An Inspiring Department

We are regarded as one of the UK’s leading chemical engineering departments. We have over 350 undergraduate students who are supported by our highly experienced academic and technical staff and benefit from our impressive lab and computing facilities.

Our close links with industry are a real advantage. We have an established industrial placement scheme available to all of our undergraduates, which provides you with the opportunity to gain real paid work experience in a professional environment. This gives you a major boost to your employment prospects. Industrial experts actively contribute to our course content and are also involved in student project work, ensuring that you’ll be skilled and prepared for the next set of challenges within the Chemical Engineering field.

If you haven’t done so already, please do take the opportunity to visit the University campus and meet our staff and students so you can see and experience what we have to offer for yourself.

Professor Chris Rielly
Head of Chemical Engineering

*of those available for work or study 6 months after graduation (salary based on mean salary) – DfE 2013
**Times Good University Guide 2014, category Chemical Engineering
Why Loughborough University?

Choosing where to study is one of the hardest decisions you’ll make in life. Loughborough University makes it easier by offering a mix of excellent facilities and opportunities – all on a superb 438-acre single-site campus. Bringing together 17,000 students and staff from over 100 different countries, there is a strong sense of community and a real buzz about the University that has seen us voted England’s Best Student Experience six years in a row.

At the centre of it all
Based in the heart of the English countryside, but with easy access to the rest of the UK, Loughborough University enjoys a well-established reputation for world-class research, innovative teaching and industry relevance. Our great all-round student experience develops well-rounded graduates. Our degree courses cultivate presentation and team-working skills as well as creative problem-solving abilities – skills sought by employers.

Home from home
Almost 6,000 of our students live in University halls of residence on (or very close to) campus and we offer the widest range of accommodation to suit all budgets and catering preferences. Undergraduates who confirm Loughborough as their first choice before the end of July are guaranteed a place in our halls.

Research that matters
The most recent Research Assessment Exercise (RAE) confirmed Loughborough as one of the country’s Top 20 research universities. With many academics involved in cutting-edge research addressing problems in social, economic and industrial practice, their work directly informs the learning experience.

An international experience
Loughborough has a proud history of welcoming students from around the world and today, is home to 2,500 international students who contribute to our diverse and lively community. We offer a range of tailored support services, including bespoke English language courses and a one-week residential orientation course before the start of the academic year.

sport for all
Of course, Loughborough is renowned worldwide for sporting excellence and counts Sebastian Coe, Paula Radcliffe and Steve Backley among its famous sporting alumni. However, the focus is on providing sporting opportunities for all levels: from elite athlete to enthusiastic beginner. Our sports facilities are first class and include tennis, squash and badminton courts, sports pitches, all-weather play areas, the National Cricket Centre, the athletics stadium and a 50-metre swimming pool.
Chemical Engineering is concerned with the design, construction and operation of processes which convert raw materials into useful products by changing their chemical or physical state.

The discipline of Chemical Engineering has its origins in oil refining and petrochemical production, but their skills are now applied in a wide range of other industries, such as: food and drink manufacture; pharmaceuticals; paper; plastics; water purification; electricity generation; metals; textiles; medical products; semiconductors; perfumes and fragrances; and cosmetics and beauty products.

It is almost impossible to think of a commercially processed product that does not require the involvement of a chemical engineer at some point during its manufacture. Problem-solving and numeracy skills are widely sought after by employers. That is probably why they top the salary scales of all the major engineering professions. Chemical engineers are at the forefront of tomorrow's scientific and technological developments. They are often tackling some of the world's most urgent problems.

In short, chemical engineers develop and create products that modern society depends on. They also help to sustain our modern society by managing natural resources, recycling materials and protecting the environment.

Why Choose Chemical Engineering?

Chemical Engineering is concerned with the design, construction and operation of processes which convert raw materials into useful products by changing their chemical or physical state.

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The role of a chemical engineer

Although many processes involve chemical reactions, the job of a chemical engineer is different from that of a chemist. Chemical engineers are principally concerned with carrying out syntheses of pure chemical products at the lab-bench scale (in gram quantities or even less).

A chemical engineer's task is to work out how such a product could be made on a much larger scale (i.e. in kilogram or tonnage quantities).

A chemical engineer needs to consider controlling heat transfer, ensuring proper mixing and controlling the movement of material around the process. Efficient separation of reaction products is very important and is frequently a challenging consideration on this scale. Perhaps most important of all, the process must operate profitably and it must achieve this safely whilst having minimal impact on the environment.
Our purpose built facility includes two computing suites and a 395m² multi-story mezzanine pilot plant. It is equipped with a range of process equipment and gives you the opportunity to gain lots of important hands on experience.

