



Master of Pharmacy
degree (MPharm)

University of Hertfordshire
Report of a reaccreditation event
March 2019

Event summary and conclusions	
Provider	University of Hertfordshire
Course	Masters of Pharmacy degree (MPharm)
Event type	Reaccreditation
Event date	5 - 6 March 2019
Accreditation period	2018/19 - 2024/25
Outcome	Approval The accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council (GPhC) that the MPharm degree provided by the University of Hertfordshire should be reaccredited for a further period of six years, with an interim event to take place in three years.
Conditions	There were no conditions
Standing conditions	Please refer to Appendix 1
Recommendations	No recommendations were made
Registrar decision	Following the event, the Registrar of the GPhC accepted the accreditation team's recommendation and approved the reaccreditation of the programme for a further period of six years with an interim event to take place in three years.
Key contact (provider)	Kelly Lefteri, Head of Pharmacy
Accreditation team	<p>Professor Chris Langley (team leader), Professor of Pharmacy Law & Practice and Head of the School of Pharmacy, Aston University; Associate Dean, Taught Programmes, School of Life and Health Sciences.</p> <p>Professor Stephen Denyer (academic), Emeritus Professor and Former Pro Vice-Chancellor (Education and Student Experience), University of Brighton</p> <p>Professor Barrie Kellam (academic), Professor of Medicinal Chemistry, University of Nottingham</p> <p>Professor Brenda Costall (academic), Consultant in Education and Pharmaceutical Developments, Former Professor of Neuropharmacology, Former Pro-Vice Chancellor Planning, Research and Resources, Deputy Vice Chancellor and Head of Pharmacy, University of Bradford</p> <p>Mr Mark Brennan (academic), Associate Professorial Teaching Fellow and Deputy Head of School of Pharmacy, Aston University</p> <p>Mrs Gail Curphey (pharmacist), Pharmacy consultant</p>

	Ms Sabina Khanom (pharmacist), Patient Safety Policy Lead (Primary Care), NHS Improvement Ms Rebecca Waton (pharmacist – newly qualified), Community Pharmacist – MG & AD Burdon Ltd (Cromie Pharmacy), Academic Tutor – Sunderland University Ms Fiona Barber (lay), Independent Member, Leicester City Council
GPhC representative	Mr Damian Day, Head of Education, General Pharmaceutical Council
Rapporteur	Ian Marshall, Emeritus Professor of Pharmacology, University of Strathclyde; Proprietor, Caldarvan Research (Educational and Writing Services)

Introduction

Role of the GPhC

The General Pharmaceutical Council (GPhC) is the statutory regulator for pharmacists and pharmacy technicians and is the accrediting body for pharmacy education in Great Britain. The GPhC is responsible for setting standards and approving education and training courses which form part of the pathway towards registration for pharmacists. The UK qualification required as part of the pathway to registration as a pharmacist is a GPhC-accredited Master of Pharmacy degree course (MPharm). This reaccreditation event was carried out in accordance with the GPhC's 2011 MPharm Accreditation Methodology and the course was reviewed against the GPhC's 2011 education standards 'Future Pharmacists: Standards for the initial education and training of pharmacists'.

The GPhC's right to check the standards of pharmacy qualifications leading to annotation and registration as a pharmacist is the Pharmacy Order 2010. It requires the GPhC to 'approve' courses by appointing 'visitors' (accreditors) to report to the GPhC's Council on the 'nature, content and quality' of education as well as 'any other matters' the Council may require.

The powers and obligations of the GPhC in relation to the accreditation of pharmacy education are legislated in the Pharmacy Order 2010. For more information, visit:

<http://www.legislation.gov.uk/uksi/2010/231/contents/made>

Background

As part of the Royal Pharmaceutical Society of Great Britain's accreditation process for new MPharm provisions, the Step 7 visit to the University of Hertfordshire took place in 2009. The accreditation team agreed to recommend to the Society's Education Committee that the University should be permitted to progress from the process for the accreditation of a new MPharm degree to the process for the accreditation of an existing MPharm and agreed that the University should be accredited as an MPharm provider for a full period of five years. There were no conditions or recommendations. Subsequently, the MPharm programme at the University was reaccredited for six years in June 2013 with no conditions or recommendations. An interim visit took place in 2016, at which the accreditation team imposed a condition that the University must develop and articulate an IPE and patient engagement strategy before the start of the next cohort in autumn 2016. This was to meet standard 5.6. This was because although there were examples of IPE in the curriculum, it was not consistent and did not increase year on year. The

level of patient engagement was limited and inconsistent, particularly the reliance of the placement provision for this patient exposure. There was evidence that the students clearly benefitted from this patient engagement to develop their confidence.

Documentation

Prior to the event, the provider submitted documentation to the GPhC in line with the agreed timescales. The documentation was reviewed by the accreditation team and it was deemed to be satisfactory to provide a basis for discussion.

Pre-visit

In advance of the main visit, a pre-visit meeting took place at the University on 5 February 2019. The purpose of the pre-visit meeting was to prepare for the event, allow the GPhC and the University to ask any questions or seek clarification, and to finalise arrangements for the visit.

The event

The event began with a private meeting of the accreditation team and GPhC representatives on 5 March 2019. The remainder of the event took place onsite at the University on 5-6 March 2019, and comprised a series of meetings with staff and students of the University and included a tour of the University facilities.

Declarations of interest

Ms Khanom declared that in her previous role she had supported the University with its OSCE examinations, had applied for a position at the University and that University Personnel had supported pre-registration trainees in her previous role at the NPA.

