the conduct of international relations and applications of research appropriate for the study of diplomacy within the context of international governance.

You will learn in an environment tailor-made for the development of diplomatic skills in one of the world's greatest cities and home to 163 Embassies and High Commissions.

You will acquire a critical awareness of the New World Order and how this concept relates to current issues involved in the study of diplomacy. Through this teaching, you will understand how to learn from the past in order to successfully manage the challenges of the future.

Core modules include: Diplomacy: Policy, Practice and Procedures; Diplomatic Discourse; Foreign Policy Analysis; International Protocol and Etiquette; and Dissertation.

Optional modules include: Economic Global Governance: The Politics and Practice of the European Union; Economic Diplomacy; Diplomacy and Religion; Cultural Projection and Perception.

Second subject modules include: Management Skills.

Graduates of this programme will be equipped with the advanced skills and expertise in order to pursue a career as a trained specialist in diplomacy, international and communication or another related field.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

#### Diplomacy, Business and Trade

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in a social sciences, humanities or associated subject. See full details online.

#### Fees

Band (Diplomacy) (see page 82 for details).

This programme provides an in-depth analysis of the practice and development of international business and trade.

You will discover the benefits and challenges of trading in the global marketplace, and will discover how to operate across multiple communities and markets, through new and old trade routes. You will develop your knowledge and widen your skills in globalisation and will be supported in acquiring a critical awareness of the current issues involved in the study of relations between governments, diplomacy, international business and trade.

Core modules include: Diplomacy: Policy, Practice and Procedures; International Business and Trade; Economic Global Governance; International Protocol and Etiquette; and Dissertation.

Optional modules include: The Politics and Practice of the European Union; Economic Diplomacy; Diplomatic Discourse; Cultural Projection and Perception; Diplomacy and Religion.

Second subject modules include: Management Skills.

This programme will prepare you for a career in business and trade, including the function and purpose of diplomacy in international business development.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

#### Security, Peace-Building and Diplomacy

MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above) or equivalent overseas qualification in a social sciences, humanities or associated subject. See full details online.

#### Fees

Band (Diplomacy) (see page 82 for details).

This programme explores the link between national and global security and the role of peace-building in developing multi-layered communities and nations.

You will benefit from specialist teaching and professional guidance on the relationship between diplomacy, international security and peace-building. You will uncover appropriate theories, concepts and methods associated with this work, while exploring the relationships between development and peace-building, civil-military relation, cyber security, global identity and security.

Core modules include: Diplomacy: Policy, Practice and Procedures; Peace-building; International Security; International Protocol and Etiquette; Dissertation.

Optional modules include: Economic Global Governance; The Politics and Practice of the European Union; Economic Diplomacy; Diplomatic Discourse; Cultural Projection and Perception.

Second subject: Management Skills.

This programme will equip you with the skills to pursue a career as a trained specialist in diplomacy, with particular reference to international security and peace-building.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

#### Diplomacy and the Digital State



MSc 1 year full-time, up to 4 years part-time

#### **Entry requirements**

An honours degree (2:2 or above), or an equivalent overseas qualification recognised by Loughborough University in electronics, computing, physics, mathematics or a related discipline. Consideration will be given to exceptional candidates from other disciplines. See full details online.

#### Fees

Band (Diplomacy) (see page 82 for details).

Students will be introduced to diplomacy, practice, procedures and dynamics as well as the relevance of emerging technologies on the effective functioning of the nation state, including the economy, public service and cyber security.

You will have the opportunity to examine digital technologies as a way of democratising diplomacy and government and the increased impact of such technologies on governments, the media, NGOs, non-state actors, and the citizenry.

You will have the opportunity to engage with the very latest Cyber Security principles, practices, tools, and techniques through practical application; analysing and evaluating problems and responding to challenges in real time.

Graduates from this programme will be in a very strong position to work for diplomatic missions, other government departments, multinational corporations, NGOs and security organisations.

Graduates will also have the opportunity to enhance their knowledge and career prospects further by undertaking an MRes or PhD programme.

For more details on studying part-time, please see page 18.

For up-to-date information about this new programme and its modules please visit lborolondon.ac.uk/pg2017/diplomacy







"The course provides hands-on, practical knowledge which I have found invaluable and essential to operating in a diplomatic environment."

#### Siobhan

Current student, MSc Diplomacy, Statecraft and Foreign Policy



# How to apply for your master's degree

You can apply for a master's degree at our Loughborough or Loughborough University London campus online via the University's Application Portal.

Please see your chosen programme listing for details of the entry requirements.

Your application must be supported by documentary evidence of entry qualifications, including English language, academic transcripts and references, which we recommend you upload as soon as you make your application. A decision about your application cannot be made until we receive your supporting documents.