Our laboratories include:
- a suite of fully instrumented and computerised control rigs
- a double effect evaporator
- five metre gas absorption columns
- a pressurised steam-carrying retort
- spray dryer
- membrane emulsification rig
- ultrafiltration and vacuum filtration units
- hydrocyclone
- concentric cylinder viscometer
- gas fluidised beds
- liquid fluidised beds

Students undertaking an MEng Professional Development Project or a BEng Research and Design Project in the Department also have access to a range of research equipment, for which training is provided, including:
- a fully equipped Class 2 biological laboratory facility
- computer controlled laboratory scale bioreactors
- computer controlled reactor/crystalliser systems
- batch and continuous chromatographic reactors
- adsorption rigs for continuous operation, stirred and cross-flow membrane filtration cells
- experimental systems for studying multiphase phenomena e.g. mixing, emulsification and microbubble generation
- various microfluidic devices (very small scale but very fast) and microfabrication facilities
- multi-phase generation
- a range of microscopes including laser scanning confocal, fluorescence, temperature controlled and freeze-drying stages

Analytical facilities in the Department feature a range of compositional analysis equipment including: infrared, high performance liquid chromatography, gas chromatography, mass spectrometry, and elemental analysis. Further characterisation methods include: UV-vis spectrophotometry, gas permeability (to determine pore size in solids), particle size analysis, Zeta potential and sub-micron sizing, differential scanning calorimetry (follows sample changes that make the release of heat), thermogravimetric analysis (a very precise temperature controlled microbalance). We also have access to x-ray diffraction and scanning electron microscopy equipment.

These facilities are maintained by a dedicated and highly trained team of technical assistants who are used to instructing students on the safe use of the equipment.

**Inspiring Facilities**

“The process control rigs, where computer programs are used for the control, really reinforces material learnt in lectures.”

Jack Wolseley, MEng Chemical Engineering
Your Learning Experience

You will be taught via a combination of lectures, tutorials, laboratory experiments and practical engineering exercises.

The courses are taught in a modular format with typically six modules running concurrently, and approximately three contact hours per module per week. Contact hours are approximately 18-21 hours per week during non-project based semesters. You’ll be assigned a personal tutor who will provide advice and help you to choose your subject options.

You’ll work on tutorial questions in your own time. These are designed to reinforce and develop understanding of material covered in lectures. Tutorial sessions give you the opportunity to sort out any problems with particular questions and clarify points you may not have understood during lectures. Group and individual project work form an important part of your course and will help you develop vital project management and communication skills for your future career. Examples of typical project work can be found in the course descriptions.

Lab sessions are also very important as they help you reinforce concepts and give you practical understanding. In the first year, labs are held on a fortnightly basis. In the second year there are more specialist labs featuring particle technology, food engineering, mass transfer and control. In depth research and development projects are undertaken in the final years of the BEng and MEng.

Assessment

At the end of each module you’ll be assessed either by examination, coursework or a combination of both. With the successful completion of each module, you score a set number of credits, which over time lead to the award of your final degree. The first year does not count towards the final degree mark but you must pass. This provides you with an ideal opportunity to find your feet and understand your subject fully.

The MEng and BEng courses

The first two years of a BEng or MEng share the same format and structure. The MEng differs from the BEng by offering the opportunity to study technical and management topics at a more advanced level in the later years of the course. The MEng also requires students to undertake a Professional Development Project (PDP) which many students choose to carry out at a university overseas.

The option of taking an industrial placement year is available on both the MEng and BEng courses. MEng courses can therefore take four or five years to complete, while those leading to BEng take three or four years. MEng students have the choice to take their placement either between Parts B and C or between Parts C and D.

It is possible to transfer from a BEng to an MEng at the end of the first year and up to the end of the second year providing that the transfer progression criteria have been met.

Course structure

<table>
<thead>
<tr>
<th>Year</th>
<th>MEng</th>
<th>MEng (with placement)</th>
<th>BEng</th>
<th>BEng (with placement)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Part A</td>
<td>Part A</td>
<td>Part A</td>
<td>Part A</td>
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<tr>
<td>2</td>
<td>Part B</td>
<td>Part B</td>
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<tr>
<td>3</td>
<td>Part C</td>
<td>Placement*</td>
<td>Part C</td>
<td>Placement</td>
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<tr>
<td>4</td>
<td>Part D</td>
<td>Part C</td>
<td>Part C</td>
<td>Part C</td>
</tr>
<tr>
<td>5</td>
<td>Part D</td>
<td>Part D</td>
<td>Part C</td>
<td>Part C</td>
</tr>
</tbody>
</table>

* Placement after second year or before final year

Staff

Our staff are closely connected with industry and pursue a diverse range of research interests in Chemical Engineering. Areas of particular prominence (where we are a leading European academic centre) include cell based regenerative medicine and tissue engineering; membrane technology for engineering micro and nanostructures (such as emulsions, liposomes, micelles, nanoparticles and microbubbles); and control and optimisation of pharmaceutical crystallisation.

