University of Strathclyde

MSc Process Technology and Management

Accredited by the

IChemE

MSc Chemical Technology and Management

Jointly developed with the

RSC | Advancing the Chemical Sciences

Distance Learning

Course Brochure 2012-13

The contents of this prospectus are, as far as possible, up to date and accurate at the date of publication.

Changes and restrictions are made from time to time and the University reserves the right to add to, amend or withdraw courses and facilities, to restrict student numbers and to make any other alterations as it may deem desirable and necessary. Changes are published by incorporation in the next edition of the University Calendar.

Contents

Introduction – please read this first

Dear Prospective student,

The MSc Process Technology and management and the MSc Chemical Technology and Management are part of an established distance learning programme offered at the University of Strathclyde since 1992, and we have had numerous graduates both locally in Scotland, the UK and throughout the world. The MSc Process Technology and Management is designed for those following a chemical engineering career while the MSc Chemical Technology and Management is intended for those more biased towards chemistry. Both courses are intended for candidates in industry who wish to further their career with a technology qualification at the same time as gaining knowledge covered by MBA style qualifications.

The MSc Process Technology and Management is accredited by the IChemE and the MSc Chemical Technology and Management designed in conjunction with the RSC, but as the management modules are the same and there is some crossover in the areas of technology the courses are organised and run together. This allows for a great degree of flexibility for students to tailor the MSc to their own requirements. For students who do not wish to commit to the full 3 year MSc, it is possible to opt out at any time with a Postgraduate Certificate or Diploma, and likewise it is also possible for students who started with the intention of completing a Certificate or Diploma, to continue on to the MSc, provided adequate results are obtained.

This prospectus has been produced electronically to allow you to find information quickly to aid your decision on whether this is the right course for you. It is possible to search the document using the CTRL-F search function or use the hyperlinked contents page to take you to the relevant section. Please also find the FAQ page in which I have given the answers to the most commonly asked questions about the course.

Due to the high number of enquires that I receive I would appreciate it if you would attempt to find the answers to your questions within this brochure in the first instance, but if you have any further questions or wish to discuss or apply for the course, please feel free to contact me using the email address below and if necessary I can also arrange an appointment to discuss by telephone.

Yours Sincerely,

Kenneth Moffat CEng, MEng, BSc, MIET, DipIT, PMP
Distance Learning Manager
Department of Chemical and Process Engineering
University of Strathclyde
kenneth.moffat@strath.ac.uk

Key features of the course

- Unique status: the only degree course of its kind in the UK
- MSc Process Technology and Management fully accredited by the Institution of Chemical Engineers
- MSc Chemical Technology and Management designed in conjunction with the RSC
- Part-time distance learning, supported by online tutorials spread throughout the year, ensures minimum time 'off the job'
- Course can be followed entirely by Distance Learning, on campus tutorials may also be available if there is sufficient demand.
- Modular, credit-based course, specifically designed for part-time study and student-centred learning
- Assessment by a mix of assignments, projects and examinations
- Course material includes self-assessment questions and tutor-marked assignments
- Final project work-based, providing immediate payback to sponsors
- Option to study stand-alone individual modules for CPD purposes
- Fees payable in instalments allowing cost to be spread over the duration of the course
- Normal Entry requirements: first degree(BEng/BSc) in a relevant subject
- Flexibility to change between chemical or process technology routes depending on technical modules studies
- Student can choose at any time to opt out early with Certificate/Diploma or complete the full 3 year programme and graduate with an MSc.
- Normal Course duration: MSc = 3 years, PGDip = 2 years, PGCert = 1 year

MSc Course structure

The MSc Process Technology and Management and the MSc Chemical Technology and Management are delivered in parallel and make use of certain common modules, particularly those relating to Business/Management and IT, but also some technical modules of mutual interest. This collaboration allows the integration of a wide range of delegates of differing disciplines within the chemical, pharmaceutical and process industries, promoting cross discipline activity within the learning environment.

Students can tailor the degree to their own requirements by selecting modules from lists representing Process Technology, Chemical Technology and Business/IT. This structure recognises the fact that in industry there is often crossover between Chemical and Process Engineering, Chemistry and other areas of Science and Engineering. Provided the minimum requirements of the degree which they are following are met, students are free to select modules of interest and can therefore build a unique degree specific to their own needs, and may even in some instances elect to change from Process Technology to Chemical Technology or vice versa.

