



MSc Polymers and Surface Coatings Science and Technology

A taught Masters course which aims to meet the needs of the cosmetics, biomaterial, polymer, surface coatings and colorant industries.

Course overview

This MSc will provide you with advanced knowledge and practical skills in colour science and in the theory, application and analysis of polymers and surface coatings.

It will also equip you with the skills required to plan experimentation and processes, synthesis, characterisation and application aspects, alongside a broad range of generic skills such as problem solving and communication.

It is delivered by academic staff who are active in this field of research, which covers areas such as: novel inks and paints formulations; security printing; anti-counterfeit solutions; brand-protection; pigment surface treatment; printing technology; packaging science and novel functional materials.

Underpinning these topics is the research in polymer materials science, interfacial science, polymer chemistry, and particularly novel polymerisation systems.

Traditionally, polymer chemistry involved the science of resins for surface coatings, extruded plastics, fibres and paper engineering. Whilst such areas are still of interest polymer research has now entered a new era, finding many applications in nanotechnology, bone replacement and targeted drug delivery, for example.

Employment prospects

Graduates from this programme often go on to careers in areas such as fine chemicals (including the specialist areas of colorants, food additives and catalysts), polymers and polymers additives, coatings and ink manufacture and development, dispersions, surfactants and high-technology materials in general.

Key features

- Research-led teaching
- Worldwide reputation
- Strong industry contacts and employment opportunities
- International scholarships available
- 12 months duration

“The Department is well known and very well thought of in industry, as are the academics that teach within it who are all leaders in their field.”

Louise Arrowsmith
PhD Colour Chemistry

Course structure

Candidates will be required to study the following compulsory modules worth 180 credits.

Compulsory modules	Credits
Instrumental Analysis and Characterisation of Materials	15
Advanced Polymer and Materials Science	15
The Optical Properties of Coloured Materials	15
Dispersion Science	15
Colorants, Inks and Coatings	30
Advanced Colour Science	15
Practical Skills	15
Research Project	60

You will learn through a combination of lectures, tutorials, practical work and on-site contact with relevant industries, including a number of visiting industrial lecturers.

The final stage of study is the individual research project, which is normally carried out with the relevant research group and may also involve industrial collaboration.

Industry links

Colour Science at Leeds is strongly linked to industry and has major research projects concerning colorants, polymers, surface coatings, printing, medicine, cosmetics, electronic displays, textiles and design and communication technologies.

Our enviable track record of innovation has resulted in successful spin-out companies specialising in cancer therapy, polymer design, colour management and speciality chemicals.

Entry requirements

Applicants should have attained a first or second class honours degree (or equivalent) in a related subject. This includes chemical engineering, chemistry or materials science.

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.

International scholarships

There are up to four awards of £2,000 each to international students of high academic standard. These awards are made on a competitive basis and are only available to students who are liable to pay tuition fees at the full rate and who do not hold other awards toward payment of their fees.

The deadline for applications is 31st May each year and candidates will be informed of the outcome during June.

MSc by research

If you would prefer to concentrate on developing your research skills you may wish to consider this intensive programme. It is studied for one year and within that year all research and writing will be completed ready for your viva voce. Some consider this degree to be more challenging than a PhD, since the practical research aspect of the MSc needs to be underway from the start of the degree.

The literature search and writing up are conducted alongside the practical research so flexibility is a key attribute you must develop.



Further information

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