Quality Assurance
MPharm

Programme Specification Template: Undergraduate

Information for students: the programme specification is the definitive document summarising the structure and content of your degree programme. It is reviewed and updated every year as part of Keele’s Curriculum Annual Review and Development process. The document aims to clarify to potential and current students what you can expect from the study of the subject over the course of your programme.

<table>
<thead>
<tr>
<th>Names of programme(s):</th>
<th>MPharm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode of study:</td>
<td>Full time</td>
</tr>
<tr>
<td>Single Honours/Dual Honours/Major-minor:</td>
<td>Single Honours Integrated Masters</td>
</tr>
<tr>
<td>Framework of Higher Education Qualification (FHEQ) level of final award:</td>
<td>FHEQ Level 7</td>
</tr>
<tr>
<td>Duration:</td>
<td>4 years</td>
</tr>
</tbody>
</table>

The programme is accredited by the General Pharmaceutical Council.

A table is available at the following link detailing the External Examiners for the programme: http://www.keele.ac.uk/qa/externalexaminers/

1. What is the Philosophy of the Programme?

The aim of the MPharm programme is to produce graduates prepared to undertake the pre-registration programme (the post-graduate training year required to register as a pharmacist) with the values and attitudes that will enable them to undertake the roles and duties of a pharmacist in a highly professional manner.

The objectives of the MPharm programme are:

- To enable our undergraduate students to apply an evidence-based and patient-centred approach to practice;
- To provide students with the breadth and depth of appropriate subject knowledge in keeping with an MPharm programme;
- To provide high quality teaching in Pharmacy in a dynamic environment that reflects external developments in employers’ needs;
- To enable students to become reflective learners, and to encourage and develop self-discipline and enthusiasm for continual professional development that continues throughout their careers;
- To provide students with the opportunity to gain direct and indirect experience of the work of a pharmacist, enabling an understanding of the profession of Pharmacy as a patient-centred discipline, and the role of the pharmacist in primary and secondary care settings and in the pharmaceutical industry;
- To allow students to deepen both their Pharmacy-specific knowledge but also their skills base, by maintaining both a programme of appropriate skills training throughout the course but also by introducing increasing challenges as the programme progresses.
Following the government White Paper, *Pharmacy in England: Building on Strengths–Delivering the Future* (Department of Health, 2008), and the formation of the General Pharmaceutical Council (GPhC) in 2010, the structure of MPharm programmes nationally is under review. Foremost amongst potential developments is the introduction of greater clinical content and experience into MPharm curricula, and this may encompass the inclusion of the pre-registration year in a five-year integrated programme leading directly to registration.

Anticipating these changes, the Keele MPharm programme has been designed to provide:

- a fully integrated and contextualised course that better prepares students for the future roles of the pharmacist; and
- increased opportunities for students to have contact with patients and to practise their clinical skills.

While designing the course, care has been taken to build in flexibility whatever model of placements is decided upon by the profession. A programme structure comprising four 120-credit integrated modules will allow for the smooth inclusion of enhanced placement opportunities.

**Keele Graduate Attributes**

Engagement with this programme will enable you to further develop your intellectual, personal and professional capabilities. At Keele, we call these our ten Graduate Attributes and they include independent thinking, synthesizing information, creative problem solving, communicating clearly, and appreciating the social, environmental and global implications of your studies and activities. Whilst you will undoubtedly have already developed these skills and abilities to varying degrees, such existing capabilities can always be deepened and enriched. Our educational programme and learning environment is designed to help you to develop further as a well-rounded postgraduate who is capable of making a positive and valued contribution in a complex and rapidly changing world, whichever spheres of life you engage in during and after your studies at Keele.

Please refer to the programme webpages for a statement of how you can achieve the Keele Graduate Attributes through full engagement in the programme and other educational opportunities at Keele.
2. How is the Programme taught?

A wide variety of teaching methods are used within the MPharm programme. These include traditional large group teaching sessions, workshops, seminars and tutorials (both face-to-face and on-line) and a variety of practical classes that support the development of scientific and professional skills. However, a feature of the Keele MPharm programme is the use of innovative teaching methods; these include: computer-generated virtual environments where the student can “float” complex molecules to view receptor sites, and a virtual body which can show anatomy and physiology in detail in three-dimensions.

The above scheduled teaching sessions are supported by an extensive programme of one-to-one mentoring by healthcare professionals, a series of clinical placements and regular opportunities to interact with both simulated (actor) and real patients.

All of the teaching and learning experiences are structured to achieve two key aims: contextualisation of material and integration of themes. In this way, students are prepared for the range of assessments that are used in the programme.

Teaching staff

The MPharm programme is taught by the following staff compliment:

<table>
<thead>
<tr>
<th>Position</th>
<th>Full time equivalents</th>
<th>Registered as pharmacists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professors</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Readers</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Senior Lecturers / Fellows</td>
<td>4.2</td>
<td>2.2</td>
</tr>
<tr>
<td>Lecturers / Teaching Fellows</td>
<td>13.4</td>
<td>5</td>
</tr>
<tr>
<td>Academic Clinical Educators</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Teaching Assistants / Demonstrators</td>
<td>5.5</td>
<td>0</td>
</tr>
</tbody>
</table>

The majority of teaching staff are either Fellows of the Higher Education Academy or are working towards this status.

3. What is the Structure of the Programme?

The programme is planned as four 120-credit modules – one for each year of study. During each year teaching material is delivered within themes that are designed to integrate the physical and social sciences within the context of patient care and public health.

