



UNIVERSITY OF LEEDS



MSc in Chemical Process
Research and Development

iPRD

Institute of Process Research and Development



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MSc in Chemical Process Research and Development

This course aims to provide students from a chemistry, chemical Engineering or related science and engineering background, with an advanced knowledge of chemical process research and development.

The modular nature of the course allows students from differing backgrounds to tailor the course to their own needs, allowing those with a knowledge of chemistry to focus on more advanced chemical aspects of process development and develop a strong appreciation of chemical engineering principles, whilst students with a background in chemical engineering can concentrate on advanced engineering aspects and develop a strong appreciation of chemistry. Students from more diverse backgrounds (e.g. pharmacy, forensic science, materials science, physics, biochemistry) will have the opportunity to study broader aspects of both chemistry and chemical engineering but would not be expected to study at the advanced levels of students with specialist chemistry or chemical engineering knowledge.

The course is centred in the Institute of Process Research and Development (iPRD), a key interdisciplinary institute, which links the School of Chemistry and School of Process, Environmental and Materials Engineering (SPEME) at the University of Leeds. In keeping with the iPRD emphasis, the entire course has industrial relevance and much of it is industry led, including extensive use of seminars and workshops by industrial speakers. A major part of the MSc course is an extensive research project which will normally be jointly supervised by a chemist and a chemical engineer. Many research projects are industrially sponsored and some can be carried out in industrial laboratories when advantageous to do so.

This course has been established with funding from the EPSRC.

EPSRC Engineering and Physical Sciences
Research Council

Why study Chemical Process Research and Development at Leeds?

The industrial focus of the course and the shortage of suitably qualified postgraduate students, with experience at the chemical–chemical engineering interface, ensures excellent career prospects for successful graduates and also provides a good route for progression onto further postgraduate study at PhD level.

Students benefit from:

- The highest standards of teaching and research quality. The School of Chemistry and School of Process, Environmental and Materials Engineering were both rated highly in the last UK Research Assessment Exercise (RAE).
- Excellent, state-of-the-art facilities housed in high quality laboratories.
- Hands-on experience of research at the chemistry–engineering interface through an extensive practical project.
- Working in an interdisciplinary environment, with students from chemical, chemical engineering and other backgrounds.
- Working in interdisciplinary teams to design an industrial chemical process from start to finish.





iPRD

The Institute of Process Research and Development at the University of Leeds is comprised of experts from the field of chemistry and engineering, who work closely with the fine chemical and pharmaceutical industries, to develop technology which can improve manufacturing processes and thereby impact on costs, quality, productivity, waste and energy.

iPRD is uniquely placed to conduct industrially relevant research at the vital chemistry–chemical engineering interface and provides training facilities for process testing and scale-up.



The Course

The course is designed to be flexible, and to accommodate students from a diverse range of backgrounds who have an interest in chemical process research and development. The key components are shown below. All students study core material, beginning with an initial introduction to Process Chemistry and Chemical Technology, and then divide into three streams, depending on background, to cover chemistry and chemical engineering at a range of levels. All students then study advanced core modules, which lead on to an extensive research project.

Introductory Core Material (All students)

Introduction to Process Chemistry and Chemical Technology

Chemists

Advanced Organic Synthesis
Batch Process Engineering
Pharmaceutical Product Formulation
Additional optional module(s)

Chemical Engineers

Organic Synthesis
Pharmaceutical Product Formulation
Pharmaceutical Analytical Techniques
Additional optional module(s)

Alternative Scientific Backgrounds

Organic Synthesis
Batch Process Engineering
Pharmaceutical Product Formulation
Pharmaceutical Analytical Techniques

Advanced Core Material (All Students)

Physical Organic Process Chemistry
Case Studies in Fine Chemical and Pharmaceutical Synthesis
Interdisciplinary Chemical Process Design Project

All Students

Interdisciplinary Research Project in Chemical Process Research and Development

Please visit www.iprd.leeds.ac.uk for further information on modules and course structure.

What qualifications do I need?

Students should hold or expect to obtain at least an upper second class BSc (or equivalent) degree in Chemistry, Chemical Engineering, or suitable alternative science or engineering degree. Alternative qualifications or industrial experience will be considered on an individual basis.

Funding and Applications

We are able to provide scholarships and bursaries to talented students from the UK and overseas, including prestigious industrially sponsored awards. Please enquire for further details.

Applications may be made at any time of the year but the course begins in September and you are strongly encouraged to attend the introductory modules at this time.

English language requirements

If English is not your first language, you will be required to produce evidence of a language qualification before an unconditional offer of a place can be issued. The University accepts IELTS, TOEFL or PTE qualifications with the following minimum scores:

- IELTS (Academic): an overall score of 6.5 with at least 6.0 in all components;
- TOEFL iBT (internet-based test): an overall score of at least 94 with at least 21 in listening, 23 in reading and speaking, and 24 in writing;
- PTE (Academic): an overall score of 64 with at least 60 in all components.

How do I apply?

You can apply online or by post. Full details are available at: www.leeds.ac.uk/students/apply.htm

Alternatively you can contact the admissions office at the address shown below for further details.

Further information

For an informal chat about the course contact:
Professor Chris Rayner
t: +44 (0)113 343 6579
e: c.m.rayner@leeds.ac.uk

Further information can also be found on our website www.iprd.leeds.ac.uk

For further information contact:
The Admissions Secretary,
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Institute of Process Research and Development
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