

## PHARMACEUTICS AND MEDICINE

CLINICAL PHARMACY MSc

MEDICAL LEADERSHIP, EDUCATION AND RESEARCH  
MSc/PG DIP/PG CERT

PHARMACEUTICAL BIOTECHNOLOGY MSc/PG DIP/PG CERT

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MSc/PG DIP/PG CERT

### POSTGRADUATE COURSES

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De Montfort University awarded Gold in  
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## CLINICAL PHARMACY MSc

### OVERVIEW

The Clinical Pharmacy MSc at De Montfort University Leicester (DMU) offers a flexible distance learning approach, supported by minimal attendance, allowing practitioners to study alongside work commitments while maximising peer and tutor learning and support.

Developed in collaboration with clinical pharmacy specialists with direct input and teaching from expert pharmacists and doctors, the course prepares you with the knowledge and skills required for effective work in a clinical pharmacy environment, undertaking roles such as medication reviews and participating in ward rounds.

You will gain a thorough understanding of current clinical pharmacy issues, developing your clinical evaluation skills, while being able to tailor your study to your career interests and apply learning directly to your workplace with practice-based assessments. You will also be able to develop a portfolio of evidence demonstrating your practice and how you have made a difference to patients and services.

### MODULES

All students will study the same modules at certificate stage:

- Clinical Foundations
- Practice Foundations
- Clinical Practice 1
- Clinical Practice 2
- Clinical Practice 3

Students will then choose from some optional modules depending on their interest of practice. These include:

- Service Evaluation
- Practice Development
- Public Health
- Primary Care
- Secondary Care
- Independent Prescribing
- Research

To complete the MSc, students will also complete the Research Project module.

### TEACHING AND ASSESSMENT

As a distance learning course, much of the learning is self-directed, with dedicated materials available on our virtual learning environment.

We recommend 10-15 hours a week for your study during the programme. In the certificate year there is an induction day and two additional study days. Study day requirements in the diploma year vary depending on the optional modules chosen, but are typically two per year unless Independent Prescribing is studied. During study days you will have small group tutorials about the assignments, partake in further study in groups, and you may sit a study day assessment, depending on the module.

Modular assessment includes written reports, case presentations and documentation of work-based interventions. For the Independent Prescribing module, objective structured clinical examinations (OSCEs) are also used.

MSc supervisors are drawn from The Leicester School of Pharmacy, local community and hospital pharmacists who will support you in your project. We also use a team of expert pharmacists and doctors who contribute to the development of the course material and study days, ensuring your learning is relevant to current practice and initiatives.

### EMPLOYABILITY

The Clinical Pharmacy MSc enables practising pharmacists to develop their careers and gain an additional clinical qualification. The specialist and learning skills you acquire are highly sought after in many different sectors. Having an MSc is recognised by many employers as a stepping stone in career progression.

### KEY INFORMATION

**Duration:** April and September start: up to three years part-time, distance learning.

**Entry requirements:** UK/EU students: an honours degree in Pharmacy or related subject, at 2:2 or above (or equivalent).

Registration as a pharmacist with the General Pharmaceutical Council (GPhC), Pharmaceutical Society of Northern Ireland (PSNI), or the Pharmaceutical Society of Ireland (PSI).

Practising in a patient-facing role at least one day a week.

**English language requirements:** IELTS 7 including 7 in each component or equivalent.

Please email [hlsadmissions@dmu.ac.uk](mailto:hlsadmissions@dmu.ac.uk) for more information.



# MEDICAL LEADERSHIP, EDUCATION AND RESEARCH MSc/PG DIP/PG CERT

## OVERVIEW

The MSc in Medical Leadership, Education and Research is a practical and supportive leadership course for doctors, which will put you at the centre of shaping your career.

The course was commissioned by Health Education England in the East Midlands as a means of supporting doctors and encouraging recruitment and retention in the region, although distance learning allows students to travel from a wider geographical area.

A framework is provided which enables you to develop your own area of interest, and supports you with implementing an improvement project, in addition to learning about teaching and research. It will enable you to become a more able clinician, more patient-centred and more able to influence service delivery for patient benefit.