IT skills

We support students with their computing skills. You’ll be given a basic course in Microsoft Office when you start and quickly move on to cover mathematical packages (such as Maple and Matlab), mechanical drawing packages (Autocad), process simulation packages (UNISIM) and computational fluid dynamics (COMSOL).
Chemical engineers develop new chemical processes and products, and improve the performance of existing ones, they make a huge difference to the world that we live in. We are in the UK top 10 for Chemical Engineering in the Times Good University Guide* meaning we are one of the very best places to study this exciting subject area.

During this course you can take the option of a paid industry placement. Completing a placement not only gives you real world experience but you will also gain an additional qualification of a Diploma in Industrial Studies. This is an experience that will really help you stand out when applying for your first engineering job.

Alongside core engineering and scientific knowledge you’ll develop important professional skills such as team-working, presentation skills, project management and report writing. These will enable you to pursue a career as a professional chemical engineer or choose from a wide range of other career options.

About the course

The course covers the main principles underlying the manufacture of chemical products on a commercial scale such as pharmaceuticals, food and beverages, petrochemicals, cosmetics and household goods.

The Department offers this course as a three year BEng or four year MEng, each with an additional, optional industrial placement year. Whilst the broad philosophy of the MEng and BEng is the same, MEng students are required to study a wider range of technical subjects with additional depth, as well as undertaking a Professional Development Project (see page 17).

The MEng and BEng are accredited as being in complete and partial fulfilment respectively of all educational requirements for Chartered Engineer status by the Institution of Chemical Engineers (IChemE).

Example MEng projects

- Analysis of Beer Loss in a Brewery
- Removal of Heavy Metals from Pond Water
- Production of a Monoclonal Antibody Drug for the Treatment of Lung Cancer
- Separation of Americium Oxide from Nuclear Fuel for use in Smoke Detectors
- Fabrication of Microparticles to Enhance Contrast in Medical Ultrasound Applications

Example BEng projects

- A Process to Manufacture the Cardiovascular Drug Propranolol
- Feasibility of Methanol Production - Capture of CO2 from Coal Fired Power Stations
- Production of Bioethanol from Sugar Beet
- Manufacture of Tensyl Yeast
- Microneedles for Blood Sugar Monitoring
- Membrane Methods for the Removal of Asbestos from Water

Contact details for all courses

11010
Chemical Engineering with Management MEng

Chemical engineers develop new chemical processes and products, and improve the performance of existing ones, they make a huge difference to the world that we live in. We are in the UK top 10 for Chemical Engineering in the Times Good University Guide meaning we are one of the very best places to study this exciting subject area.

During this course you can take the option of a paid industry placement. Completing a placement not only gives you real world experience but you will also gain an additional qualification of a Diploma in Industrial Studies. This is an experience that will really help you stand out when applying for your first engineering job.

Alongside core engineering and scientific knowledge this course provides you with an in-depth study of strategic management topics. This is taught by Loughborough's School of Business and Economics – one of the UK's top 10 business schools. This unique combination of two of the UK's top 10 departments gives you an outstanding start to your future career.

About the course
This Course is aimed at students with an interest in an engineering management career with a focus on strategic management topics. The project work and placement year (if appropriate) also have a management emphasis in order to enhance the strategic-management theory covered in lectures.

The Department offers this course as a four year MEng, with an additional, optional industrial placement year. Students are also required to carry out a Professional Development Project (PDP) as part of their degree. Find out more about the PDP on page 17.

This course is accredited as being in complete fulfilment of all educational requirements for Chartered Engineer status by the Institution of Chemical Engineers (IChemE).