Key findings

Standard 1: Patient and public safety

All criteria relating to this standard are met. (See Appendix 2 for criteria)

The Department operates a system to ensure that students do not jeopardise patient safety. The process starts prior to students being admitted on to the course and continues throughout the four-year MPharm programme. References, previous academic qualifications and professional attitudes are reviewed before a student is offered a place on the programme. Students complete a Self-disclosure and an enhanced Disclosure and Barring Service (DBS) form during induction, and it is made clear to students that the GPhC Standards for Pharmacy Professionals apply in all settings. To ensure patient safety during practice placements, students undertake pre-placement seminars to discuss behaviour, confidentiality, and Health and Safety issues in relation to the GPhC Standards for Pharmacy Professionals. Registers of attendance are taken, and any absence which prevents the student from undertaking the placement will require the student to undertake a simulated placement instead. Additionally, when undertaking placements, students are supervised by a University-accredited mentor, who will have direct contact with the University placement team. During placements, students are supervised directly for half of their time, and they spend the other half working independently to complete specific placement tasks which are defined in the Placement Workbook. Supervisors ensure that students are not left alone in direct contact with patients, and each student must be able to contact their supervisor at all times. Placement site supervisors undertake University training prior to taking students, to ensure that they understand the regulations and can evaluate the student in the workplace and raise any concerns. Patient safety is also a

focus within the interprofessional education strategy and is developed throughout the four years and intrinsically embedded within both external placements and interdisciplinary teaching activities. Responsibility for safety is further embedded both in the practice and laboratory environments. Students' professional attitudes and application of the Standards for Pharmacy Professionals are assessed. The dispensing, aseptic, numeracy and OSCE assessments contain critical elements that must be passed to ensure patient safety. The professional and 'must-pass' elements of the programme ensure that students who are unable to demonstrate that they meet the professional requirements of the degree are exited at the earliest opportunity. The team was told that the OSCE/competency tests do not carry a mark and can be failed due to a patient safety issue even in the event of an otherwise flawless performance. Discussion of fitness to practise mechanisms within the School of Life and Medical Sciences is initiated in induction week in every year and discussed during personal academic tutor meetings. The team noted a potential conflict in the role of the academic tutor who may, depending on the circumstances, be involved in reporting any misdemeanour, or conversely be supporting the student. Any issue that calls into question a student's fitness to practise (FtP) is dealt with, where possible, by local resolution and by support to the student to understand all the issues. The team was told that the Department has held DBS/FtP panels during the first few weeks of the academic year when it has suspected potentially untruthful declarations, although it was stated that there had been few FtP cases. If necessary, students may be referred by escalation to the University's formal FtP Procedures which set out the process for managing FtP issues within the University.

Standard 2: Monitoring, review and evaluation of initial education and training

All criteria relating to this standard are met.

The Department of Clinical and Pharmaceutical Sciences (CaPS) is subdivided into four groups, Optometry, Pharmaceutical and Regulatory Sciences, Pharmacy, and Postgraduate Medicine. Each group has a head of group and, while the head of CaPS retains overall executive responsibility for the strategic and financial direction of the Department, each head of group has operational responsibility for their own suite of programmes and staff. The Head of Pharmacy is therefore responsible for the successful delivery and staffing of the MPharm degree in addition to the OSPAP programme and the MSc Pharmacy Practice. Deans of School are responsible for the management and development of academic staff, the physical and financial resources allocated to the School and the quality of teaching and research. At School level, School Academic Committees (SACs) carry the major delegated responsibility for the validation, monitoring and evaluation of programmes. Each programme has a bi-annual Programme Committee which meets each semester and is chaired by the Programme Leader; the meeting agenda allows for discussion of delivery and management of the MPharm. A Programme Committee is responsible for the ongoing operation and development of the programme, monitoring performance and reporting on the Annual Monitoring and Evaluation Report (AMER). The Programme Committee monitors the quality of the programme in terms of aims and objectives; curriculum; student admissions, progression and achievement; teaching, learning and assessment; student support and guidance and resource support. Admissions Policies, Regulations and Procedures are within the MPharm Programme Specification which is the responsibility of the MPharm Programme Committee. The entry requirements for the academic year 2019–20 are also published on the University website. This includes information on the interview procedure and the requirement for DBS clearance and the Health Declaration. The admissions process recognises that minimum standards must be maintained, and all candidates complete a values-based interview; this extends into the Clearing cycle. There are comprehensive policies and procedures relating to all aspects of staff appointment, induction, appraisal and development. Feedback on the programme is sought from stakeholders that include patients, representatives of patient groups, and employers from the community, hospital and industry sectors of pharmacy and secondary healthcare academic link pharmacists. Data from student feedback systems is fed back to individual staff, to line managers, to Deans of Schools, to officers responsible for programmes and to those responsible for central services and student support. Deans of School are responsible for ensuring that action plans are developed to respond to student feedback. Students told the team that the Department reacted well and quickly to student feedback, and that student representatives had been involved in discussion on the

planning of the new programme. Each programme submits an AMER, reporting and recording the operation of the programme during the previous academic year. All taught provision is subject to periodic review, within a period not exceeding six years, with the most recent periodic review of the MPharm completed in January 2019. The team learned that the specific condition set by the periodic review was to provide more explicit information on the zero-credit modules. Student performance in the Registration Examination of the GPhC is monitored annually, in conjunction with feedback from graduates in their pre-registration year and early years of professional practice. All visits/placement sites undertake an accreditation process. The day-to-day management of placements is led by a pharmacist academic and overseen by the Head of Pharmacy and supported by associated module leads/programme leads. Each new placement site is validated by a pharmacist member of academic staff in person who meets the placement supervisor and assesses the site environment, provision for student learning and computing access. Placement supervisors are required to provide an overview of their experience, details of their current role, their curriculum vitae and details of referees. The quality of placements is monitored on an annual basis using online evaluation forms from the placement supervisor and the student following each placement. Supervision of students is undertaken in all practical classes by the appropriate member of staff, including technical staff.