It also aims to provide networking experiences, and transfer of technology, between the delegates. It is delivered by a group of partners who have a wide and successful experience in the delivery of distance learning and postgraduate courses and is overseen by a management committee of industrialists and academics.

The **Management and Business modules** address the concepts and techniques relevant to the planning, organisation and control of businesses: operations and project management; accounting; finance; marketing; human resource management.

The **IT modules** focus on strategic and operational issues relevant to the process industries: (i) the development and impact of Information Systems Strategies; (ii) the operational implications of database systems and software project management.

The course format is a three year, postgraduate 12 class modular course with major final year project completed in the employees place of work. (A two year Diploma option and one year PG certificate are also available).

Selected departments from the University of Strathclyde deliver the programme including,

- Chemical & Process Engineering
- Department of Pure and Applied Chemistry
- Graduate Business School
- Information Technology
- external providers are also involved from
    - The University of Edinburgh
    - Experienced industrial specialists.

MSc Process Technology and Management

The programme in Process Technology and Management is designed to meet the needs of the chemical and process industries and focuses on generic and core aspects of Process Technology, Management/Business and IT. The course structure is common to the MSc Chemical Technology and Management as outlined on the previous page, but students also have access to a number of Chemical and Process Engineering modules run by staff in the Chemical and Process Engineering department and specialists from industry. The MSc Process Technology and Management is accredited by the Institution of Chemical Engineers (IChemE) and therefore can fulfil the Masters degree requirement for Chartered Engineer.

The Process Technology modules address two major priority areas for the process industries:

i. The design, optimisation, control and operation of safe, clean, economically viable processes

ii. A deeper understanding of principles in complex areas, such as reactors, multi-phase mixtures and advanced separation processes.

These principles can be applied to the improvement of existing processes and the development of new processes, providing new skills to both the individual and their company. This advanced chemical engineering develops generic knowledge and skills, and provides experience through a wide range of case studies to assist the delegates in technology transfer and in identifying applications to specific processes.

Successful delegates will be awarded the MSc in Process Technology & Management

MSc Chemical Technology and Management

The programme in Chemical Technology and Management is designed to meet the needs of chemists working in R&D, Manufacturing, and Business management roles and focuses on generic and core aspects of Chemical Technology.

The course structure is common to the MSc Process Technology and Management as outlined on the previous page but particular to the MSc in Chemical Technology & Management is a series of distinctive modules specified and designed by the Royal Society of Chemistry. These modules are delivered by the Department of Pure and Applied Chemistry, Chemists within the Chemical Engineering department and specialists from industry.

Delegates will engage in a series of modules of relevance to senior industrial and research chemists and managers, including Laboratory Management, Intellectual Property, Emerging Technologies, Uncertainty, Innovation, Analytical Techniques and Automation.

Successful delegates will be awarded the MSc in Chemical Technology & Management

The MSc Project

Both the MSc Process Technology and Management and the MSc Chemical Technology are made up of 120 taught postgraduate credits and a final project. The final project is normally conducted in the students own workplace, giving immediate payback to employers and allowing the student to make practical use of the concepts learned in the preceding years of the course. The project is worth 60 credits of the 180 required for the MSc and would normally be the main focus of the 3rd year of the course. An academic supervisor with some experience in the students chosen project field to help assist the student with the academic requirements of the project, although the management and eventual conclusion of the project will be driven by the student.

Entry requirements

BEng or BSc honours in an appropriate subject or equivalent is the normal minimum requirement. Normally this would be at 2nd class honours or above. Other qualifications may be considered but must meet a similar standard. Due to the variety in qualifications and experience held by prospective students we can only give a definitive answer once a full application is received.

How to apply

Prospective students should apply online at the following links and should upload copies of any qualifications you wish us to consider. A copy of your job description or a letter from your company outlining your responsibilities is also beneficial.