Example MEng projects
- A Cost Effective Process for the Production of Rare Noble in West Africa
- Biodiesel Production from Waste Cooking Oil
- Manufacture of Methanol from the Glycerol byproduct of Biodiesel Production
- Energy Efficiency Study of a Sugar Factory During Juice Refining Operations
- An Explosion Risk Assessment Methodology for Gas Transmission Pipelines
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Of our employed graduates in professional or managerial roles within 6 months of leaving (OF THOSE AVAILABLE FOR WORK OR STUDY DHLE 2013)

Of those available for work or study, 97% in professional or managerial roles within 6 months of leaving (OF THOSE AVAILABLE FOR WORK OR STUDY DHLE 2013)

UCAS codes
- MEng (Hons): 4 years full-time
- MEng (Hons) DED*: 5 years full-time sandwich

Entry requirements
- A-Level A/A/A inc. Maths and at least one from Chemistry or Physics
- BTEC Level 3 Diploma: D/D along with A-Level Maths at grade A
- IB: 36 points including 18 points from Maths and two sciences (Maths and at least one from Chemistry or Physics must be at HL)

Placement Year ✓ Study Abroad ✓ Additional Award ✓

Year 1
Modules:
- Fluid Mechanics
- Stagnation Processes
- Chemical and Biochemical Processes
- Heat Transfer
- Engineering Thermodynamics
- Mathematical Methods in Chemical Engineering
- Process Balances
- Chemical Engineering Laboratory
- Optional modules (students choose one): Chemical Engineering and Society; Language

Year 2
Modules:
- Chemical Thermodynamics
- Instrumentation and Control
- Safety, Loss Prevention and Environmental Control
- Reaction Engineering
- Plant Engineering
- Particle Technology
- Process Systems Engineering
- Chemical Engineering Design
- Mass Transfer and Separations
- Management of Human Resources
- Real Mechanics II
- Optional Placement Year

Year 3
See pages 18-19
Modules:
- Transfer Processes
- Reaction Engineering
- Chemical Process Control
- Research Methods
- Dissertation
- Operations Management
- Business Systems
- Entrepreneurship and Innovation
- Professional Development Project

Year 4
Modules:
- Chemical Product Design
- Advanced Biochemical Engineering
- Analytical and Modelling Practice
- Process Design Project
- Optional Modules (students choose two): Downstream Processing; Filtration; Colloid Engineering and Nano-science

Descriptions of what these modules involve can be found at www.lboro.ac.uk/chemeng/modules

“I chose Loughborough because the engineering industry really values Loughborough graduates.”

When I graduate I hope to go into the Fast Moving Consumer Goods (FMCG) sector which includes companies like Nestlé and Unilever. I definitely think my degree at Loughborough has provided me with the skills and knowledge that I require. The course demands that you develop the right skills in order to succeed.

Morayo Okemide-Ojia, MEng Chemical Engineering with Management

“Having the opportunity to do my Professional Development Project in Australia has been an amazing experience which was only made possible by the Department’s link with Monash (University in Melbourne).”

Kevin Singh, MEng Chemical Engineering with Management

Kevin Singh, MEng Chemical Engineering with Management

*Times Good University Guide 2014: Chemical Engineering

Contact details for all courses
T: +44 (0)1509 222532  |  E: chemical.ug@lboro.ac.uk  |  www.lboro.ac.uk/chemeng
The first year modules of our courses focus on the fundamentals needed to analyse chemical processes. The content and learning outcomes of the modules are summarised below.

**Fluid Mechanics, Heat Transfer, and Engineering Thermodynamics** explore the physics of chemical engineering processes, focussing respectively on the pumping and piping of liquids and gases, the heating and cooling of streams, and systems that use or produce heat and power.

**Chemical and Biochemical Processes** revises and reinforces A-Level Chemistry (also a crash course for those that did not take A-Level Chemistry) and introduces elements of Biochemistry (proteins, polysaccharides, lipids, nucleic acids, enzymes) and Microbiology (microorganisms and viruses).

**Process Balances** introduces the powerful concepts of mass and energy balances for analysing chemical processes.

**Stagewise Processes** focuses on processes such as liquid-liquid extraction and plate columns which can be regarded as a sequence of stages.

**Mathematics** – an extremely important tool for all engineers – is covered throughout the first year as a stand-alone module, taught using chemical engineering examples to illustrate and demonstrate relevance.

A laboratory module runs throughout the year where students spend an afternoon every fortnight performing experiments (mainly in heat transfer and fluid mechanics) to reinforce lecture material. On alternate weeks students learn to prepare professional reports and presentations using Microsoft Office, or work on a group design project.

**Optional modules:**

- **European language** useful for students considering the Part C project in Europe.
- **Chemical Engineering and Society** explores the impact of Chemical Engineering processes on society at large.

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**Inspiring Learning**

“The intellect and the research of the lecturer is always fascinating.”

Ryan Barnfield, MEng Chemical Engineering

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What You Will Study

As Chemical Engineering is not a subject that you will have studied at school or college, it can sometimes be difficult to envisage exactly what you will be learning as an undergraduate student. The following information aims to give you an idea of the topics covered. You will also see module listings for each degree on pages 10-13.
Year two
The second year modules build on first year material to give students sufficient knowledge and skills to be able to fulfil what would be required on an industrial placement.