During Levels 6 and 7 students have the opportunity to choose topics to study within an electives strand that starts in the second semester of Level 6 and runs through to the end of Level 7. Comprising the equivalent of 20 credits at Level 6 and 40 at Level 7, students choose from a range of specialist topics taught in small seminar groups and an extended project. The number of specialist options chosen and the length / nature of the project may be varied to suit each student’s interests and aspirations.

Shown on the following pages are the learning outcomes for each level of study. Further details of the mapping of learning outcomes to themes are provided in the module guides for each level of study.
## Learning outcomes for the programme

### FHEQ Level 4 (Stage 1)

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Principal forms of assessment used (not specific to each learning outcome)</th>
</tr>
</thead>
</table>
| Apply an integrated approach towards patient care which links pharmaceutical science and pharmacy practice | 01: Laboratory Assessment weighted 9% 1st cycle laboratory skills assessment  
The laboratory assessment will be based upon a laboratory session conducted during the 1st cycle. A formative attempt will also be provided. |
| Describe the concepts of health, illness, public health and the development of health policy, including the role of medicines in society | 02: Practical Assessment weighted 9% 1st cycle practical skills assessment  
The assessment will cover a variety of essential academic and professional skills. |
| Describe the structure and function of healthcare provision in the UK, including the regulation of healthcare professionals | 03: Exam weighted 15%  
End of 1st cycle exam comprising one paper  
The end of cycle examination will comprise one MCQ paper. Formative tests will be provided prior to the examination to assist students with preparation. |
| Recognise the key characteristics of a responsible and capable healthcare professional, including skills, attitudes and values | 04: Laboratory Assessment weighted 9% 2nd cycle laboratory skills assessment  
The laboratory assessment will be based upon a laboratory session conducted during the 2nd cycle. A formative attempt will also be provided. |
| Describe the roles of other healthcare professionals and the importance of interprofessional collaboration | 05: Practical Assessment weighted 9% 2nd cycle practical skills assessment  
The assessment will cover a variety of essential academic and professional skills. |
| Demonstrate an understanding of the key features of the profession of pharmacy and the varied career profiles of pharmacists | 06: Exam weighted 15%  
End of 2nd cycle exam comprising one paper  
The end of cycle examination will comprise one MCQ paper. Formative tests will be provided prior to the examination to assist students with preparation. |
| Describe and apply the underpinning legal framework for the sale and supply of medicines in the UK | 07: Laboratory Assessment weighted 9% 3rd cycle laboratory skills assessment  
The laboratory assessment will comprise a report based upon a multi-step synthesis. A formative attempt will be provided in Cycle 2. |
| Demonstrate an ability to make sound and informed decisions in accordance with basic ethical principles | 08: Practical Assessment weighted 9% 3rd cycle practical skills assessment |
| Describe the basic architecture and cellular diversity of prokaryotic and eukaryotic cells | |
| Explain the essential aspects of metabolism at a cellular level | |
| Describe the different types of inter- and intracellular signalling systems in eukaryotic cells | |
| Describe the central role of thermodynamics, chemical kinetics and electrochemistry in biological systems | |
| Describe the cellular and molecular interactions involved in the formation and function of tissues | |
| Describe the role of genes in living organisms and how inheritance of genes affects human body systems | |
| Describe the normal anatomy and physiology of the major body systems | |
| Describe the structure and function of common receptor types | |
| Interpret pharmacological data to identify drug-target interactions | |
| Explain the common mechanisms by which drugs interact with physiological systems to exert pharmacological and adverse effects | |
| Interpret common pathological symptoms associated with abnormal functions in body systems | |
Recognise and describe the structures and functions of molecules and their reactivity

Describe how functional groups affect the physicochemical properties of molecules

Describe how the physicochemical properties of molecules affect their formulation into medicines and the route of administration to patients

Describe why a variety of dosage forms is necessary and the relative merits and demerits of the available forms

Determine the purity and composition of compounds using appropriate practical and analytical techniques

Describe the process of drug design and development from identification of target to formulation

Describe and explain biopharmaceutics in terms of the relationship between dosage form and interaction of the drug substance with human physiology

Demonstrate a high level of laboratory skill and apply a knowledge of the skills necessary for the successful completion of appropriate manipulative practical exercises

Demonstrate competence in pharmaceutical calculations

Communicate complex concepts effectively, both orally and in writing, in a manner that reflects professional practice

The assessment will cover a variety of essential academic and professional skills

09: Exam weighted 16%
End of 3rd cycle exam comprising one paper
The end of cycle examination will comprise one MCQ paper. Formative tests will be provided prior to the examination to assist students with preparation.