MSc Process Technology and Management
http://www.strath.ac.uk/chemeng/distancelearning/msc-ptm

MSc Chemical Technology and Management
http://www.strath.ac.uk/chemeng/distancelearning/msc-ctm

We would normally try to give a response within a few days but at busy times or holiday periods it may take 2-3 weeks for your application to be processed. If you are waiting any longer than 4 weeks for a response, please contact kenneth.moffat@strath.ac.uk and I will investigate the delay.

Fees and payment options

This distance learning course is full fee so the same fee is applicable to all students, regardless of where they are domiciled. Course costs for 2012/13 are set at £4300 per year, students following the 3 year MSc should budget around £13000 over the duration of the course to take account of possible slight future increases in annual fees.

Annual fees are due prior to registration and a number of payment options are available including online payment, bank transfer, three instalment plan, and for students with a UK bank account a direct debit can be set up. If your company is paying your fees all that is normally required for registration is a letter stating the company's intent to pay and they will be billed directly.

More information on payment options can be found at
http://www.strath.ac.uk/finance/financialservices/payingauniversityinvoice/

Teaching methods

The course is based on printed lecture notes and material delivered from the Universities Virtual Learning Environment (VLE), 'myplace' and lecturers provide support through online tutorials, forums, email, telephone and if demand is sufficient, face to face on campus tutorials.

Assessment is normally by written assignment and exam although some modules will require a project report or practical piece of work to be completed in place of an exam. The final year of the MSc includes a major project which is intended to be completed in the students own workplace.

Examination procedures

Exams are held at the university campus in Glasgow on dates and times specified for each semester. Students within the UK and Ireland are expected to attend exams at the University campus. In more distant parts of Europe and outside of the continent students may apply to sit the exam at an external centre. This would normally be a British Council office, although other venues may be considered. Any additional costs incurred by the student when sitting exams outside of the University are payable by the student.

Postgraduate Diplomas and Certificates

This course offers students who do not want to commit to the full 3 years of the MSc course the option of graduating with a Postgraduate Diploma after 2 years or 120 credits, or a Postgraduate Certificate after 1 year or 60 credits.

This can also provide a student who has either failed the MSc or chooses not to continue, with a qualification reflecting the work completed up to that point.

Students who wish only to apply for a Certificate or Diploma should apply using the MSc application link but should indicate to the course manager at the end of the relevant year that they wish to be put forward for the award of Diploma or Certificate. A student may only graduate once, so if a student chooses to graduate with a certificate or Diploma they will not be able to return and continue with the MSc.

Chartered Engineer (CEng)

The MSc Process Technology and Management is accredited by the Institution of Chemical Engineers (IChemE) as part of the requirements for professional registration as a Chartered Engineer (CEng) and may also be accepted by other institutions in related engineering fields. Normally CEng requires learning to Masters Level and this degree is approved by the IChemE the masters as masters provision towards CEng provided that suitable underpinning knowledge normally at undergraduate level is also evidenced. The foundation modules that can be integrated by this course may provide part of this.

In the UK, professional registration as CEng is governed by the Engineering Council but you must be a member of an Engineering Institution such as the IChemE in order to apply, and it is that institution who will administer your application. Any questions about CEng should be addressed to the institution that you are either a member of or wish to join, the University are not in a position to say what will or will not be accepted by a particular institution. My advice to all students who are studying with a view to achieving CEng is to make contact with and/or join your chosen institution early so that you can be fully apprised of the requirements in the early stages of study.

Foundation modules and CPD

Often students joining the course will be from varying Science and Engineering disciplines and may require a programme of Chemical Engineering Foundation modules. This can be provided as standalone modules taken from the Undergraduate Distance Learning Programme and would often be taken prior to starting the MSc but in some cases may be taken alongside. There is likely to be an additional fee for modules outside of the normal scope of the MSc. Please enquire for details

Frequently Asked Questions (FAQ)

What qualifications do I need to join the course?

See the section on entry requirements, a BEng or BSc honours in an appropriate subject or equivalent is the normal minimum requirement. Normally this would be at 2nd class honours or above. Other qualifications may be considered but must meet a similar standard. Due to the variety in qualifications and experience held by prospective students we can only give a definitive answer once a full application is received.

How much will it cost me?

See the section above on fees which are payable annually. There are not normally any additional costs for materials and if anything additional is required it will kept at very low cost to the student. For students taking examinations outside of the University any additional costs related to this will be payable by the student.