Chemical Engineering Science Topics:
Chemical Thermodynamics: covers chemical and vapour-liquid equilibria.
Particle Technology: provides an introduction to solids processing.
Fluid Mechanics II builds on the materials learnt in Year One and includes flows of complex fluids and computational fluid dynamics simulations.

Studies of Unit Operations:
Reaction Engineering: extends A-Level Physical Chemistry to model continuous reactors.
Mass Transfer and Separations: studies distillation and gas adsorption systems.
Safety, Control and Plant Engineering: are all covered by separate modules (Plant Engineering refers to the structural engineering design aspects of a chemical plant).
Process Systems Engineering: teaches students to use and understand simulation software.

The Design Project module for Year Two is more complex than the Year One project, testing and developing chemical engineering skills and knowledge.
Mass Transfer and Separations, Control, Particle Technology and Food Engineering all include practical lab sessions and require students to produce an oral presentation and written report.

Year three
The first semester is mainly lecture based with more advanced modules on Reaction Engineering, Control, and Transfer Processes (which covers processes involving the transfer of molecules, heat and/or momentum between different phases).

MEng Chemical Engineering with Management students take several management based modules taught by Loughborough’s School of Business and Economics. These are also available as options for those studying the MEng in Chemical Engineering. MEng and BEng students can alternatively take the Process Economics and Design Optimisation module, covering how to maximise the economic return of a plant. Pollution Control and Biochemical Engineering modules are available for BEng students.

The Design Project module for Year Two is more complex than the Year One project, testing and developing chemical engineering skills and knowledge.

Mass Transfer and Separations, Control, Particle Technology and Food Engineering all include practical lab sessions and require students to produce an oral presentation and written report.

Year four (MEng Final Year)
The final year of the MEng is common for both MEng courses.

The first semester is lecture based, featuring advanced chemical engineering topics. The grand finale of the course is the semester-long final year design project. We challenge students to come up with innovative designs for processes, often featuring novel applications or technologies. Designing and running their own experiments to provide missing data is an important aspect of this. A supporting module on analytical and modelling practice provides extra skills in this area.

The previous individual course pages include complete module listings.

The first two years are very similar for all courses and transfers between them are possible during this time. All of our degrees are general in that they are designed to provide students with the chemical engineering skills and knowledge to undertake careers across the whole spectrum of industries and roles that await them.

Professional Development Project (PDP)
All Part C MEng students undertake a semester long PDP which can be done in one of three ways:
(i) as a technical project at a company. This differs from the placement year in that students will work on a single project and write a report which is assessed as part of their degree. Placements students, on the other hand, often undertake several projects;
(ii) as an individual research project carried out at Loughborough under the supervision of an academic; or
(iii) as an individual research project carried out at a partner university overseas. Most of our MEng students take this option as the Department has excellent links with institutions throughout Europe, the USA and Australasia.
We offer industry placements on all of our courses. Over the last three years we’ve sent over 100 students on placement with some of the world’s top engineering companies.

The placement year is optional but is strongly encouraged because of the many benefits it can provide. Most students go on their placement after the second year, but MEng students can opt to take it after the third year.

<table>
<thead>
<tr>
<th>Companies providing recent placements</th>
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<tbody>
<tr>
<td>British Sugar</td>
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<td>E.On</td>
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<td>EDF Energy</td>
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<td>Esso Petroleum</td>
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<td>ExxonMobil</td>
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<td>Fujifilm</td>
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<td>GlaxoSmithKline</td>
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<td>Heine</td>
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<td>Johnson Matthey Fuel Cells</td>
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<td>Kraft Cadbury</td>
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<td>L’Oréal</td>
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<td>MSD Biologics</td>
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<td>PepsiCo</td>
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<td>Pfizer</td>
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<tr>
<td>Proctor &amp; Gamble</td>
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<tr>
<td>Rols-Royce</td>
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<tr>
<td>Total</td>
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<tr>
<td>Unilever</td>
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</table>
The skills and opportunities I gained whilst at university were a fundamental part of my success so far.

After graduating I joined the Kraft Foods Research and Development team, working in Banbury on their instant coffee brands such as Kenco and Maxwell House. I spent my industrial placement year working for Kraft Foods which led to me getting the job there after I finished my studies. Ever since then I have been working on innovations in soluble coffee products and manufacturing processes. This involves looking at how we can improve products by adapting the equipment and knowledge that we already have as well as searching for new technologies and ideas.