10: Professional Development
Professional skills development
The Professional Development assessment will include CPD activities, competency assessment in pharmacy practice (including calculations and communications skills), case studies in ethics, and evidence of professionalism measured by Professional Activity Credits

11: Mixed Exam
End of year synoptic assessment
This assessment will comprise both group work and individual assessment. It will potentially cover all topics studied during the year, but will focus in particular on demonstrating understanding of the integration of those topics

FHEQ Level 5 (Stage 2)

Learning Outcome

1: Laboratory Assessment weighted 12%
1st Cycle laboratory skills assessment
The laboratory assessment will comprise elements from multiple laboratory sessions during the 1st Cycle

2: Practical Assessment weighted 13%
1st Cycle practical skills assessment
The practical skills assessment will include an essay, a presentation, and a pharmacy practice exercise

3: Exam weighted 25%

Principal forms of assessment used (not specific to each learning outcome)

Demonstrate knowledge of and apply an integrated approach towards patient care which links pharmaceutical science and pharmacy practice

Explain how physiological patient factors affect the choice of pharmacological agents to treat disease states based upon absorption, distribution, metabolism and excretion data

Identify and describe the mechanisms of common drug-drug, drug-patient and drug-food interactions and their consequences for patient care

Explain how drug resistance and drug interactions have consequences for patient care

Explain the relationship between absorption, distribution, metabolism and elimination of drugs and their physicochemical properties and formulation

Compare and evaluate the efficiency and safety of different routes of drug administration

Explain the underpinning concepts in physical chemistry and
<table>
<thead>
<tr>
<th>Task</th>
<th>Assessed by</th>
<th>Weighting (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluate and select processes and formulations appropriate to the manufacture of specified drug products</td>
<td>End of 1st cycle exam comprising two papers</td>
<td>12%</td>
</tr>
<tr>
<td>Explain the processes involved in the quality assurance of all aspects of pharmaceutical drug development, formulation and the manufacturing process</td>
<td>The end of cycle examination will comprise two papers and will contain a mix of MCQ and written answer questions.</td>
<td>12%</td>
</tr>
<tr>
<td>Describe in detail analytical techniques employed to assure quality and safety during the drug development process and the quality, safety and efficacy of the finished drug product</td>
<td>04: Laboratory Assessment weighted 12%</td>
<td>12%</td>
</tr>
<tr>
<td>Demonstrate the relationship between the design of drug product formulation, properties of the formulation, in vitro behaviour and in vivo performance</td>
<td>2nd cycle laboratory skills assessment</td>
<td>12%</td>
</tr>
<tr>
<td>Apply the physicochemical principles underlying the formulation of various dosage forms to the extemporaneous preparation of medicines</td>
<td>The laboratory assessment will comprise elements from multiple laboratory sessions during the 2nd Cycle</td>
<td>12%</td>
</tr>
<tr>
<td>Describe the relevance of microbiology within healthcare practice, and the challenges presented by infection in the context of patient care</td>
<td>05: Practical Assessment weighted 13%</td>
<td>13%</td>
</tr>
<tr>
<td>Describe in detail the metabolic interrelationships of the various tissues and organs of the human body, including the role of hormones in the integration of metabolism and the maintenance of homeostasis</td>
<td>2nd cycle practical skills assessment</td>
<td>13%</td>
</tr>
<tr>
<td>Explain the common techniques used in the analysis of biological data to arrive at safe and appropriate drug selection for a patient</td>
<td>The practical skills assessment will include an essay, a group presentation, a chromatography assignment and a dispensing exercise</td>
<td>13%</td>
</tr>
<tr>
<td>Interpret nationally and locally produced guidelines in the selection and recommendation of appropriate therapeutic regimens for patients</td>
<td>06: Exam weighted 25%</td>
<td>25%</td>
</tr>
<tr>
<td>Apply a methodical approach to, and demonstrate competence in, the supply of medicines, including controlled drugs, in light of relevant clinical, legal, ethical and pharmaceutical factors</td>
<td>End of 2nd cycle exam comprising two papers</td>
<td>25%</td>
</tr>
<tr>
<td>Demonstrate competence in pharmaceutical calculations related to pharmacology, pharmaceutics and pharmacy practice</td>
<td>The end of cycle exam will comprise two papers and will contain a mix of MCQs and written answer questions.</td>
<td>25%</td>
</tr>
<tr>
<td>Demonstrate competence in the performance of laboratory techniques in the pharmaceutical sciences and the analysis of data generated therein</td>
<td>07: Portfolio</td>
<td>25%</td>
</tr>
<tr>
<td>Demonstrate competence in the performance of laboratory techniques in the pharmaceutical sciences and the analysis of data generated therein</td>
<td>Professional Portfolio</td>
<td>25%</td>
</tr>
<tr>
<td>Communicate complex concepts effectively, both orally and in writing, in a manner that reflects professional practice</td>
<td>The portfolio will include CPD reflections and a competency assessment in dispensing. Students will also be required to acquire a set number of Professional Activity Credits.</td>
<td>25%</td>
</tr>
<tr>
<td>Demonstrate competence in the performance of laboratory techniques in the pharmaceutical sciences and the analysis of data generated therein</td>
<td>08: Mixed Exam</td>
<td>25%</td>
</tr>
<tr>
<td>Demonstrate competence in the performance of laboratory techniques in the pharmaceutical sciences and the analysis of data generated therein</td>
<td>End of year synoptic assessment</td>
<td>25%</td>
</tr>
<tr>
<td>Communicate complex concepts effectively, both orally and in writing, in a manner that reflects professional practice</td>
<td>This assessment will comprise both group work and individual assessment. It will potentially cover all topics studied during the year, but will focus in particular on demonstrating understanding of the integration of those topics.</td>
<td></td>
</tr>
</tbody>
</table>
# FHEQ Level 6 (Stage 3)