Standard 3: Equality, diversity and fairness

All criteria relating to this standard are met.

The Equality Office is situated within the Office of the Vice-Chancellor and is responsible for all aspects related to equality, diversity and inclusion in relation to staff and students. There is commitment to the fair treatment of students and staff on the basis of 'protected characteristics', as defined in the Equality Act, and the University is one of only eight institutions to gain a bronze award in the Race Equality Charter Mark. Equality-related information is captured and analysed annually, and the specific protected characteristics of age, disability, ethnicity, gender, religion or belief and sexual orientation are reviewed against success criteria such as employment relationships, recruitment, progression, contract type and working patterns. University policy is to anticipate the needs of disabled people and make reasonable adjustments as required. These include continued enhancement of services and facilities to ensure equality of opportunities. Policies seek to eliminate any unfair treatment and unlawful discrimination, harassment or victimisation. The team learned of a project, conducted with five other institutions, examining the value-added scores based on progression for discrete groups of students in line with common differentials. The team was told that Black, Asian and minority ethnic (BAME) show only a small gap in terms of value-added score compared to white students when the groups are compared for the MPharm programme for the 2016–17 academic year. This indicates that both groups are performing almost equally better, in terms of progression and degree classification, than expected when previous qualifications are taken into account. The Admissions Team in the Department undertakes University training in admission procedures, which includes those for applicants with disabilities, and for unconscious bias. All newly appointed lecturing staff members are required to attend the University's induction, during which there is a half-day Equality and Diversity workshop, and to complete the Continuing Professional Academic Development (CPAD) Programme in which equality and diversity issues are addressed. The team was told that all staff members undertake equality training on an annual basis provided by the Equality Office throughout the year, including a series of guides and advice for staff and students on disability in the workplace, access to work and employment adjustments to accommodate specific conditions. It also facilitates the Harassment and Bullying Advisor Network, leads on information for students and staff who are carers, liaises with local agencies and community groups that promote equality, and works with national bodies such as the Equality Challenge Unit. Anonymous marking is used apart from in OSCEs and projects, and tests are adapted if necessary.

Standard 4: Selection of students *and trainees*

All criteria relating to this standard are met.

The entry requirements are available on the University's website. The information includes the UCAS tariff and the accepted qualifications. There is a statement informing applicants that all applications are subject to an interview and to DBS and Occupational Health checks during the induction weeks. The MPharm Admissions Team is composed of two pharmacists with experience of working in practice. Interviews take place in small groups and are conducted by two members of staff. The standard entry range is 120 to 168 UCAS points. The standard entry requirements for A-levels is a minimum of 120 UCAS points from three subjects, which must include chemistry at minimum grade B and another science (biology, physics or mathematics) with grade B. The team was told that the admissions strategy allows a drop in grades at Clearing but not to below BCC. Owing to the academic rigour of the programme, the Admissions Team restricts offers to students who are likely to succeed on the course. This has led to some of the increases in admissions tariffs over time. Analysis of progression within the programme, graduate degree classification and performance in the registration examination of the GPhC are all included in this analysis, and the team was told that no student that had failed Year 1 initially had achieved registration. All students are interviewed prior to offer, and the interview guide includes a discussion on the Standards for Pharmacy Professionals. Group interviews, with a maximum of eight applicants with two academics, are held during the year, while online and telephone interviews are used during Clearing and for international applications. The team was told that applicants are aware of the interview rules and that several applicants have been rejected on the basis of attitudinal issues. All students are required to have GCSE grade 5 English or an equivalent qualification on entry. All First Year students attend a compulsory academic writing workshop in the Transition to Higher Education module. Written English is assessed in the summative coursework in the module. Students are required to attend English support classes provided centrally by the University should their personal academic tutor deem it necessary. International students for whom English is not their first language will be accepted if they have an overall IELTS score of 6.5 with no less than 6.0 for any individual component. All students are required to have GCSE grade 5 mathematics or an equivalent qualification. All First Year students sit a diagnostic maths test in induction week, and any student whose numeracy appears weak is required to attend numeracy support sessions.

Standard 5: Curriculum delivery and student experience

All criteria relating to this standard are met.

The new MPharm programme is scheduled to commence in September 2019 and the team was told that the teaching staff have experience from six years ago of designing transition arrangements for students required to re-take a year of study on the existing degree; bespoke timetabling and assessments will be employed so that deferring students are able to meet the requirements of the relevant module and the programme as a whole. A central aim of the revised programme is to support students to become integrative practitioners. The recent review of programme was designed to further enhance integration, particularly multidisciplinary, interdisciplinary and transdisciplinary integration and has been based on what the programme team knows leads to student success from a detailed analysis of student progress and achievement. Thus, the law relating to pharmacy is now taught in the relevant modules rather than as a module in its own right and there are zero-credit competency-based modules in each year. The First Year of the programme uses a series of strategies to introduce integration, using the 'nesting' model of integration. Although each module focuses on a set of individual aims, content from different disciplines is used to enrich the teaching within modules, and all use case studies to illustrate the application of knowledge. Across modules, the curriculum is designed to allow students to apply material learned elsewhere, and some concepts are taught in more than one module. It was stated that the teaching of fundamental scientific material needs to be both contextualised and applied in order to be retained and applied to 'real-world' patient care. A significant change is that in the First Year module, Transition to Higher Education, multidisciplinary integration is introduced with students working in teams, some