For both, I need to be able to think creatively and to also keep an eye on what competitors are doing so we remain one step ahead.

My proudest moment was cracking a problem with Kenco Cappio. It’s an instant cappuccino product that delivers a foam layer when you add hot water. We wanted to improve the foam quality and thickness and to make it even closer to an authentic ‘café’ experience. After a lot of investigation and head scratching in the pilot plant, I developed a process that gave the desired effect and the new product is on sale across the world!

Thanks to the huge variety of categories and countries Kraft Foods has a presence in I now work in the Gum and Candy Centre of Excellence in Switzerland. It’s a great move for my career and an amazing opportunity to get experience in a totally different area. The skills and opportunities I gained whilst at university were fundamental part of my success so far and in recent years I’ve been involved in supervising students from Loughborough who come to spend their placement year at Kraft Foods just like I did!

Tom Imison, MEng Chemical Engineering, Process Development Manager, Kraft Foods

Inspiring Graduates

Due to their unique and specialist skills, engineers are the top earners in terms of starting salaries alongside graduates from medicine and dentistry (Times Good University Guide). Chartered Engineers command even higher salaries and once you have reached this status you can expect to earn a salary of over £300,000 per year.

Chemical Engineers are highly sought after by employers and are often amongst the highest paid of all Engineers. As well as a top salary a degree in Engineering presents wide reaching opportunities from world leading blue chip organisations to developing countries.

With a degree in Chemical Engineering from Loughborough University you can expect to have gained a diverse skill-set. This will include project management, team work, leadership, business acumen and people management as well as technical expertise setting you up for a successful career. We are favoured by many leading organisations as a source of exceptional graduates.

Inspiring Winners, Inspiring You

Graduate roles and destinations include:

- Process Engineer, Atkins
- Process Engineer, BP
- Chemical Process Engineer, British Gypsum
- Process Technician, British Sugar
- Process Engineer, Centrica
- Engineer, EDF Energy
- Development Engineer, Exxion Mobile
- Process Engineer, GlaxoSmithKline
- Engine, Nestlé
- Management Trainee, Noble Foods
- Chemical Engineer, Noveno
- Quality Engineer, Perkins Engines
- Engineer, Premier Foods
- Process Engineer, Proctor & Gamble
- Graduate Process Facilities Engineer, Procyon Oil and Gas
- Simulation Engineer, TSC Simulation
- Chemical Engineer, Tarmac Limited
- Operations Graduate, Tate & Lyle
- Process Engineer, Tetra Pak
- Manufacturing Team Manager, United Biscuits
- Graduate Process Engineer, United Utilities
- Energy Site Coordinator, Valero Energy
- Management Trainee, Waste Recycling Group
- Process Engineer, Welsh Water

“One project I was involved with resulted in saving the company over $4 million per year.”

After graduating I started work as a Process Engineer for Altazúmena, working in Research and Development. My role involved providing a practical and technical input to facilitate the development of processes and technologies for the bulk manufacture of drugs and secondary activities. One project I was involved with resulted in saving the company over $4 million per year. For me that’s what’s great about engineering, the opportunity to see the projects through to the end and have a tangible output.

I then moved to my current role as an Advanced Process Engineer for 3M. I lead the ‘Lean Six Sigma Green Belt’ Projects which aims to improve current manufacturing processes and implement new manufacturing solutions. On a day-to-day basis my role is to ensure yields are as high as possible but to also balance this with the need to fully optimise product quality. I really enjoy having the opportunity to see the improvements I make have an impact on the company on a daily basis.

Stilian Moldelery, MEng Chemical Engineering
Advanced Process Engineer, 3M

“One project I was involved with resulted in saving the company over $4 million per year.”

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Tom Imison, MEng Chemical Engineering, Process Development Manager, Kraft Foods

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- Chemical Engineer, Noveno
- Quality Engineer, Perkins Engines
- Engineer, Premier Foods
- Process Engineer, Proctor & Gamble
- Graduate Process Facilities Engineer, Procyon Oil and Gas
- Simulation Engineer, TSC Simulation
- Chemical Engineer, Tarmac Limited
- Operations Graduate, Tate & Lyle
- Process Engineer, Tetra Pak
- Manufacturing Team Manager, United Biscuits
- Graduate Process Engineer, United Utilities
- Energy Site Coordinator, Valero Energy
- Management Trainee, Waste Recycling Group
- Process Engineer, Welsh Water

“One project I was involved with resulted in saving the company over $4 million per year.”

After graduating I started work as a Process Engineer for Altazúmena, working in Research and Development. My role involved providing a practical and technical input to facilitate the development of processes and technologies for the bulk manufacture of drugs and secondary activities. One project I was involved with resulted in saving the company over $4 million per year. For me that’s what’s great about engineering, the opportunity to see the projects through to the end and have a tangible output.