Using a practice-based approach, you will engage with colleagues and patients to make ever-increasing improvements to service delivery using techniques learned as you progress through the course.

## MODULES

Course modules build your skills in leadership, research, teaching and quality improvement in a blended manner as you develop and progress through the programme. They include:

- Personal Professional Development for Leadership
- Partnership with Patients and Stakeholders
- Concepts in Education
- Concepts in Research
- Development of a Service Improvement Strategy
- Demonstration of Service Improvement
- Research Methods and Project

One optional module from the following: Education Assessment Methods, Leadership and Managing Change or Mentoring

## TEACHING AND ASSESSMENT

The course is taught by a mix of attendance at the university and distance learning. Attendance is required at seven study days in year one, seven days in year two and five days in year three. Students are also expected to commit six hours a week to self-study during semester times.

Teaching is delivered by a combination of the core team of academics at DMU and input from external experts. All assessments are coursework rather than exams, and consist of a mixture of structured reports, essays, presentations and a project dissertation.

Our specialist academic team are dedicated to developing and enhancing your professional development. We aim to broaden your horizons in teaching, research and leadership.

## KEY INFORMATION

**Duration:** September and February start - three years part-time for the MSc, with earlier exit options for PG Cert and PG Dip

**Entry requirements:** A medical degree (MB.ChB, MB.BS or equivalent) and registration with the General Medical Council as a medical doctor, with at least five years' experience, post-graduation from a medical degree (successfully completed ST3).

Currently employed and working as a doctor in the UK.

**English language requirements:** IELTS 6.5 including 5.5 in each component or equivalent.





## PHARMACEUTICAL BIOTECHNOLOGY MSc/PG DIP/PG CERT

### OVERVIEW

Pharmaceutical Biotechnology at DMU provides a detailed insight into the technologies that allow the development and production of biopharmaceuticals that could lead to cures for most major diseases. With a high practical content, the course reviews the process from start to finish (from pre-clinical studies, to clinic, through to marketing), preparing you quickly for the industrial setting and giving you a competitive advantage in gaining employment in any biopharmaceutical field in the world.

Globally, pharmaceutical biotechnology courses are rare, so our range of specialist modules means you cover up-to-date subject matter and will develop a truly diverse range of skills. With positive feedback from international experts in higher education and large pharmaceutical companies, your learning is directly relevant to current practice.

The course is suitable for direct undergraduate progression, as well as for experienced professionals in the sector and international students.

### MODULES

The course provides a response to the rapidly-expanding field of biopharmaceuticals (DNA and protein-based medicines) and focuses on the role of proteins as therapeutic agents and as tools for the identification of such agents. It provides insight into how researchers may select and use appropriate protein expression systems for the large-scale to mass production of a protein, that would ultimately lead to its complete characterisation before it is applied to humans. You will also focus on the business and intellectual property aspects that are interwoven with biotechnological innovation and entrepreneurship to enable career progression.

#### Modules include:

- Biopharmaceuticals and Toxicology
- Microbial Fermentation/ Downstream Processing, Drug Development
- Gene Cloning, Expression and Analysis
- Bioinformatics I and II
- Business Creation and Innovation
- Research Methods
- Research Dissertation

### TEACHING AND ASSESSMENT

Depending on your modules, each week students will typically have up to 25 hours of contact time and be expected to undertake at least 30 hours of independent study.

### KEY INFORMATION

**Duration:** September start - one year full-time

**Entry requirements:** An honours degree (2:2 or above) in a relevant subject such as a bioscience or science including pharmacy, biology, biochemistry, biotechnology, chemical engineering, chemistry, microbiology or molecular biology (or equivalent).

Alternatively, a portfolio of professional and/or academic qualifications of equivalent standing to an honours degree.

**English language requirements:** IELTS 6.5 including 5.5 in each component or equivalent.

You will undertake an intensive taught course in the first two semesters, and can expect to spend about half of your directed study time in our industry-standard laboratory facilities. In the third semester, there is the opportunity to conduct a self-directed independent research project.

Teaching includes lectures, tutorials, laboratories and computer laboratories, and you are encouraged to become a proactive and independent learner.