including students from other healthcare disciplines, to investigate clinical case studies. The case studies require the students to apply aspects such as the law associated with the supply of medicines and ethical considerations around that supply. In addition, completion of the case studies requires students to apply knowledge of pharmaceutical chemistry and physical pharmacy, and aspects of anatomy, physiology and biochemistry. The Second Year modules use multidisciplinary integration. All four modules share common aims on uses, effects and modes of actions of drugs across a range of systems; therapeutic drug responses as a consequence of interaction at the molecular level; and how chemical structure activity relationships affect therapeutic response. Interdisciplinary integration is used in the Third Year in which autonomy and perspective of individual disciplines is deliberately blurred, and the scientific, legal and ethical aspects of clinical cases are embedded in learning, teaching and assessment; these factors drive the allocation of clinical conditions to each module. The Final Year involves transdisciplinary integration, requiring students to draw on their knowledge gained throughout the programme to solve real-world problems. Students interviewed gave the team examples of where they had found the integrative approach useful. A combination of assessment, placement and simulation activities enables students to demonstrate competencies and the ability to apply the knowledge they have gained. Individual strands of the curriculum develop in complexity as the programme develops. All modules contain a significant element of directed independent learning, including preparation for workshops and completion of preparation exercises and assignments, and self-directed independent learning. Teaching staff were of the view that student confidence has been enhanced as a result of recent changes in the programme. Individual strands of the curriculum develop in complexity as the programme develops. The team was told that students encounter patients at every level of the programme, including difficult patients played by actors, and patients attending the meetings spoke highly of the students' improvement as the programme progressed. The teaching team indicated the value placed on feedback from patients on student performance. Simulation exercises are used widely to provide patient contact in a safe and controlled environment and to enhance the experience with real patients. Students valued the contact with patients and actors, indicating that such contact increased their confidence as the programme developed. Interprofessional education (IPE) was said to now be embedded, using the CAIPE model of 'with, to and about other healthcare professions' and runs as a common theme throughout the degree, allowing students to see how healthcare professionals interact in patient care. Students from disciplines including dietetics, physiotherapy, optometry, law and paramedical sciences work with MPharm students to solve problems in case studies. The team recognised that the amount of IPE had been increased since the interim event when a condition had been set, but regretted that medical students were not among the students working with MPharm students; the team concluded that the IPE provision, although satisfactory, was still close to the bottom of the range for the sector. Placements form a central part of the MPharm in the zero-credit competency modules, with all students now experiencing similar activities in community, hospital, industrial pharmacy, along with recently-introduced placements in care homes and general practice medicine; the placements are linked to learning and teaching at all levels of study. The team was told that the Department has good contacts with the local NHS and CCGs and that there has been recently a substantial increase in the number of available placement sites such that there is now an excess of sites. Feedback on placements from alumni and students is positive, and students interviewed described the placements as being well-structured. A number suggested that they would benefit from more structured hospital placements and these have been included in the revised programme. Research within the Department informs both the content and design of the curriculum which has been designed with a focus on putting students as active participants in research and inquiry processes within the professional pharmacy context. In REF2014, 72% of the Department research was judged as being of 4* (world-leading) or 3* (internationally excellent) quality. The team was told that the research project has been relocated to the Third Year and now includes teaching on research methods. The assessment strategy was described as authentic and applicable to the clinical world, rather than on recall, and is based on the principles of adult learning supported using diagnostic, formative and summative assessments throughout. Assessment methods include: written tests; multiple choice questions (MCQ) tests; written assessments, including letters, journal articles, essays, posters, oral and masterclass presentations; OSCEs; case studies; and placement exercises. Assessments reflect the learning outcome descriptors at each level, and as students progress through the MPharm they are increasingly required to demonstrate critical review and application. Formal procedures are in place to

ensure that assessment is undertaken appropriately, including internal moderation, double marking, blind marking and external examination. Coursework is returned to students together with feedback no later than four weeks after the submission deadline, in line with University regulations, and before further summative assessment. A target deadline of three weeks is set by CaPS, which students confirmed is typically met. In practice, the team learned from staff and students that feedback can often be immediate and is usually well within the four-week timeframe. The team learned that the programme team has undertaken a detailed analysis of progression and retention data, leading to a recent strengthening of the programme regulations to include that: students are not normally permitted to re-enrol on the First Year of the programme; assessments must be passed at the first or referral sitting; students are permitted the opportunity to re-enrol in *either* the Second *or* the Third Year but not both; students are not permitted referral opportunities in the Final Year where failure at first attempt at assessments leads to re-enrolment on failed modules. Students interviewed appreciated the need for the strengthening of the progress regulations. In all assessments failure to meet safe and effective practice is a barrier to progression; any attitude or behaviour that does not meet the standards described in the GPhC Standards for Pharmacy Professionals is referred to University Fitness to Practise Procedures. All the 'must pass' competency-based assessments, including dispensing, aseptic technique, numeracy, and critical-fail OSCE stations are designed to demonstrate that students are able to practise safely and effectively.

Standard 6: Support and development for students *and* trainees

All criteria relating to this standard are met.