I then moved to my current role as an Advanced Process Engineer for 3M. I lead the ‘Lean Six Sigma Green Belt’ Projects which aims to improve current manufacturing processes and implement new manufacturing solutions. On a day-to-day basis my role is to ensure yields are as high as possible but to also balance this with the need to fully optimise product quality. I really enjoy having the opportunity to see the improvements I make have an impact on the company on a daily basis.

Stilian Moldelery, MEng Chemical Engineering
Advanced Process Engineer, 3M

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Due to their unique and specialist skills, engineers are the top earners in terms of starting salaries alongside graduates from medicine and dentistry (Times Good University Guide). Chartered Engineers command even higher salaries and once you have reached this status you can expect to earn a salary of over £300,000 per year.

Chemical Engineers are highly sought after by employers and are often amongst the highest paid of all Engineers. As well as a top salary a degree in Engineering presents wide reaching opportunities from world leading blue chip organisations to developing countries.

With a degree in Chemical Engineering from Loughborough University you can expect to have gained a diverse skill-set. This will include project management, team work, leadership, business acumen and people management as well as technical expertise setting you up for a successful career. We are favoured by many leading organisations as a source of exceptional graduates.

Inspiring Winners, Inspiring You

Graduate roles and destinations include:

- Process Engineer, Atkins
- Process Engineer, BP
- Chemical Process Engineer, British Gypsum
- Process Technician, British Sugar
- Process Engineer, Centrica
- Engineer, EDF Energy
- Development Engineer, Exxion Mobile
- Process Engineer, GlaxoSmithKline
- Engine, Nestlé
- Management Trainee, Noble Foods
- Chemical Engineer, Noveno
- Quality Engineer, Perkins Engines
- Engineer, Premier Foods
- Process Engineer, Proctor & Gamble
- Graduate Process Facilities Engineer, Procyon Oil and Gas
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Stilian Moldelery, MEng Chemical Engineering
Advanced Process Engineer, 3M
We support all our students to make sure they get the most out of their time with us. From placement opportunities at the world’s top engineering companies to outstanding learning and teaching facilities, we do everything we can to give our students the very best experience.

Inspiring Winners Inspiring You

“The skills and knowledge you pick up with a degree in Chemical Engineering are so vast that you feel you can achieve anything after graduating.”

I chose Loughborough because the campus has fantastic facilities and the Department is well ranked and has strong links with industry. I always had an interest in maths and science when I was at school and the opportunities after graduating with a degree in Chemical Engineering appeared endless.

The course is varied and interesting with wide-ranging subject matter, from process economics to management to reaction engineering. Design modules put everything into context as you’re required to use everything you have learned throughout the degree. I feel really well supported on this course and am yet to come across a lecturer who does not operate an open door policy. They are always happy to answer any questions or concerns you have.

After my second year I went on placement with Unilever working in R&D near Port Sunlight on laundry liquid products. Taking a year out was a fantastic experience and it definitely helped put a lot of what I had learned at university into context. More than just being a break from academic work, it made the prospect of graduating and finding a job less daunting.

“I’ve just won a summer internship at the Harvard Stem Cell Institute.”

I didn’t always plan to do Chemical Engineering but knew I wanted to see maths and science in some way and identified across Chemical Engineering when researching universities. I came to the Open Day at Loughborough where I found out a lot more about the subject and straight away knew this was the place for me. The campus has a great atmosphere and I felt at home when I was looking around.

Loughborough has certainly lived up to my expectations so far. The course has been really interesting and I particularly enjoyed doing labs where you get a chance to be hands-on and work with a partner on different tasks. Chemical Engineering labs are nothing like the Chemistry labs you do at school as you are doing experiments that replicate what happens on a large industrial scale in chemical processing.

I’ve just won a summer internship at the Harvard Stem Cell Institute. I’m really excited. I was only one of 35 students to be selected from over 600 applications. My main focus will be a research project in the stem cell science laboratory. I’ll also get to attend seminars, careers presentations, and a weekly stem cell companion course – I’m really looking forward to the summer ahead!

Lizzie Cheeseman, MEng Chemical Engineering

“I’ve just won a summer internship at the Harvard Stem Cell Institute.”

Lizzie Cheeseman, MEng Chemical Engineering

The skills and knowledge you pick up with a degree in Chemical Engineering are so vast that you feel you can achieve anything after graduating. I am yet to decide on a specific career path, but to help with this I hope to gain further placements with companies in a variety of different industrial sectors.