I don't think that I will be able to attend the tutorials, is this a problem?

Tutorials are found to be useful by the students who attend but they are not compulsory. It is possible to complete the course without ever attending the University

Can I take my exams at a venue local to me?

If you are considered to be in a location that is an unreasonable distance to travel you may apply to sit exams in a local venue, normally a British Council office. See the relevant section above for more information.

How flexible is the timeline for completing the course?

The MSc is intended to be completed in a 3 year timeframe, it is not possible to complete this earlier but it may be possible to take longer by applying for periods of voluntary suspension of study. Some students take this option in years where work, health or family pressures are making it impossible to study and the University is sympathetic to these requests. Individual modules run over a fixed timetable so while students can plan the pace of their own study, exam dates and assignments deadlines will still have to be adhered to.

Am I under any obligation if I apply for the course?

No, if your application is successful you will be offered a place on the course, if you accept you are indicating your intention to join the course but it is still possible prior to final registration to change your mind or to defer the course to the following year. All that we ask is that once you have accepted an offer you keep us informed of your intentions so that we can offer the place to another if you to not intend to take it up.

Key dates 2012/13

August

- payment and registration for the course is expected to be completed by mid August at the latest. After this is complete course materials will be posted in mid to late August.

September

- course will commence and first tutorials are likely to be held at this time.

January

- 1st semester examinations
- Late Jan/early Feb semester 2 commences

May

Semester 2 examinations

June

- For some modules the semester may be extended into June to allow more time for part time Distance Learners to complete. This is to be decided and may vary dependant on the module.

July/August

- Summer break/Preparation for next term

Note: In the final year due to the high workload the deadline for the final project and may be extended into summer months but it is not likely that any classes will be taught in July/August

Module list and proposed regulations for 2012/13

Below is a list of the modules which are expected to be available in 2012/13. Additional modules are also in development for all streams below to replace former modules which required updating and redevelopment. The excerpt below is from the course regulations.

A document containing module descriptors should have been provided with this brochure and is available on request or on the course website.

for the Postgraduate Certificate – minimum of 30 credits from list A and B, and a minimum of 10 credits from list C and a minimum of 60 credits overall.

for the Postgraduate Diploma – minimum of 60 credits from list A and B and a minimum of 30 credits from list C and a minimum of 120 credits overall.

for the degree of MSc – minimum of 60 credits from list A and B, and a minimum of 30 credits from list C, and the 60 credit project and a minimum of 180 credits overall.

For the award to be classified as **Process Technology and Management** the majority of Technology modules being counted towards a qualification must be from list A.

For the award to be classified as **Chemical Technology and Management** the majority of Technology modules being counted towards a qualification must be from list B.

List A – Process Technology*	Level	Credits
TBA Process Design Principles (PT4)	5	10
TBA Safety Management Practices (PT2)	5	10
TBA Programming and Optimisation	5	10
TBA Modelling and Simulation (PT3)	5	10
TBA Emerging technologies	5	10
TBA IPR Management (CT3)	5	10
TBA Process Safety Design	5	10
TBA Environmental Engineering and Mgmt (PT9/10)	5	10
TBA Petrochemical Engineering	5	10
TBA Multi-Phase Processing (PT6)	5	10
TBA Process Control Strategies (PT5)	5	10

List B – Chemical Technology*	Level	Credits
TBA Process Design Principles (PT4)	5	10
TBA Safety Management Practices (PT2)	5	10
TBA Programming and Optimisation	5	10
TBA Emerging technologies	5	10
TBA IPR Management (CT3)	5	10
TBA Laboratory Management (CT2)	5	10
TBA Analytical Techniques and Automation (CT5)	5	10
TBA Management of Technological Innovation (CT1)	5	10

List C – Business, Management and IT*	Level	Credits
TBA Understanding Financial Information (MB1)	5	10

TBA	Managing People (MB2)	5	10
TBA	Project Management (MB3)	5	10
TBA	Business and Technology Strategy (MB4)	5	10
TBA	IT Systems and Strategy (IT1)	5	10

** Exceptionally, such other classes totalling no more than 20 credits, as approved by the Course Director*

Students for the degree of MSc only:

18 900	Project	5	60