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Principal forms of assessment used (not specific to each learning outcome)</th>
</tr>
</thead>
</table>
| Apply a detailed understanding of the statistical and mathematical tools of evidence-based medicine, including epidemiology, to calculate, analyse and draw conclusions from the results of clinical trials and epidemiological studies | 01: Coursework weighted 15%  
Stage 3 Coursework part 1  
This component of assessment comprises a variety of assessments including: case studies and critiques.                                               |
| Use the principles of evidence-based medicine and systematically apply knowledge of the underpinning pharmaceutical sciences to the process of therapeutic decision making in the management of specified disease states | 02: Coursework weighted 15%  
Stage 3 Coursework part 2  
This component of assessment comprises a variety of assessments including: case studies, on-line group work, and Tripartite Problem Solving Exercises (TRIPSEs). |
| Demonstrate knowledge of and apply an integrated approach towards patient care which links pharmaceutical science and pharmacy practice | 03: Options weighted 20%  
MPPharm elective assessments  
Students will be assessed in their chosen elective topics. A variety of assessment methods will be used, including (but not exclusively) presentations, reports, critiques essays and tests. |
| Apply a systematic and integrated knowledge of underpinning pharmaceutical sciences and pharmaceutical care to the interpretation and implementation of clinical and therapeutic guidelines | 04: Mixed Exam weighted 10%  
Stage 3 Examination 1 (2 papers)  
This 2.5 hour examination comprises both seen and unseen elements and will contain a combination of MCQs and written answers. |
| Review, consolidate and extend knowledge and understanding of the properties and applications of drug delivery systems to maximise the therapeutic benefits for patients | 05: 3.5 Hour Mixed Exam weighted 20%  
Stage 3 Examination 2 (2 papers)  
This 3.5 hour examination comprises both seen and unseen elements and will contain a combination of MCQs and written answers presented as two papers. |
| Review, consolidate and extend knowledge of microbiology, medicinal chemistry, pharmacology and pharmaceutics in the context of pharmaceutical care and medicines optimisation | 06: 2.5 Hour Mixed Exam weighted 20%  
Stage 3 Examination 3 (2 papers)  
This 2.5 hour examination comprises both seen and unseen elements and will contain a combination of MCQs and written answers presented as two papers. |
| Describe and critically evaluate the role of pharmacotherapy in the management of specified disease states |                                                                                                               |
| Develop an understanding of the causes, incidence and clinical features, including differential diagnosis, of specified disease states |                                                                                                               |
| Apply a systematic and integrated knowledge of underpinning pharmaceutical sciences to the process of therapeutic decision making in specific population groups, including: children, the elderly, pregnant women and breastfeeding mothers, patients with liver and renal impairment |                                                                                                               |
| Critically evaluate medical case notes (including laboratory data) as part of a multidisciplinary healthcare team |                                                                                                               |
| Review, consolidate and extend knowledge of the legal, regulatory and governance frameworks of pharmacy practice |                                                                                                               |
| Review, consolidate and extend knowledge of the regulation of healthcare professions, including fitness to practise |                                                                                                               |
| Demonstrate a systematic understanding of the concepts of public health, health inequalities and health promotion (including the legal and professional framework for accountability) needed to implement and evaluate a health promotion campaign |                                                                                                               |
| Apply an in-depth knowledge of decision making processes to complex ethical problems |                                                                                                               |
**FHEQ Level 7 (Stage 4)**