Lizzie Cheeseman, MEng Chemical Engineering

““The skills and knowledge you pick up with a degree in Chemical Engineering are so vast that you feel you can achieve anything after graduating.”

Nick Lindfield, MEng Chemical Engineering with Management
Admissions, Fees and Funding

Admissions
Applications for undergraduate courses must be made online through the Universities and College Admissions Service (UCAS). This applies to all UK, EU and international students.

If you are at school or college you will fill in an online application. After checking your details and having added the academic reference your school or college will submit the completed online application to UCAS. Other UK applicants or those from outside the UK who are not at school or college, can apply independently online and will be responsible for ensuring their academic reference is attached by their referee and for submitting the completed application online to UCAS. For entry in 2015, you should apply between the start of September and 15 January. Applications received after this date will only be considered if places are still available.

Loughborough’s institution name is LBR0, and our institution code is L79. We do not consider applications if places are still available.

The start of September and 15 January. Applications received after this date will only be considered if places are still available. Loughborough’s institution name is LBR0, and our institution code is L79. We do not use campus codes. The course code will depend on the degree to which you are applying.

www.ucas.com

Loughborough accepts a wide range of qualifications for entry onto our undergraduate courses. This applies to all UK, EU and international students.

Applications for undergraduate courses must be made online through the Universities and College Admissions Service (UCAS).

Please check the online prospectus for the most up-to-date entry requirements for your course: www.lboro.ac.uk/undergraduate

Loughborough University accepts a wide range of qualifications for entry onto our undergraduate degrees, the main ones of which are detailed in this brochure.

www.ucas.com

The University offers a generous package of scholarships and bursaries. Please visit www.lboro.ac.uk/funding for the latest information.

Fees and funding (UK/EU students)

Tuition fees
Loughborough University set the following annual fees for full-time UK/EU entrants in 2014/15:

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Fees (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All undergraduate degree courses</td>
<td>£9,000</td>
</tr>
<tr>
<td>Science and Engineering Foundation Studies</td>
<td>£9,000</td>
</tr>
</tbody>
</table>

Students enrolling in September 2015 wishing to undertake a placement year would do so in 2017/18. The sandwich placement fee for 2017/18 is £1500.

*Students enrolled on certain Masters courses wishing to take a placement year may have the option of doing so in 2018/19.

Student loan for tuition
UK/EU students can take out a loan to cover the cost of tuition fees. The loan is paid back in instalments once you are earning a minimum salary.

Student loan for living costs
Eligible students permanently resident in the UK will also be able to take out a loan to help with living costs. The amount depends on where you live and where you are studying. The loan is paid back in instalments once you are earning a minimum salary.

For further information visit www.gov.uk/student-finance

Government Maintenance Grant
In addition to the student loan, students from low income families may be eligible for a maintenance grant from the Government to help with living costs. The loan does not need to be repaid. Detailed information on how to apply for this financial assistance can be obtained from Student Finance England. The Student Awards Agency for Scotland, the Welsh Assembly Government and Student Finance NI also produce the relevant guidance on student financial support.

Scholarships and Bursaries
The University offers a generous package of scholarships and bursaries. Please visit www.lboro.ac.uk/funding for the latest information.

Get in Touch

To find out more about what Loughborough University can offer, please feel free to get in touch:
T: +44 (0)1509 222533  E: chemical.ug@lboro.ac.uk

Open Days
Coming to one of our Open Days is the best way of sampling the Loughborough Experience for yourself. It gives you the chance to meet lecturers and students from the courses you are interested in, attend talks on subjects and department tours, take a guided tour of our campus, view Halls of Residence and check out the Students’ Union.

Full details of upcoming Open Day dates and how to register can be found at www.lboro.ac.uk/opendays

‘I would tell anyone considering Loughborough to come to an Open Day. The atmosphere got me excited to study here.’

Robyn Potter, Undergraduate student

How to find us
Loughborough is at the heart of England in the northernmost part of the county of Leicestershire and being centrally placed it is well served by road, rail and air.

Main line road and rail network link Loughborough directly with the rest of the country and London is one-and-a-half hours away by train, Birmingham one hour and Manchester and Leeds around two hours.

Loughborough’s nearest motorway link is the M1; the campus is just two miles from Junction 23. The University is clearly signed on all the other main approach roads to Loughborough.

There are regular scheduled flights from UK, European and international destinations to East Midlands Airport, only 7 miles away.

For full details of how to find us by car or public transport visit www.lboro.ac.uk/about/findus.html

www.lboro.ac.uk/about/findus.html
inspired beginnings, outstanding futures.

#InspiringWinners