You will benefit from a combination of unique academic expertise across three faculties: Health and Life Sciences, Technology, and Business and Law. This enables you to share one core module with students on the Master of Business Administration (MBA) programme, broadening your understanding around the importance of business in this area. While a varied selection of teaching methods is delivered to suit all learning requirements.

### EMPLOYABILITY

This course has been designed to give you a competitive advantage in gaining employment in any biopharmaceutical field in the world. This includes large global biopharmaceutical companies, small to medium biotechnology companies, academic institutions or research institutions allied to human health.



# PHARMACEUTICAL QUALITY BY DESIGN MSc/PG DIP/PG CERT

## OVERVIEW

Pharmaceutical Quality by Design (QbD) is a systematic approach to development that begins with predefined objectives and emphasizes product and process understanding and process control, based on sound science and quality risk management, from the early to the late stages of the product lifecycle. The course content is aligned with the guidelines from the International Conference on Harmonization (ICH) Q8, Q9, Q10, Q11 and Q12, an initiative being driven and supported by US, EU and Japanese regulatory authorities. Students benefit from investment in our laboratories and specialist equipment, including a Rapid Adaptive Continuous Process platform based on twin screw extrusion supported by industry and regulators.

Additionally, strong industry links (with global names such as GlaxoSmithKline, AstraZeneca, Pfizer) and guest lectures from industrial experts ensures your learning is relevant to current practice and developments within the sector. Taught in the Leicester School of Pharmacy, we have an established reputation of more than 100 years of pharmacy teaching and this is the first MSc dedicated to the “Quality by Design” approach to pharmaceutical product development and manufacture.

## MODULES

- Quality by Design
- Product Design: Pre-Formulation and Formulation
- Analytical Techniques in Material Sciences
- Process Design and Manufacturing
- Advances in Drug Delivery (optional)
- Biopharmaceuticals (optional)
- Process Analytical Technology and Chemometrics
- Experimental Design and Research Methods
- Dissertation

## TEACHING AND ASSESSMENT

Each week students will typically have 20 hours of contact time and be expected to undertake at least 10 hours of independent study.

Teaching in the first two semesters includes lectures, tutorials, seminars, laboratory-based practicals and computer laboratories. In the third semester the learning venue will depend on your dissertation topic and will be much more aimed at self-guided study. Assessment typically includes oral presentations, group work, written assignments, case study reports, essay writing, a research proposal, and a final dissertation.

Our core staff have been teaching for many years and have academic and industrial experience in areas that underpin the QbD principles. These are product formulation, material science, advanced analytical sciences, and process engineering and control.

## EMPLOYABILITY

This course equips graduates with the relevant knowledge and skills to compete for global jobs in the pharmaceutical and healthcare sectors, and in academia. Career opportunities exist in product development, manufacturing, regulatory affairs, marketing and clinical research. Many of our recent graduates have progressed to roles such as manufacturing operators, formulation scientists, senior and research analysts, regulatory affairs associates, product performance managers, senior device technologists, and product development scientists.

## KEY INFORMATION

**Duration:** One year full-time.

**Entry requirements:** A good honours degree (2:2 or above or equivalent) in a chemical, biological or physical science, including (though not exclusive to) chemistry, biology, chemical engineering, engineering, pharmacy, pharmaceutical science, or physics (or equivalent).

Alternatively, we will accept a portfolio of professional and/or academic qualifications of equivalent standing to an honours degree.

**English language requirements:** IELTS 6.5 including 5.5 in each component or equivalent.

# PHYSICIAN ASSOCIATE STUDIES MSc

## OVERVIEW

This course will train you to be a Physician Associate (PA) – a role designed to create a new workforce, which will improve patient access to care. PAs are healthcare professionals who support doctors with the diagnosis and management of patients. They are trained to have the attitudes, skills and knowledge base to deliver holistic care and treatment within general practice, hospitals and community healthcare, including roles such as performing physical examinations, formulating differential diagnoses, interpreting diagnostic tests, and recommending treatment plans.

The Physician Associate Studies MSc is designed and delivered in collaboration with practitioners from local healthcare providers, through taught sessions, self-directed study and a clinical placement. Through the course you will be able to develop your practical skills in our clinical skills suite at DMU, and also develop your critical thinking skills as well as your ability to design, execute and present findings of practice-based research.