<table>
<thead>
<tr>
<th>Learning Outcome</th>
<th>Principal forms of assessment used (not specific to each learning outcome)</th>
</tr>
</thead>
</table>
| Compare and critically evaluate research techniques and self-management skills in order to plan a programme of research at a professional level                                                                                                                                                                                                 | 07: Mixed Exam  
End of year synoptic assessment  
This assessment will comprise both group work and individual assessment. It will potentially cover all topics studied during the year, but will focus in particular on demonstrating understanding of the integration of those topics. |
| Identify and explain the differences between audit, service evaluation and research                                                                                                                                                                                                                                                                  | 08: Professional Development  
Professional skills development  
The Professional Development assessment will include CPD activities, competency assessment in pharmacy practice (including calculations and communications skills), case studies in ethics, and evidence of professionalism measured by Professional Activity Credits. |
| Critically evaluate current research and advanced scholarship in pharmacy, the pharmaceutical sciences and related fields, and apply a detailed understanding of the research process in planning a research project                                                                                                                                                           |                                                                             |
| Demonstrate an ability to make informed decisions using the available evidence base to solve complex problems                                                                                                                                                                                                                                        |                                                                             |
| Demonstrate competence in calculations related to evidence-based medicine, clinical pharmacy and pharmacoeutics                                                                                                                                                                                                                                       |                                                                             |
| Communicate complex concepts effectively, both orally and in writing, in a manner that reflects professional practice                                                                                                                                                                                                                               |                                                                             |
| **Apply a systematic understanding of pharmacology, pharmacokinetics and pharmaceutics to the process of therapeutic decision making and the rationale and role of drug therapy**                                                                                                                                                        | 01: Seminar weighted 7%  
Student-led workshop  
Students will work in groups to design and lead workshops for their peers on designated clinical topics. NB As these are "live" teaching sessions it is not possible to assess these anonymously |
| **Demonstrate knowledge of and apply an integrated approach towards patient care which links pharmaceutical science and pharmacy practice**                                                                                                                                                                                                                           | 02: Group Project weighted 7%  
Health Promotion Project  
Students will work collaboratively to design and deliver a health promotion campaign, including production of health promotion materials. NB As these are "live" activities conducted and assessed in public locations, it is not possible to assess these activities anonymously. |
| **Apply the principles of evidence based medicine to clinical and therapeutic scenarios and critically evaluate complex therapeutic regimens**                                                                                                                                                                                                            | 03: Coursework weighted 7%  
In-course TRIPSE assessment  
Students will work in groups to complete TRIPSE assignments. These involve complex patient case studies designed to closely reflect the staged diagnosis and decision-making encountered by healthcare professionals in practice. |
| **Apply a systematic knowledge of the current understanding of the epidemiology, aetiology, pathophysiology, clinical features and diagnosis of disease states to solve problems concerning the management of specified diseases and clinical conditions**                                                                                      |                                                                             |
| **Apply comprehensive knowledge of pharmaceutical sciences, clinical therapeutics and evidence based principles to the process of diagnosis, clinical management of disease and therapeutic decision making**                                                                                                                                     |                                                                             |
| **Critically evaluate patients’ responses to therapeutic interventions and modify treatment where appropriate**                                                                                                                                                                                                                                           |                                                                             |
| **Apply a systematic understanding of the consultation process including an understanding of compliance and concordance and demonstrate the ability to communicate effectively with patients, carers and other healthcare professionals**                                                                                       | 04: Mixed Exam weighted 15%  
Partially seen exam (Part 1)  
This examination will comprise a combination of MCQ and long-answer questions. The latter will be chosen from an extended list of questions provided to students in advance of the examination. The exam will focus on the |
<p>| <strong>Demonstrate an understanding of the roles and responsibilities of the different members of the prescribing team and the</strong>                                                                                                                                                                                                                           |                                                                             |</p>
<table>
<thead>
<tr>
<th>Responsibilities of a Pharmacist Prescriber</th>
<th>First two therapeutic blocks studied.</th>
</tr>
</thead>
</table>
| Demonstrate a comprehensive understanding of the legal, policy, professional, ethical and clinical governance frameworks for accountability and responsibility in relation to pharmacist prescribing | 05: Mixed Exam weighted 15%  
Partially seen exam (Part 2)  
This examination will comprise a combination of MCQ and long-answer questions. The latter will be chosen from an extended list of questions provided to students in advance of the examination. The exam will focus on the second and third therapeutic blocks studied. |
| Apply a comprehensive knowledge of the regulation of health care professions and fitness to practice, in particular in relation to pharmacists in their extended roles as consultant pharmacists, independent prescribers, pharmaceutical health specialists and clinical team leaders | |
| Explain in detail how molecular genetics can be applied in clinical research, in the diagnosis of disease states, and in the design of appropriate therapies using pharmacogenomics | 06: Coursework weighted 32%  
MPharm Stage 4 Electives - Project and Option topic(s)  
Students will be assessed in their chosen elective topics. All students will complete a report on their chosen project along with a variety of assessment methods within the optional topics. These may include (but are not exclusive to) presentations, critiques, essays and tests. NB it is not possible to assess anonymously the majority of assessments in this section as they will be taught and assessed on a one-to-one or small group basis. |
| Apply a systematic and detailed understanding of the dynamic nature of genes in populations and the possible causes of inherited and acquired genetic diseases | 07: Online Tasks weighted 8%  
Contribution to on-line discussions on current developments  
Students will participate in a BLOG of current issues in pharmacy and healthcare generally. NB It is not possible to assess participation in this activity anonymously. |
| Interpret the impact of recent advances in therapeutics on patient care | 08: Case Study weighted 9%  
Synoptic assessment  
Students will participate in a mock drug and therapeutic committee, representing a variety of roles in healthcare and the pharmaceutical industry. This will involve collaboration with colleagues in preparation, but contributions will be assessed on an individual basis. NB as this is a “live” assessment it is not possible for contributions to be marked anonymously. |
| Develop an original health promotion service by drawing on a systematic and integrated knowledge of applied therapeutics in the context of public health | 09: Objective Structured Skills & Clinical Examination  
Final OSCE assessment  
Students will complete a multi-station OSCE that will focus on skills and knowledge required for day one of pharmacy practice. OSCE stations will include for example: dispensing exercises, clinical skills, communication skills in the context of health promotion, recent changes to governance and regulatory requirements. There will an opportunity for formative / mock assessment in the OSCE under exam conditions and students will be able to gain exemption from the final |
| Undertake critical appraisal of the impact on pharmacy practice of recent legislative changes (including EC directives) and professional developments | |
| Critically evaluate current research and advanced scholarship and practice in selected specialist topics and accurately undertake data acquisition in a relevant project area if appropriate | |
| Apply a systematic and detailed understanding of the legal, professional and contractual frameworks governing healthcare and use these to critically evaluate the implications of recent changes in the healthcare environment, particularly in relation to pharmacy | |
| Communicate progress reports and conclusions on work carried out to specialist and non-specialist audiences | |
| Show self-direction and originality in tackling and solving problems | |
assessments based on performance in the mock assessment. NB some elements of the OSCE will involve face-to-face interaction and hence not be marked anonymously.

| Communicate complex concepts effectively, both orally and in writing, in a manner that reflects professional practice | 10: Professional Development
Professional skills development
This assessment comprises students participation in a number of activities that reflect attributes of pharmacists in professional practice. These will include participation in reflective practice in CPD cycles; participation in ethical case studies; ad participation in the Professional Activity Credits (PAC) scheme. |

**Exit routes**

The following exit routes are available from the MPharm programme:

- Students who have attained the required standard shall be awarded the Masters degree with honours classification as follows:
  - First class: a mean average of at least 70% determined in accordance with the weightings specified below
  - Second Class Division I: a mean average between 60% and 69% determined in accordance with the weightings specified below
  - Second Class Division II: a mean average between 50% and 59% determined in accordance with the weightings specified below

For the purpose of the Masters degree with honours classification modules shall contribute to the mean average calculation as follows:

- Level 5 module: 20%
- Level 6 module: 30%
- Level 7 module: 50%

- Students who successfully complete Level 4 but who do not progress may be awarded a Certificate of Higher Education
- Students who successfully complete Level 5 but who do not progress may be considered for a Diploma of Higher Education
- Students who successfully complete Level 6 but who do not progress may be awarded a BSc honours degree in Pharmaceutical Studies
- Students are only eligible for entry to the pre-registration training year (and hence to the Register of Pharmacists) when they graduate with the full MPharm degree

**4. How is the Programme assessed?**

In each Level of the programme a combination of examination (in various formats) and coursework is employed. An outline of the assessment types is provided below.
At all levels, reassessment opportunities for individual components of coursework will be provided during the academic year. Students who have failed to complete any of the assessments above will be given the opportunity to redeem the failure during the August reassessment period, where possible.

Level 4 (Stage 1)

Each eight-week cycle of learning is assessed using a balanced mix of unseen multiple-choice examinations and laboratory, coursework and skills-based assignments. Students also complete a professional development portfolio, given the title of Professional Skills Element, throughout the year.

After completing the three cycles of learning and assessment students undertake a problem-based learning strand culminating in a group-based competency assessment. The aim of this synoptic assessment is to ensure that students demonstrate understanding of the links and interdependencies between the topics that they have covered during the year.

In order to be awarded credits at Level 4, students are required to pass:

- the end-of-cycle examinations;
- the laboratory skills assessments;
- the practical skills assessments

Students must also achieve a satisfactory standard in the Professional Skills Element (which includes competency based assessments) and the final synoptic assessment.

Progression to Level 5 is not permitted until all units of assessment are completed satisfactorily.

Level 5 (Stage 2)

There are two cycles of learning and assessment in Level 5. Each cycle is assessed using a balanced mix of unseen examinations, and laboratory, coursework and skills-based assignments, alongside the Professional Skills Element that runs throughout the year. As in Level 4, a synoptic assessment allows students to demonstrate understanding of the links and interdependencies between the topics that they have covered; this assessment takes the form of a group-based assignment as at Level 4.

In order to be awarded credits at Level 5, students are required to pass:

- the end-of-cycle examinations;
- the laboratory skills assessments;
- the practical skills assessments

Students must also achieve a satisfactory standard in the Professional Skills Element (which includes competency based assessments such as that for dispensing practice) and the final synoptic assessment.

Progression to Level 6 is not permitted until all units of assessment are completed satisfactorily.

Level 6 (Stage 3)

Level 6 is assessed by a balanced mix of seen and unseen examinations, coursework and skills-based assignments alongside the Professional Skills Element and synoptic assessment throughout the year.

In addition at Level 6, and continuing in Level 7, TRIPSE assessments are introduced. TRIPSEs are designed to mirror closely the clinical challenges that pharmacists face in day-to-day practice. Peer and self-assessment are also introduced at this level.

Progression to Level 7 is not permitted until all units of assessment are completed satisfactorily; it should be noted that students must achieve a threshold mark of 50% averaged across all Level 6 assessments in order to progress.
Level 7 (Stage 4)

New coursework assessments introduced at Level 7 include the project report and presentation, and a public health campaign along with a variety of assessments associated with the option topics.

As in previous years, students must also achieve a satisfactory standard in the Professional Skills Element (including competency based assessments) and the final synoptic assessment.

Formative assessments and feedback

At all levels of the programme, there are frequent opportunities for formative assessment and feedback. Formative assessments may be class tests (in class or on-line), practice/mock assessments for practical examinations, or feedback on submissions of draft coursework.

Interprofessional Education (IPE)

At all levels of the programme there will be opportunities to participate in IPE sessions within the Faculty of Health.

5. What are the typical admission requirements for the programme?

Entry requirements

The entry requirements for the Pharmacy course are ABB at A-level including either Chemistry or Biology and applicants must pass the admissions interview. Applicants must also have GCSE Maths at grade B or above and GCSE English at grade C or above (or equivalent). A variety of British and overseas qualifications other than A-levels are also accepted. For details of alternative entry qualifications, and A-levels that are not accepted, please see the current prospectus. Satisfactory Occupational Health and Disclosure and Barring Service (DBS) clearances are also required.

Students are only accepted into the first year of the course.

6. How are students supported on the programme?

There is a wide spectrum of support available to students on the MPharm programme. These range from the institution-level student support services to the specific one-to-one support offered by the personal tutoring system. Every student is allocated to a member of staff to act as personal tutor at the start of his/her studies. Personal tutors also act as a first point of contact for students on non-academic issues which may affect their learning and can refer students on to a range of specialist health, welfare and financial services co-ordinated by the University’s Student Support & Development Services. In addition to the provision of pastoral support, personal tutors provide feedback on assessments; this is particularly important in relation to students’ first experiences of assessment in Level 4 where early feedback is particularly important in helping students to adjust to higher education.

Students in Levels 4 and 5 are allocated a mentor to support their professional development. Professional mentors are drawn from members of staff who are registered as healthcare professionals in pharmacy or medicine.