On commencement of studies, each student is allocated a personal academic tutor; the student retains this tutor across the programme, giving continuity and allowing early development of an established student–teacher relationship. Each personal academic tutor administers a small group of students who meet regularly from the early part of the programme. Support develops from a more intensive support programme within the First Year to a facilitative process in the Final Year, to align with the student's development of independence and self-regulation. There are four meetings with the personal academic tutor in both the First and Second Years, and three meetings in both the Third and Final Years. Meetings in the Final Year include students from other years in order to cement leadership and mentoring skills, as meetings are coordinated and led by the Final Year students. Students described teaching staff as approachable and friendly. Additionally, there is a mentoring approach within the programme, which is developed through structured early interaction of the First Year students with peers in higher years. Students interviewed appreciated the fact that the University now uses a lecture capture system. The University has a dedicated Student Wellbeing service which delivers a range of professional and specialist services to support student emotional and mental health and assist with issues related to disability and health. Student progression into employment is an important feature of the programme, and the University advocates the continual development of Graduate Attributes, which are woven into the Programme. The attributes are professionalism; employability and enterprise; learning and research skills; intellectual depth, breadth and adaptability; respect for others; social responsibility; and global awareness. The team was told that issues of a lack of professionalism have been very rare and generally related to inappropriate dress or behaviour on placements. The University has recently achieved Teaching Excellence Framework (TEF) Gold status for teaching, underpinning its commitment to top-quality teaching and student support. Furthermore, the Department took part in the subject-level TEF pilot exercise and was also awarded Gold. At the end of the programme, prospective graduates are assisted into the pre-registration year with access to an online portal run from the Department, providing alumni with information and a place to converse with other pre-registration students from the University.

Standard 7: Support and development for academic staff and pre-registration tutors

All criteria relating to this standard are met.

There is a range of support available within the University for staff members to enable learning and teaching and academic quality-related continuing professional development (CPD). A suite of centrally run workshops is available from the Learning and Teaching Innovation Centre and the Centre for Academic Quality and Assurance, consisting of training and development opportunities in the areas of technology-enhanced learning, assessment and feedback, and curriculum design. In addition, the Department runs Technology Showcase events to highlight new technologies available to staff, exam question-writing, and marking and feedback workshops to promote quality assessment practices and bespoke support for new module leaders. The annual appraisal process is central to CPD, and within appraisal meetings staff members are expected to review with their line manager their teaching and learning practice and discuss plans for enhancement. Within CaPS, several mechanisms are in place for all staff, including a mandatory central Staff Induction Programme to introduce staff to the University structure, as well as those new to higher education to the considerations of an effective environment for learning, teaching and research excellence. These include a local induction programme within CaPS, overseen by the line manager and a mentor, and peer review of teaching. Line managers are responsible for no more than 15 FTE members of staff in order to guarantee effective management and supervision, and are responsible for ensuring that all staff members have a realistic workload proportional to their contracted hours of work and commensurate with their experience. Non-pharmacist members of staff are supported by pharmacist staff members, including sharing offices. Workload is monitored using a departmental workload allocation template and guide, but the team was told that non-core staff members on less than 0.25FTE contracts have a contact person but no line manager. There are monthly senior management team meetings within the Department to outline and report on strategies that ensure sustainable workloads for staff. The Head of Department also runs a staff forum each semester, where general staff workload issues and concerns are identified. Contracts and the workload plan allow for 22 days study leave annually (pro rata), managed through line managers. Study leave can be used to undertake internal or external courses which may be associated with wider professional development or to develop competency to meet specific staff action plans.

Standard 8: Management of initial education and training

All criteria relating to this standard are met.

The Dean of the School of Life and Medical Sciences is directly accountable through the Deputy Vice-Chancellor to the Vice-Chancellor. The Head of the Department of Clinical and Pharmaceutical Sciences (CaPS) is accountable to the Dean for the delivery of the Business Plan of CaPS. The Head of Department has executive responsibility for the strategic direction of the Department, with the Head of Pharmacy having responsibility for the operational delivery and strategic development of all the pharmacy programmes, including the MPharm and OSPAP programmes. The Head of Pharmacy is accountable for the delivery of the MPharm Programme and the Associate Dean of Academic Quality oversees the academic quality systems and procedures. The Associate Dean is responsible to the Dean of the School of Life and Medical Sciences. In the context of the MPharm degree the key staff are the Programme Leader, the Learning and Teaching Lead, the Academic Quality Lead, the Student Experience Lead, the Module Leaders and Year Leads, the Programme Administrator and the Departmental Academic Conduct Officer, Lead for Fitness to Practise and the Admissions Team. The quality of all academic programmes is monitored through the School Academic Committee, which reports to the Academic Board.

Standard 9: Resources and capacity

All criteria relating to this standard are met.