## MODULES

- Anatomy and Physiology
- Community Health
- Clinical and Professional Skills
- General Medicine 1
- General Medicine 2
- Practice-Related Project

## TEACHING AND ASSESSMENT

The course is designed and delivered by dedicated academic staff and healthcare professionals, such as PAs and doctors who have a wealth of knowledge in the field. Students will learn through a variety of methods, including lectures, interactive workshops, problem-based learning, work-based learning, and practical clinical skills sessions.

The first year of study is largely based at DMU, and students should expect to be at university full-time every day. Alongside taught activities, students will be required to undertake self-directed study in their own time. The second year is spent on clinical placement, where students will gain experience in primary, secondary and community care.

## EMPLOYABILITY

This programme is designed to equip you with the knowledge and skills required to pursue a career as a Physician Associate.

## KEY INFORMATION

**Duration:** September start - two years, full-time

**Entry Requirements:** Minimum of a 2:1 BSc (Hons), or equivalent, in a life sciences or health-related subject (anatomy, biology, biochemistry, biomedical science, healthcare science, medical science, nursing, paramedic science, pharmacy, physiology, etc).

Alternatively, applicants with a 2:2 or equivalent in a life sciences or health related subject and significant experience employed within a patient-facing healthcare/clinical role may be considered on an individual basis if the above requirement is not met.

You must complete a declaration form and enhanced Disclosure and Barring Services (DBS) application form before starting the course, which needs to be cleared in accordance with DMU's admission policy.

Applicants must also complete a satisfactory health screening. Applicants will be required to attend a selection event (including an interview and short tests) as part of the selection process.

**English language requirements:** IELTS 7.5 including at least 7 in each component or equivalent.

# PRACTICE CERTIFICATE IN INDEPENDENT PRESCRIBING FOR PHARMACISTS

## OVERVIEW

Validated by the General Pharmaceutical Council (GPhC), the Practice Certificate in Independent Prescribing course places an emphasis on practice-based learning. The course is for pharmacists working in all sectors of the profession including hospitals, the community, primary care, prisons or the private sector, and provides the qualification required to practice as an independent prescriber. This programme is available as a stand-alone 45-credit course, or as an option in the second year of the MSc/Diploma in Clinical Pharmacy.

## MODULES

A conversion course for pharmacists already qualified as supplementary prescribers is also available for those who want to upgrade to independent prescribing.

Sessions cover a broad range of topics including psychology of prescribing, legal and ethical issues, evidence-based medicine and clinical and communication skills. Learning outcomes include being able to:

- Evaluate and apply an evidence based practice and patient partnership approach to prescribing decision-making, including public health and clinical governance concerns

- Create and use individualised treatment and monitoring plans for patients within your area of competence
- Prescribe safely, ethically, legally, cost-effectively and within a team, communicating effectively with patients, carers, other prescribers and healthcare professionals
- Perform patient examinations in order to diagnose and monitor the conditions within your area of competence
- Reflect upon prescribing practice and use this to develop audits and continue your professional development, recording this appropriately
- Use common diagnostic aids, e.g. stethoscopes

## TEACHING AND ASSESSMENT

The small cohort lends itself to an informal teaching approach in which discussion and debate is encouraged. Our virtual learning environment provides a point of resource and communication between students and academics. Practice-based assessment typically includes a portfolio and reflective log of clinical experience. There is also an objective structured clinical examination (OSCE) assessment and a written assessment.

The course is delivered over a period of eight taught days and competencies in the chosen clinical area are covered by 90 hours in clinical practice under the guidance of a designated medical practitioner. The 15 credit conversion course requires attendance at 21 hours of workshops and seminars on campus, as well as a minimum of 15 hours in clinical practice under the guidance of a designated medical practitioner.

This programme is designed and delivered by a multidisciplinary team of expert academics, experienced pharmacists, clinicians and healthcare professionals, with a practice-based approach to learning and assessment. You will benefit from the continued input of experienced practitioners from the fields of pharmacy, medicine and nursing, encouraging interdisciplinary working and ensuring your learning is relevant to current practice.