#### English language requirements

Students are required to demonstrate that they have an appropriate level of English language. We accept qualifications from several countries, as well as tests such as IELTS.

For more details on the English language qualifications, and minimum scores accepted by the University, please visit: www.lboro.ac.uk/englishlang

For information on our pre-sessional English language courses please see page 28.

# How to apply for your PhD

There are a number of ways to apply for a PhD. You can apply for a specific vacancy by submitting an application, quoting the reference number of the project advertised, or, if you have a firm research idea you can submit your application to the University along with your research proposal.

We strongly recommend that you contact the relevant school or department, or your potential supervisor, in advance of submitting an application in order to discuss your ideas. Your research proposal should be approximately 500 words, including an outline of your research interests, your initial thoughts about the topic, references to previous work, and the method and general approach you wish to take. You should also indicate how this research will make an original contribution to knowledge. Some schools and departments require you to submit a more detailed proposal before they can make a final decision on your application. Please check in the relevant section of this prospectus to see if this applies to the school or department you are applying to.

If you do not have a developed proposal, you should give details of possible topics you have in mind. If you have already reached an agreement with your prospective school or department about a particular topic, or are applying for a specific vacancy, you need only provide brief details of that project on your application.





## Programme and general index

A		Business Analytics Consulting 106		<ul> <li>Internet Technologies with</li> </ul>		
Accommodation		Business Psychology 112		instruction to the contract of		
London	75-76			Construction	125	
Loughborough	51-52	C		Construction Managemer	nt 131	
Accounting	102	Campus		Construction Project	131	
Activism	181	London	61-64	[1]	***************************************	
Advanced Chemical Engineering	ng 116	Loughborough	35-38, 41-42	Corporate Finance	108	
with IT and Management		Careers and 19-21, 74		Creative Writing	96	
Advanced Computer Science	136	Entrepreneurship		Crime and Criminology	185	
Advanced Manufacturing	167	Catalysis	115, 119	40	93, 161, 181	
Engineering and Management		Ceramics	151	***************************************	86, 221, 231	
Advanced Physics	178	Chemical Engineering	115	Cyber Security	209	
Advanced Process Engineering	CONTRACTOR CONTRACT	See also:		Cyber Security and Big Da	ata 210	
Aerodynamics	89	<ul> <li>Analytical and Pharm Science</li> </ul>	naceutical			
Air Transport Management	128	Analytical Chemistry     Pharmaceutical Science and		D		
Analytical and Pharmaceutical	120			Design 94, 1	39-140, 165	
Science		Medicinal Chemistry		1'	77, 200, 203	
Analytical Chemistry	120	Child and Family	145, 185	204 - TOTALI SI SI SI TOTALI SI		
Anarchism	181	Citizenship 12, 181, 185 • Art and Design (Studio Pra		<sup>2</sup> ractice)		
Animation	93	Civil Engineering 125 • Design and Culture  • Design and Culture • Design Innovation				
Animation for Health and	95	<ul> <li>See also:         <ul> <li>Air Transport Management</li> <li>Built Environment: Energy</li></ul></li></ul>		gement		
Wellbeing				<ul> <li>Entrepreneurial Design</li> </ul>		
Apply, How to 2						
Art and Design (Studio Practic						
Arts	46					
Automotive Systems Engineering 90		<ul> <li>Infrastructure in Eme</li> <li>Low Carbon Building and Modelling</li> </ul>	4-33			
В		<ul> <li>Low Energy Building</li> </ul>	Services	Design and Culture	204	
Banking and Finance	109	<ul> <li>Water and Environmental Management</li> </ul>		Design Innovation	204	
Biomaterials	151			Design Innovation Manag		
Building and Built Environment See: Civil Engineering	nt 125	Water and Waste English Communications	ineering 165, 181, 185	Digital 140, 165, 2	-(	
Built Environment: Energy Demand Studies	132	See also:		Digital Communication Sy		
Business 101-102 See also:  • Business Analytics Consulting • Business Psychology		<ul> <li>Digital Communication Systems</li> <li>Global Political Communication</li> <li>Mobile Communications</li> <li>Mobile Communication Systems</li> </ul>		Digital Creative Media	211	
				Digital Engineering and Innovation Management	210	
		<ul> <li>Networked Commun</li> </ul>	ications	_ Digital Media and Society	187	
<ul> <li>Economics and Business Str</li> </ul>	ategy	Computer Science	135		200, 231	
International Business		See also:	C -:	Diplomacy and the Digital		
MBA, The Loughborough     Sport Business and Innovative		Advanced Computer Science     Internet Computing and		Diplomacy Rusiness and		