In Level 4 and 5 students are also allocated a “Buddy” – a more experienced student colleague from Levels 7 and 6 of the programme respectively – who provides peer support and guidance.

To support students in finding employment for their post-graduate (pre-registration) year, and for vacation employment, careers events are held annually to supplement the opportunities that students have to engage with potential employers on placements. A separate careers section is also available on the KLE to highlight opportunities available.

7. Learning Resources

The undergraduate activities of the School of Pharmacy are based within dedicated buildings at the heart of the academic science cluster on Keele campus. These include:

- The Jack Ashley building, which houses a pharmacy practice suite (including a mock pharmacy and...
bespoke dispensary fittings) and three pharmaceutics laboratories. In addition, the building houses the KAVE (see below for more details).

- A state-of-the art Chemistry laboratory that provides facilities for up to 64 students.
- Facilities located in the Lennard-Jones Laboratories (chemistry research and analytical laboratories, and the Atrium IT suite), and the Huxley building (biochemistry and physiology laboratories).
- The Hornbeam building, which provides further teaching facilities and accommodation for all staff of the School of Pharmacy (aside from a number of technical support staff who have offices close to the facilities that they support).

The laboratories in all locations have the necessary equipment for dispensing and preparative practical work. The main pharmaceutics laboratory and the Pharmacy Practice Suite in the Jack Ashley building can each accommodate groups of up to 48 students. Those in the Lennard-Jones Laboratories are designed for maximum occupancy of 64 students, and the Huxley building has space for 120 students (3 x 40-place bays). Additional laboratory space for physiology, pathology and pharmacology work is located on campus within the Undergraduate Medical School (3 x 40-place bays).

The KAVE is a physical room where three dimensional ‘stereoscopic’ visuals display on three walls and the floor, to create a computer generated virtual environment. A student wears active 3D glasses and a lightweight head & hand tracking unit. The computer generated visuals respond to your position in the KAVE and it allows you to ‘pick up’ and interact with digital objects.

The KAVE is used to enhance the learning experience in other subjects in the Pharmacy syllabus. Using open-source ‘PyMol’ software, the student can “float” complex molecules in the KAVE and move them around to view receptor sites. Also available in the KAVE is a virtual body which can show anatomy and physiology in detail as the various “layers” – skin, neural networks, muscle, skeleton and organs can be isolated, dissected and illustrated in three-dimensions. A 24-bed virtual ward has been designed and is used to develop key clinical skills.

8. Other learning opportunities

External learning opportunities on the Keele MPharm take two forms: observational visits and participatory placements.

In the first year of the course, students are given the opportunity to observe practice in primary care (community pharmacy) and secondary care (hospital pharmacy) environments. Students have one two-hour visit in a community setting and one three-hour visit in a hospital setting. These visits are designed to allow the student to contextualise the theoretical learning they have undertaken within the University. In the second year students are provided with support and information to organise their own (3 hour) placement within community pharmacy and are actively encouraged to seek further, voluntary, work experience. All MPharm students are indemnified by the university to undertake activities within pharmacy working environments meaning that these placements are participatory rather than observational. Also included in the Level 5 programme is a visit to a pharmaceutical company that specialises in the manufacture of liquid formulations so students will be able to experience the manufacture of pharmaceuticals on an industrial scale. These visits allow the students to further build upon and contextualise the material taught within the second year of the MPharm course, including that in pharmaceutics and relating to pharmaceutical manufacturing.

In the third and final years of the MPharm course the emphasis of the placement activity is very much of participation. Placements within the secondary care setting start out in the first semester of the third year as tutor-led teaching visits. By the end of the final year students are taken to a ward and encouraged, under supervision, to perform the functions of a hospital pharmacist by exploring and verifying the drug history of a small number of patients. Students are also encouraged, where it is possible, to talk to and ask questions of patients they encounter.

During the third year, secondary care placements are designed to reinforce the therapeutic areas being taught within the MPharm course. During the final year such specialisation is not deemed necessary as co-morbidities are being addressed within the therapeutic teaching sessions and so the students experience the variety and unpredictability of the real clinical environment.

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Level 6 placements in community practice are organised in the same fashion as in Level 5 and the students are encouraged to explore non-prescription medicine supply. Within the first semester of Level 6, the students are responsible for the production of their own set of non-prescription medicine and advice guidelines. The community placements are expected to reinforce this material.

Students are responsible for reasonable costs incurred in travelling to local placements and making travel arrangements – in the same way as for travel to and from the University generally. As with all healthcare programmes, there are requirements for occupational health and fitness to practise checks that apply before students can undertake placements in healthcare settings.

9. Quality management and enhancement

Management of the MPharm programme

The Director of MPharm Learning and Teaching is responsible for the overall management of the MPharm Programme supported by the Academic Stage Leads and the MPharm Course Committee.

There is a tutor for each of the four year groups in the programme. It is the role of the Year Tutor to take an overview of the welfare and conduct of students in their year group. Year Tutors will meet with student representatives of their year group regularly throughout the year to listen to feedback on how the course is going and to pick up on any specific issues that need attention.

These will either be dealt with by the Year Tutor or referred to the Staff Student Liaison Committee which in turn will refer matters to the MPharm Course Committee.

The MPharm Course Committee consists of all members of staff teaching on the programme plus a student representative nominated by the Staff Student Liaison Committee. The MPharm Course Committee reports to the School of Pharmacy Learning and Teaching Committee. The structure and roles of these committees and the Staff Student Liaison Committee are described below.