Financial management within the University is devolved to the Deans of School. In the larger schools, including Life and Medical Sciences (LMS), it is then further devolved to Heads of Department. Each Department is attributed a share of student income according to the numbers of students registered on academic programmes within the department. The MPharm undergraduate student intake targets for the duration of this re-accreditation are expected to remain constant at a total of 110–120 students made up of approximately 100 home/EU students with a moderate increase in overseas students from the current annual intake of approximately five up to 15–20 per year. This will result in total student numbers, allowing for the low attrition on the MPharm of 6% maximum in Year 1, on the programme of approximately 380–450 students over this time period. The Head of Department establishes appropriate expenditure budgets for staffing and non-staffing costs for the effective and efficient operation of academic activities. Each school and in turn department has freedom to reinvest any net surpluses it makes from these activities, after central University overheads, to promote further development across the school. The School coordinates and manages the budget for its own technical and professional support teams. The team noted from the business plan submitted by the Department that the University 40% overhead charge would result in a deficit in the departmental budget in future years. The team appreciated that, given the current uncertainty in the sector on future student fee level, it is difficult to make predictions of income and agreed that the business plan be regarded sympathetically until the new fee structure is finalised. The team was told that the Department, although not cognisant of the detail of University forward plans, intends to diversify to develop additional programmes to bolster income. The team was also told that the University has adequate cash reserves. The Head of Pharmacy has overall responsibility for the staffing of the MPharm degree. The teams of pharmacy practice and pharmaceuticals sit within the Pharmacy group and their team leaders report directly to the Head of Pharmacy. The Pharmacy team works closely with the Pharmaceutical and Regulatory Sciences group, where the teams of pharmaceutical chemistry and pharmacology sit. Staff from other teams within the Department, for example, Postgraduate Medicine, and from across the University, for example, the Department of Biological and Environmental Sciences within LMS, the School of Health and Social Work and the School of Law, are also engaged with aspects of teaching within the course. Overall in CaPS there are 103 academic staff members, with five vacant posts, including 51 staff holding a PhD and eight qualified medical doctors. Twenty-seven of the staff members are pharmacists. The Department also employs seven teacher-practitioners, with three vacant posts, at local NHS trusts. The team was told that several alumni of the MPharm and OSPAP have been recruited to the teaching staff. All members of academic staff, regardless of seniority, have an appointed mentor, ensuring that even the experienced academics are provided with guidance on the programme as well as on procedures of both the Department and the University. Module Teams that plan and organise teaching, learning and assessment include a mix of disciplines, and the delivery of the programme includes pharmacists and non-pharmacists working alongside each other. Plans for laboratory facilities for the teaching of pharmacy were costed and included in the Department's original business plan in 2005 and have been continually updated and evolved ever since. There has been continued investment in teaching accommodation over the life of the MPharm programme which is ongoing, including the recent opening of a purpose built £50M new Science Building which the team had the opportunity to tour. This building, which officially opened in November 2016, now houses all of the Department's teaching laboratories, in addition to housing a brand new clinical simulation suite which doubles the simulation teaching capacity as well as the Department maintaining management control of the original simulation suite in the Health Research Building which has two observation rooms and a range of clinical simulation rooms. The team agreed that the facilities were of a high standard.

Standard 10: Outcomes

The team was satisfied that all 58 outcomes relating to Standard 10 are delivered at the appropriate level. The team had scrutinised the learning outcomes in discussions with the staff in meeting 4. Rather than examining each of the 58 outcomes, four outcomes (10.2.1.e, 10.2.3.k, 10.2.4.h and 10.2.5.a) had been selected for detailed discussion; the University of Hertfordshire staff members had been unaware of the outcomes to be discussed before the meeting. For each of the four outcomes scrutinised in detail, the evidence provided by the discussions with the staff, along with other evidence provided with the documentation, gave the team confidence that these outcomes will be met at the required level; the team was therefore confident that all other outcomes will be similarly met. This view was supported by the documented material for each of the other outcomes, which had also been scrutinised by the team; other discussions in meetings with programme staff had also addressed many of these outcomes. Thus, the team was satisfied that standard 10 is met.

Indicative syllabus

The team was satisfied with the School's use of the Indicative Syllabus to inform its curriculum

The team agreed that the MPharm degree met the requirements of Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications for the initial education and training of pharmacists.

Appendix 1 - Standing conditions

The following are standing conditions of reaccreditation and apply to all providers:

1. The record and report include other comments from the team, and providers are required to take all comments into account as part of the accreditation process. The provider must confirm to the GPhC that required amendments have been made.
2. The provider must respond to the definitive version of the record and report within three months of receipt. The summary report, along with the provider's response, will be published on the GPhC's website for the duration of the accreditation period.
3. The provider must seek approval from the GPhC for any substantial change (or proposed change) which is, or has the potential to be, material to the delivery of an accredited course. This includes, but is not limited to:
 - a. the content, structure or delivery of the accredited programme;
 - b. ownership or management structure of the institution;
 - c. resources and/or funding;
 - d. student numbers and/or admissions policy;
 - e. any existing partnership, licensing or franchise agreement;
 - f. staff associated with the programme.
 - g.
4. The provider must produce and submit to the GPhC on an annual basis:
 - a. requested data on student numbers and progression and degree awards;
 - b. requested information about the extent of human and physical resources it enjoys for the delivery and support of the degree course.
5. The provider must make students and potential students aware that successful completion of an accredited course is not a guarantee of a placement for a pre-registration year or of future employment as a pharmacist.
6. The provider must make students and potential students aware of the existence and website address where they can view the GPhC's accreditation reports and the timetable for future accreditations.
7. Whenever required to do so by the GPhC, providers must give such information and assistance as the GPhC may reasonably require in connection with the exercise of its functions. Any information in relation to fulfilment of these standing conditions must be provided in a proactive and timely manner.

Appendix 2 – Standards

GPhC standards for the initial education and training of pharmacists

NB. Information that is shaded grey or shown in grey italics is only applicable to providers offering a 5-year MPharm degree with intercalated periods of pre-registration training.

Standard 1: Patient and public safety

1. **There must be clear procedures to address concerns about patient safety arising from pharmacy education and training. Concerns must be addressed immediately.**
 - 1.1 There must be effective systems in place to ensure that students *and trainees*:
 - 1.1.a do not jeopardise patient safety;
 - 1.1.b only do tasks for which they are competent, sometimes under supervision;

- 1.1.c are monitored and assessed to ensure they always practise safely. Causes for concern should be addressed immediately;
- 1.1.d have access to support for health, conduct and academic issues;
- 1.1.e must not be awarded an accredited degree *or pass pre-registration training* if they might pose a risk to patients or the public;
- 1.1.f understand what is and what is not professional behaviour and are familiar with the GPhC's *standards for pharmacy professionals (2017)*;
- 1.1.g understand what fitness to practise mechanisms apply to them. All schools of pharmacy must have fitness to practise procedures to deal with student causes for concern;
- 1.1.h undergo required health and good character checks;
- 1.1.i understand that it is an offence to impersonate a pharmacist. Pharmacists are registrants of the GPhC.

Standard 2: Monitoring, review and evaluation of initial education and training

2. The quality of pharmacy education and training must be monitored, reviewed and evaluated in a systematic and developmental way.