Internet Computing and

Network Security

Diplomacy, Business and Trade 232

Sport Business and Innovation

Sport Business and Leadership

Diplomacy, Statecraft and	232	Enterprise	215	Н		
Foreign Policy		Enterprise Through	73	Health 12, 115, 119	, 139	
Drawing 93		The Curriculum		151, 165, 185, 191, 209		
Dynamical Systems	155 Environment 12, 115, 125 139, 145, 227, 231			<ul> <li>Animation for Health and Wellbeing</li> <li>Ergonomics for Health and</li> </ul>		
E		Environmental Monitoring for Management	146			
Early-modern Culture	94	Ergonomics 11, 139	9-140	<ul> <li>Community Care</li> <li>Musculoskeletal Sport Science</li> </ul>	)Ce	
Economics	101-102	Ergonomics and Human Factors	141	and Health		
Economics and Business Strategy	110	Ergonomics in Health and Community Care	141	Human-Computer Systems	135	
Economics and Finance	109		, 200	Human Factors and Ergonomics for Patient Safety	141	
Economics and International Business	110	European Master's in Renewable Energy	170	Human Factors for Inclusive Design	141	
Electronic and Electrical	171	Exercise Physiology	192	Human Factors in Transport	141	
Engineering	*********	Exercise Filysiology	172		145	
Emergency Management 12, 102		-		Human Geography		
Employment Relations and HRM 111		F		Human Resource Management	an galaga.	
Energy 12, 115,	119, 125	Faith and Spirituality, Centre fo		Human Resource Management	111	
See also:	151, 166	Family, Your Loughborough	22			
Built Environment: Energy		Fees (see Student Finance)	orazione.			
Demand Studies  • Low Energy Building Services Engineering  • Renewable Energy Systems Technology  Engineering  89, 115, 125, 151 165-166, 177  See also: • Advanced Manufacturing Engineering and Management		Finance See also:	102	Industrial Design and Technology	142	
		Banking and Finance     Corporate Finance		Industrial Mathematical Modelling	157	
		<ul> <li>Economics and Finance</li> <li>Finance</li> </ul>		Information Management 101	, 102	
		Finance and Investment     Finance and Management		Information Management and Business Technology	105	
		<ul> <li>International Financial and</li> </ul>		Infrastructure 12, 125	, 227	
		Political Relations		Infrastructure in Emergencies	130	
Advanced Process Enginee		Mathematical Finance		Interactive Media	209	
<ul> <li>Automotive Systems Engin</li> </ul>	eering	Finance		International Business	102	
Chemical Engineering     Civil Engineering		Finance and Investment	108	See also:	nal	
<ul> <li>Civil Engineering</li> <li>Digital Engineering and</li> </ul>		Finance and Management	107	Economics and International		
Innovation Management		Financial Management	102	Business	1//	
<ul> <li>Electronic and Electrical</li> </ul>		Flight		International Financial and Political Relations	146	
Engineering Design		Formal Systems	135	International Management	104	
Mechanical Engineering		Functional Molecules	119	International Students	25	
<ul> <li>Sustainable Engineering</li> <li>Systems Engineering</li> </ul>		G		International Students Internet Computing and Network Security	136	
Engineering Design	167	Gender 93, 94, 181, 185, 215	, 231	***************************************	200	
English	96	en communicación de la com	, 156	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	, 200	
English Language 28, 29	, 55, 235	Global Media and Cultural	187	Internet Technologies with Business Management	211	
Entrepreneurial Design Management	205	Industries				
*************************************	205, 216	Global Political Communication	*1+******	L	20100000000000000000000000000000000000	
Entrepreneurship 200, Entrepreneurship and	216	Globalization and Cities	STANTANTON STANTANTON	Linear and Non-linear Waves	156	
Innovation Management	210	Graduate School, The	13	Literature 9	3, 94	
Entrepreneurship, Finance and Innovation	216	Graphic Design and Visualisatio				