School Learning and Teaching Committee

The School Learning and Teaching Committee is chaired by the Head of the School of Pharmacy and comprises the senior staff in the School of Pharmacy. The Committee considers matters relevant to continuing professional accreditation and reviews and develops the School’s learning and teaching strategy in line with the University Learning and Teaching Strategy.

Core responsibilities are

• to have general oversight over quality and standards in the School
• to oversee and respond as appropriate to decisions and recommendations from programme committees
• to receive and consider annual and long-term review reports from programme committees
• to receive and consider reports on student evaluation of modules
• to receive and consider results from the National Student Survey (NSS)
• to receive reports from the Staff Student Liaison Committee(s) and report proposed action to it
• to receive and consider reports from meetings of the Faculty Learning and Teaching Committee
• to receive and consider reports from the School’s Senior Tutor, library and careers liaison officers

MPharm Course committee

The MPharm Course Committee (MCC) is chaired by the Director of MPharm Learning and Teaching. The Committee considers all aspects of the MPharm programme and meets at least twice per semester, usually the week following a Staff Student Liaison Committee meeting.

The core responsibilities of the MPharm Course Committee are:

• to manage the running and development of the programme(s), this to include appropriate decisions and recommendations on programme and module development and approval, marketing and recruitment, and...
student progression, retention and achievement

- to ensure the maintenance and enhancement of quality and standards in the programme(s) for which it is responsible, including the consideration of module reports
- to facilitate and contribute to the annual programme review
- to facilitate and contribute to the long-term programme review
- to report to the School’s Learning and Teaching Committee or its equivalent on matters relevant to the management of the programme(s)

Membership of the MPharm Course Committee comprises:

- the Director of MPharm Learning and Teaching,
- the Head and Deputy Head of School
- the individual Year Tutors, academic teaching staff, support staff representatives,
- staff engaged in teaching the MPharm programme
- at least one student representative nominated by the Staff Student Liaison Committee

Staff Student Liaison Committee

The Staff Student Liaison Committee (SSLC) is formed according to Keele’s Code of Practice for Staff Student Liaison Committees. The Committee meets at least twice each semester, Chair by a student member, and provides a forum for discussion between students and staff about issues relating to teaching and assessment as well as the provision of facilities to Pharmacy undergraduate. Core responsibilities of the SSLC are:

- to discuss matters raised by students, and matters on which the School wishes to seek student views;
- to consider the outcome of student evaluation of programmes and modules, and the School’s response to it;
- to advise the School on proposals for new programmes, and changes to existing programmes;
- to report the views of students to the School Learning and Teaching Committee, and receive reports from it on the School’s proposed response.

Core Membership of the SSLC comprises:

- representatives of the academic staff of the School, whose number shall not exceed the number of student members, including the Director of MPharm Teaching and Learning, Year Tutors and other staff with particular responsibilities.
- three elected representatives of each student cohort of the MPharm programme
- the Students’ Union Vice-President for Education and Welfare and the deputy director of quality assurance responsible for liaison with the Students’ Union, both of whom reserve the right to attend any SSLC meeting
- while the above constitutes the core membership, SSLC meetings are not closed, and any student who is studying on the programmes in question may attend

Quality Management and Enhancement

The quality and standards of learning in the MPharm programme are subject to a continuous process of monitoring, review and enhancement overseen by the MPharm Course Committee.

Individual modules and the MPharm Programme as a whole are reviewed and enhanced every year as part of the University’s Curriculum Annual Review and Development (CARD) process.

The Programme is run in accordance with the standards set out by the University’s Quality Assurance processes (http://www.keele.ac.uk/ga/).

Five senior members of academic staff from other universities providing MPharm programmes are appointed by the University to act as external examiners for the MPharm programme.
The external examiners are responsible for:

- Approving examinations and other assessments that contribute to a student’s degree
- Confirming all marks that contribute to a student’s degree
- Reviewing and giving advice on the structure and content of the MPharm Programme and assessment procedures.

Student evaluation of, and feedback on, the quality of learning in the MPharm programme takes place in several ways, for example:

- the results of student evaluations of all modules are reported to and reviewed by the SSLC and MCC.
- findings related to the MPharm Programme from the annual National Student Survey (NSS), and from regular surveys of the student experience conducted by the University, are scrutinised in the SSLC and the MCC.
- feedback received from representatives of students in all four years of the MPharm Programme is considered and acted on at regular meetings of the Staff Student Liaison Committee.

10. The principles of programme design

The MPharm programme is planned and regularly reviewed with reference to the following:

- Keele University Teaching and Learning Strategy
- Pharmacy in England: building on strengths - delivering the future (Department of Health 2008)
- A High Quality Workforce: NHS Next Stage review (Department of Health, 2008)
- Life Sciences Blueprint (Department for Business Innovation and Skills, 2009)
- Future pharmacists: Standards for the initial education and training of pharmacists (General Pharmaceutical Council, 2011)

11. Programme Version History

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<tr>
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<td>References to individual modules changed to single 120-credit modular structure</td>
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<td>Changes to job titles now reflected in the Programme Specification</td>
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Last reviewed by:
Revised by Dr Katie Maddock. Reviewed by MPharm Course Committee

March 2015              Approved by MCC 22.4.15

Date last approved at SLTC  27.4.15          Approved

Date last approved at FLTC