2.1 There must be systems and policies in place covering:

2.1.a information about roles and responsibilities and lines of accountability;

2.1.b university information on:

2.1.b.i entry requirements;

2.1.b.ii the quality of teaching, learning and assessment;

2.1.b.iii the quality of placements and other practice learning opportunities;

2.1.b.iv appraisal and feedback systems for students *and trainees*;

2.1.b.v supervision requirements;

2.1.b.vi educational resources and capacity;

These must be monitored, reviewed and evaluated systematically. When an issue is identified it must be documented and dealt with promptly.

2.1.c *pre-registration tutors evaluating trainees. To do this, tutors must have access to reliable evidence about a trainee's performance. Tutors must be competent to assess the performance of trainees;*

2.1.d *the quality and development of pre-registration tutors*

Standard 3: Equality, diversity and fairness

3. Initial pharmacy education and training must be based on principles of equality, diversity and fairness. It must meet the requirements of all relevant legislation.

3.1 Systems and policies for capturing equality and diversity data. Concerns should be documented, addressed and disseminated;

3.2 Strategies for staff training in equality and diversity

Standard 4: Selection of students *and trainees*

4. Selection processes must be open, fair and comply with relevant legislation. Processes must ensure students *and trainees* are fit to practise at the point of selection. Selection includes recruitment and admissions.

4.1 Selection process must give applicants the information they need to make an informed application.

4.2 Selection criteria must be explicit. They should include:

- 4.2.a meeting academic and professional entry requirements;
 - 4.2.b meeting English language requirements appropriate to MPharm degree study. Guidelines issued by English language testing bodies should be followed to ensure that admissions language requirements are appropriate;
 - 4.2.c meeting numeracy requirements;
 - 4.2.d taking account of good character checks, such as Criminal Records Bureau (CRB)/Disclosure Scotland checks;
 - 4.2.e passing health checks (subject to reasonable adjustments being made). Health checks could include self-evaluations and/or evaluations by healthcare professionals;
 - 4.2.f recognising prior learning, where that is appropriate.
- 4.3 Selectors should apply selection criteria fairly. They should be trained to do this. Training should include equality and diversity matters

Standard 5: Curriculum delivery and the student experience

- 5. The curriculum for MPharm degrees *and the pre-registration scheme* must deliver the outcomes in Standard 10. Most importantly, curricula must ensure students *and trainees* practise safely and effectively. To ensure this, pass criteria must describe safe and effective practice.**
- 5.1 Curricula must be integrated.
 - 5.2 Curricula must be progressive, dealing with issues in an increasing more complex way until the right level of understanding is reached.
 - 5.3 An MPharm must be delivered in an environment which places study in a professional and academic context and requires students to conduct themselves professionally. *Pre-registration training must be delivered in a professional environment which requires trainees to conduct themselves professionally.*
 - 5.4 An MPharm must be delivered in an environment informed by research. This means that whether or not all staff are engaged in research, their teaching must be informed by research.
 - 5.5 An MPharm degree teaching and learning strategy must set out how students will achieve the outcomes in Standard 10. Learning opportunities must be structured to provide:
 - 5.5.a an integrated experience of relevant science and pharmacy practice;
 - 5.5.b a balance of theory and practice;
 - 5.5.c independent learning skills.
 - 5.6 The MPharm degree curriculum must include practical experience of working with patients, carers and other healthcare professionals. Practical experience should increase year on year.
 - 5.7 There must be a clear assessment strategy for the MPharm degree. Assessment methods must measure the outcomes in Standard 10.
 - 5.8 The MPharm degree assessment strategy should include:
 - 5.8.a diagnostic assessments;
 - 5.8.b formative assessments;
 - 5.8.c summative assessments;
 - 5.8.d timely feedback.
 - 5.9 Academic regulations must be appropriate for a degree that is both academic and professional and may lead to further professional training. As a general principle, all assessments must be passed. This means that condonation, compensation, trailing, extended re-sit opportunities and other remedial measures should be extremely limited, if they are permitted at all. MPharm degree academic regulations may be more stringent than university norms. This may include higher than usual pass marks for assessments demonstrating knowledge and skills essential to safe and effective pharmacy practice.
 - 5.10 Marking criteria must be used for all assessments and all pass criteria must reflect safe and effective practice.

- 5.11 Patient safety must be paramount in assessments: any evidence of an assessment demonstrating unsafe practise must result in failure.
- 5.12 *A pre-registration training plan must describe how the learning outcomes for pre-registration will be delivered.*
- 5.13 *A pre-registration training plan must describe all assessments, including tutor evaluations and tutor sign-offs.*

Standard 6: Support and development for students *and* trainees

6. Students *and* trainees must be supported to develop as learners and professionals during their initial education and training.

- 6.1 A range of mechanisms must be in place to support students *and* trainees to develop as learners and professionals.

Standard 7: Support and development for academic staff *and* pre-registration tutors

7. Anyone delivering initial education and training should be supported to develop in their professional roles.

- 7.1. There must be a range of mechanisms in place to support anyone delivering initial education and training to develop in their role.
- 7.2. Induction programmes are provided for and university staff as appropriate. This should include induction programmes for non-pharmacists working on MPharm degrees.
- 7.3. Everyone involved in delivering the curriculum should have:
 - 7.3.a effective supervision;
 - 7.3.b an appropriate and realistic workload;
 - 7.3.c effective personal support;
 - 7.3.d mentoring;
 - 7.3.e time to learn;
 - 7.3.f continuing professional development opportunities.
- 7.4. *Tutors should have an identified source of peer support.*

Standard 8: Management of initial education and training

8. Initial pharmacist education and training must be planned and maintained through transparent processes which must show who is responsible for what at each stage.

