Welcome to the
Department of
Chemical & Process
Engineering
Dr Colin Hare
Admissions Tutor
Acclaimed Research at Surrey
Award-winning facilities

Library
Open 7 days a week

Digital Resources

Academic skills & development

SurreyLearn

Workshops

Disability & neurodiversity
Opportunities at Surrey

- Professional training
- 49% Students go on Placement (2019/20)
- 42%+ receive job offer from placement (PTV Survey)
- Study Abroad
- Global Graduate Award
- Research Placements
Over 100 clubs and societies

- Faith
- Departmental
- Arts
- Political and campaign
- International
- Special Interest

Sports clubs
- Cheerleading
- Football
- Rugby Union
- Snowsports
- Ultimate Frisbee
- Mixed Martial Arts
Accommodation
https://www.surrey.ac.uk/accommodation
Exploring Surrey with London 34 Minutes Away
Chemical and Process Engineering
Why Engineering?

A recent report…

“Engineers are crucial to the economy and society as a whole. Engineers are the innovators and problem-solvers who really make a difference to people’s lives. Engineers are the people behind innovations such as driverless cars, bionic limbs and space travel. However the UK is facing an engineering skills shortage. Recent figures indicate that we need 69,000 more engineers in the UK every year just to meet industry demand.”
Why CPE at the University of Surrey?

» Some of our History

1909 Evening course in chemical engineering started at Battersea Polytechnic Institute by John Hinchley. (4th attempt to start a course in the UK)

1911 First students graduate in chemical engineering

1915-ish Imperial College poaches John Hinchley to be its first professor of chemical engineering

1966 The Institute attains Chartered University status as the University of Surrey. The Department relocates to Guildford in 1968

Mid 1990s Department builds first whole-chemical-process ‘pilot’ plant for teaching and wins contract with OPCW
Why Chemical Engineering at Surrey?

» The department in numbers (approximate)

~ 400 undergraduates studying:
  • Chemical and Petroleum Engineering
  • Chemical Engineering

~ 60 full-time PGT students studying:
  • MSc Information and Process Systems Engineering
  • MSc Petroleum Refining Systems Engineering
  • MSc Batteries, Fuel Cells and Energy Storage Systems
  • MSc Process Systems Engineering
  • MSc Renewable Energy Systems Engineering

~ 45 PhD research students
» **£1.7m facility that was opened in September 2017**

» The facility gives students access to state-of-the-art equipment that replicates the types they will use/manage in industry. The facility is part-funded by Surrey alumnus and Vice-President of ExxonMobil, Dr Neil Chapman
Why Chemical Engineering at Surrey?

Syria chemical weapons monitors win Nobel Peace Prize

The OPCW had helped chemical weapons become “tolerable”, Norwegian Nobel Committee chairman Thoresen Jagland said.

The Organisation for the Prohibition of Chemical Weapons, the body overseeing the destruction of Syria’s chemical arsenal, has won the Nobel Peace Prize.

The Nobel Committee said it was in honour of the OPCW’s “extensive work to eliminate chemical weapons”.

The OPCW, based in The Hague, was established to enforce the 1997 Chemical Weapons Convention.

OPCW director general Ahmet Üzümcü said the award was a “great honour” and would spur it on in its work.

He said the deployment of chemical weapons in Syria had been a “tragedy”.
Choosing between M.Eng and B.Eng

M.Eng  Master of Engineering, 4 or 5 years
- More analytical: greater breadth and depth in support of R&D roles
- Fastest route to chartered status
- Fuller preparation for the workplace

B.Eng  Bachelor of Engineering, 3 or 4 years
- Fastest degree completion
- Shortest path to industry
- Good if you're planning a further degree such as a specialist M.Sc. or M.B.A.
In 2016, Professor G.Q. Max Lu took up the post as the fifth President and Vice-Chancellor of the University of Surrey. Recognised as one of Australia’s most influential engineers, Professor Lu joins as a Thomson Reuters double ‘highly cited academic’, bringing expertise in chemical engineering and nanotechnology.

Visiting Professor Jonathan Seville, former Dean of our Faculty at Surrey, is a past President of the Institution of Chemical Engineers (IChemE) – the registration and accreditation body for chemical engineers worldwide.

Dr Colin Hare, MEng, PhD, MIChemE, FHEA, treasurer of the IChemE Particle Technology Special Interest Group, member of the EPSRC Early Career Forum in Manufacturing Research.
Programme Detail

First Year

Year 1 (FHEQ level 4)
Modules include:
- Mathematics (x2)
- Fluid Mechanics and Thermodynamics
- Engineering Materials and Sustainability
- Scientific Fundamentals*
- Mass and Energy Balances
- Transferable and Laboratory Skills
- Petroleum Fundamentals and Chemistry*

Second Year

Year 2 (FHEQ level 5)
Modules include
- Chemical Reaction Engineering & Numerical Methods
- Heat Transfer and Laboratory
- Engineering Systems and Dynamics
- Engineering Management
- Separation Processes
- Mass Transfer
- (Process) Control
- Chemical Engineering Thermodynamics

* Not available on all programmes
Programme Detail

Year 3 (FHEQ level 6)

Modules include:
Advanced Chemical and Biological/Petroleum Reaction Engineering
Energy and Industrial Systems
The Design Project
Process Operation and Management

Multi-Disciplinary Design Project:
✓ Run by specialist RAE visiting professors
✓ Teams of different kinds of engineers
✓ Students often have to step outside their primary engineering discipline
✓ Highly prized by employers because it prepares students for reality

Year 4 (FHEQ level 7)

Module choices include:

Multidisciplinary Design Project
Chemical Product Design
Research Project
Refinery and Petrochemical Processing
Biomass Processing Technology
Supply Chain Management
Optimisation and Decision Making
Professional Placements

• Professional Training Year (PTY) can be taken between years 2&3 or between years 3&4 (MEng only)
• A dedicated PTY tutor
• Portfolio of companies who come to Surrey
• Accepted as part of experience for CEng
• Paid employment £15k – £25k
• UK or overseas (Africa, USA, Europe)
• Two support visits from Academic Staff
• 100 % employment and 100 % commitment
Learning and Teaching

Learning and Teaching is by a Variety of Approaches

• Lectures and tutorials
• Workshops and laboratory work
• Team design projects
• Individual project
• SurreyLearn
Advantages of a Surrey Degree

Some Key Features

Teaching quality is our priority:
» You are our future!

Focus on graduate employability:
» You will be strongly supported by the University and the Department in making applications for jobs

Chemical Engineering Programmes are fully accredited to Institution of Chemical Engineers

Process, Operations and Management Module
» For those things you just can't learn in a lecture
Why Chemical Engineering at Surrey?

Bianca Borg – Currently working at ExxonMobil

“I’m back working at the company where I completed my industrial year placement, ExxonMobil. I enjoy my job because it’s fast paced and challenging, which means I never get bored and the day flies by! It’s a multinational corporation, so I know that it can offer a wealth of opportunities in the future, in different countries and departments, which is very exciting.”

Top companies keep on employing our graduates.
Why Chemical Engineering at Surrey?

Royal Academy of Engineering Global Grand Challenges Summit Competition 2019 won by Surrey CPE graduates!