London 32, 33, 61-72, 75-7	· · · · · · · · · · · · · · · · · · ·	227	Q	
Low Carbon Building Design 12	<ul> <li>See also:</li> <li>Digital Creative Media</li> </ul>	Quantum and Nano-engineering 177		
and Modelling  Low Carbon Vehicles 8	Digital Media and Society			
***************************************	Global Media and Cultural		R	
Low Energy Building Services 12 Engineering	<ul> <li>Media and Creative Industries</li> <li>Media and Cultural Analysis</li> </ul>		Renewable Energy Systems Technology	169
NA.	Sports Digital and Media		Research and Impact, Our	10
M	Technologies		Retailing	102
Management 101-102, 12 See also:	Media and Creative Industries	228		
Advanced Chemical Engineering	Media and Cultural Analysis	188	S	
with IT and Management	Mobile Communications	173	Safety 125, 13	39, 140
<ul> <li>Advanced Manufacturing</li> <li>Engineering and Management</li> </ul>	Mobile Communication Systems	212	Scholarships (see Student Fin	ance)
Air Transport Management     Construction Management	MRes 16, 18, 58, 82, 132, 199-		Security, Peace-building and Diplomacy	233
<ul> <li>Construction Project Management</li> </ul>	Musculoskeletal Sport Science and Health	196	Sociology 10	2, 185
<ul> <li>Design Innovation Management</li> <li>Digital Engineering and Innovation Management</li> </ul>			Sport London Loughborough	70-72 47-50
<ul> <li>Entrepreneurial Design Management</li> </ul>	Nano- and micro-materials 115,	151	Sport and Exercise	191
Entrepreneurship and Innovation	Nationalism	181	Sport and Exercise Nutrition	193
Management	Network Security 135,	209	Sport and Exercise Psychology	193
<ul> <li>Environmental Monitoring for Management</li> </ul>	Networked Communications	173	Sport Business 20	00, 221
Finance and Management	Nutrition	191	Sport Business and Innovation	223
Human Resource Management     International Management	See also:  • Sport and Exercise Nutrition		Sport Business and Leadership	p 223
<ul> <li>International Management</li> <li>Internet Technologies with</li> </ul>			Sport Management	195
Business Management	_		Sports Biomechanics	192
Management     Management	P		Sports Digital and Media	22/
<ul> <li>Managing Innovation in Creative Organisations</li> </ul>	Partial Differential Equations	155	Technologies	224
<ul> <li>Sport Management</li> </ul>	Pedagogy	161	Stochastic Analysis 15 Student Experience	55-156
Water and Environmental     Management	PGCE (see Mathematics with QTS, Physical Education with QTS)		London	65-80
Management 10	" Db	115	Loughborough	39-56
Managing Innovation in Creative	Pharmaceutical Science and	121	Student Finance	
Organisations 21	Medicinal Chemistry		London Loughborough	81-84 57-60
Manufacturing 12, 115, 14	Physical Education with QTS	195	Student Support	37 00
151, 165-16	Physical Geography	145	London	78-80
Marketing 10	사 전 병에 (지어 있었다.)	177	Loughborough	54-56
Marketing 10	See also:  • Advanced Physics		Students' Union	43, 78
Materials Science and 15 Technology	Physics of Materials	170	Sustainable Engineering Systems Engineering	168 170
Mathematical Cognition 16	Physics of Materials	AGENTERS CO.		
Mathematical Finance 15		181		
Mathematics with QTS 16	Polymer Science and Technology Psychology 102, 140, 185,			
MBA, The Loughborough 10	See also:	171		
Mechanical Engineering 16	Business Psychology			
	<ul> <li>Sport and Exercise Psychology</li> <li>Work Psychology</li> </ul>	934900000000		
	Publishing	94		

#### T

Teaching Excel	lence 17
Textiles	93
Theatre	92
Transport See also: • Air Transport	
Human Facto	rs in Transport
U	
User Experience	e Design 142

#### W

VV	
Water and Environmental	129, 130
Management	
Water and Waste Engineering	128, 129
Work Psychology	112

Loughborough University has taken care that this Prospectus is as accurate as possible at the time of going to press (July 2016). It is intended as a general guide to the courses and facilities available to students commencing a programme of postgraduate study or research in academic year 2017/18.

Please note that although we do not anticipate that there will be major changes to the information provided in the Prospectus, it is prepared a considerable time in advance and the University reserves the right to revise courses and their modules to ensure they remain current and up-to-date, to respond to external developments, and for a number of practical reasons. Before making an application please check our online prospectus to ensure you have the most up-to-date information. The University's Terms and Conditions of Study (www.lboro.ac.uk/study/terms-conditions) provide more details of the circumstances in which we may amend our courses both after application and whilst students are registered and how we will keep you informed of any changes.

Admission to Loughborough University is subject to the requirements that applicants accepting offers, and students on registration, agree to the Terms and Conditions referred to above.

Editorial: Joanne Workman, Kate Atkin and Lauren Dunning (Marketing) Contributor: Becky Daly (Marketing) Photography: Phil Rowley; Creative and Print Services Design: Phil Silk; Creative and Print Services Printed: A McLay and Company Limited

> Published: July 2016 © Loughborough University 2016

This publication is available in large print. Please contact +44 (0)1509 222190 and quote reference T64204 to request a copy.



# Follow us Keep up to date with all our latest news and events f @ G+

Loughborough University Leicestershire LE11 3TU

#### www.lboro.ac.uk

Loughborough University London The Broadcast Centre Queen Elizabeth Olympic Park London E15 2GZ

www.lborolondon.ac.uk

#### Postgraduate Taught Admissions:

T: +44 (0)1509 222496 E: pgtaught@lboro.ac.uk

#### Postgraduate Research Admissions:

T: +44 (0)1509 228292 E: pgresearch@lboro.ac.uk