## EMPLOYABILITY

Upon successful completion of this course you will be awarded a Practice Certificate in Independent Prescribing, which will allow you to apply to the GPhC for your register entry to be annotated to that of a prescriber.

## KEY INFORMATION

**Duration:** October start: four to six months, part-time.

**Entry requirements:** Be a registered pharmacist with the General Pharmaceutical Council (GPhC) or the Pharmaceutical Society of Northern Ireland (PSNI).

Have at least two years' appropriate patient-orientated experience in a UK hospital, community or primary care setting following your pre-registration year.

Support from a Designated Medical Practitioner (DMP) who will mentor you during your 90 hours of learning in practice. This DMP must meet the GPhC criteria for a DMP Requirements of the course are stipulated by the GPhC; further details can be found on their website.

**English language requirements:** IELTS 6.5 including 5.5 in each component or equivalent.





## QUALITY BY DESIGN FOR THE PHARMACEUTICAL INDUSTRY MSc/PG DIP/PG CERT

### OVERVIEW

Quality by Design (QbD) is at the very heart of leading-edge pharmaceutical development, with QbD-based regulatory submissions continuing to rise and principles being embedded in development processes across the pharmaceutical industry. The course can potentially lead to careers in leading companies such as AstraZeneca and GlaxoSmithKline.

Designed to meet the continuing professional development (CPD) needs of pharmaceutical and allied practitioners worldwide, the course provides the tools and techniques needed to implement a QbD approach within your own organisation through flexible distance learning opportunities to undertake stand-alone modules leading to a named continuing professional development award.

Course content informs part of a major initiative, being driven and supported by US, EU and Japanese regulatory authorities, and defined within the Q8, Q9, Q10 and Q11 guidelines from the International Conference on Harmonization (ICH).

### MODULES

Undertake a range of core and optional modules, with flexible exit routes such as MSc, PG Dip and PG Cert. You can also choose to study a stand-alone module through the CPD route (please contact us for more information).

- Regulatory Guidelines, Principles and Tools of Quality by Design
- The QbD Product
- Development Roadmap
- Quality by Design in Practice
- Manufacturing, Process
- Controls and Inspection
- Negotiated Studies
- Research Methods

### TEACHING AND ASSESSMENT

Course material is delivered through video lectures with integrated presentations, and uses a variety of course assessment methods including reflective writing, case study analysis, critical review of literature and a research project. Each module is studied over 20 weeks, while the dissertation is designed to take around 40 weeks.

We have a dedicated team of staff who contribute to the course. The programme and module leaders are all registered pharmacists, and have experience in hospitals, the community, primary care, secure environment and prescribing areas of pharmacy practice.

### EMPLOYABILITY

This course equips graduates with the relevant knowledge and skills to compete for global jobs in the pharmaceutical and healthcare sectors, as well as academia. Career opportunities exist in product development, manufacturing, regulatory affairs, marketing and clinical research.

### KEY INFORMATION

**Duration:** October start: part-time; minimum of two years, maximum of six years.

**Entry requirements:** A good honours degree (2:2 or above or equivalent) in a chemical, biological or physical science, including (though not exclusive to) chemistry, biology, chemical engineering, engineering, pharmacy, pharmaceutical science, or physics (or equivalent).

Alternatively, we will accept a portfolio of professional and/or academic qualifications of equivalent standing to an honours degree.

Students should ideally be employed within the pharmaceutical or health sectors.

**English language requirements:** IELTS score of 6.5, or equivalent, is essential.



**De Montfort University  
The Gateway  
Leicester LE1 9BH  
UK**

**T +44 (0)116 2 50 60 70  
E: [enquiry@dmu.ac.uk](mailto:enquiry@dmu.ac.uk)  
W: [dmu.ac.uk/PG](http://dmu.ac.uk/PG)**



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The content of this document is correct at the time of going to press. You are advised to check our website before making an application in case there are any changes to the course you are interested in, as the contents of the website will always take precedence.

#### **Alternative formats**

Where possible DMU publications or specific sections can be supplied in alternative media.

For further information, please contact the Enquiry team on +44 (0)116 2 50 60 70 or email [enquiry@dmu.ac.uk](mailto:enquiry@dmu.ac.uk)