- 8.1. All education and training will be supported by a defined management plan with:
 - 8.1.a a schedule of responsibilities
 - 8.1.b defined structures and processes to manage the delivery of education and training

Standard 9: Resources and capacity

9. Resources and capacity are sufficient to deliver outcomes.

- 9.1 There must be:
 - 9.1.a robust and transparent mechanisms for securing an appropriate level of resource for delivering an accreditable MPharm degree;
 - 9.1.b sufficient staff from relevant disciplines to deliver the curriculum to students *and* trainees. Staff must be appropriately qualified and experienced. The staffing profile must include:

- 9.1.b.i** sufficient numbers of pharmacists – registrants of the GPhC – with experience of teaching in higher education to ensure that an MPharm degree can produce students equipped to enter pharmacist pre-registration training in Great Britain.
- 9.1.b.ii** sufficient numbers of pharmacists to act as tutors and professional mentors at university *and in pre-registration*. Not all personal tutors must be pharmacists.
- 9.1.b.iii** pharmacists who are leaders in the profession and in their university, who can influence university policy relevant to pharmacy
- 9.1.b.iv** non-pharmacist academics who can influence school and university policy relevant to pharmacy
- 9.1.b.v** staff who are sufficiently experienced to supervise research. It would be unusual for anyone to supervise research at a particular level unless they had researched to that level or beyond. New research supervisors must be mentored and signed off as being fit to supervise after a period of mentoring
- 9.1.b.vi** science academics who understand the relevance of their discipline to pharmacy and deliver their area of expertise in a pharmaceutical context
- 9.1.b.vii** academic pharmacists and other experienced MPharm degree staff who are able to act as mentors to non-pharmacist colleagues
- 9.1.c** *pre-registration tutors who meet the GPhC's standards for pre-registration tutors;*
- 9.1.d** career pathways in universities for all staff teaching on MPharm degrees, including pathways for practice staff
- 9.1.e** clear lines of authority and responsibility for the strategic organisation and day-to-day management of placements
- 9.1.f** training and ongoing support for all non-pharmacists involved in the delivery of MPharm degrees which must help them understand:
 - 9.1.f.i** help and understand the relevance of their work to pharmacy
 - 9.1.f.ii** how to deliver their area of expertise in a pharmaceutical context
- 9.1.g** appropriate learning resources
- 9.1.h** accommodation and learning resources that are fit for purpose
- 9.1.i** *pre-registration premises which meet the GPhC's standards for pre-registration premises*

Standard 10: Outcomes

10.1 Expectations of a pharmacy professional

Learning outcome	MPharm	Pre-reg
10.1.a Recognise ethical dilemmas & respond in accordance with relevant codes of conduct and behaviour	Shows how	<i>Does</i>
10.1.b Recognise the duty to take action if a colleague's health, performance or conduct is putting patients or public at risk	Knows how	<i>Knows how</i>
10.1.c Recognise personal health needs, consult and follow the advice of a suitably qualified professional, and protect patients or public from any risk posed by personal health	Does	<i>Does</i>
10.1.d Apply the principles of clinical governance in practice	Knows how	<i>Does</i>
10.1.e Demonstrate how the science of pharmacy is applied in the design and development of medicines and devices	Shows how	<i>Knows how</i>
10.1.f Contribute to the education and training of other members of the team, including peer review and assessment	Shows how	<i>Does</i>

10.1.g	Contribute to the development of other members of the team through coaching and feedback	Knows how	<i>Shows how</i>
10.1.h	Engage in multidisciplinary team working	Knows how	<i>Does</i>
10.1.i	Respond appropriately to medical emergencies, including provision of first aid	Knows how	<i>Shows how</i>

10.2 The skills required in practice

10.2.1 Implementing health policy

Learning outcome	MPharm	Pre-reg	
10.2.1.a	Promote healthy lifestyles by facilitating access to and understanding of health promotion information	Shows how	<i>Does</i>
10.2.1.b	Access & critically evaluate evidence to support safe, rational & cost effective use of medicines	Shows how	<i>Knows how</i>
10.2.1.c	Use the evidence base to review current practice	Shows how	<i>Does</i>
10.2.1.d	Apply knowledge of current pharmacy-related policy to improve health outcomes	Knows how	<i>Shows how</i>
10.2.1.e	Collaborate with patients, the public and other healthcare professionals to improve patient outcomes	Knows how	<i>Shows how</i>
10.2.1.f	Play an active role with public and professional groups to promote improved health outcomes	Knows how	<i>Knows how</i>
10.2.1.g	Contribute to research & development activities to improve health outcomes	Knows how	<i>Knows how</i>
10.2.1.h	Provide evidence- based medicines information	Shows how	<i>Does</i>

10.2.2 Validating therapeutic approaches and supplies prescribed and over-the-counter medicines

Learning outcome	MPharm	Pre-reg	
10.2.2.a	Identify and employ the appropriate diagnostic or physiological testing techniques in order to promote health	Knows how	<i>Shows how</i>
10.2.2.b	Identify inappropriate health behaviours and recommend suitable approaches to interventions	Shows how	<i>Does</i>
10.2.2.c	Instruct patients in the safe and effective use of their medicines and devices	Shows how	<i>Does</i>
10.2.2.d	Analyse prescriptions for validity and clarity	Shows how	<i>Does</i>
10.2.2.e	Clinically evaluate the appropriateness of prescribed medicines	Shows how	<i>Does</i>
10.2.2.f	Provide, monitor and modify prescribed treatment to maximise health outcomes	Shows how	<i>Does</i>
10.2.2.g	Communicate with patients about their prescribed treatment	Shows how	<i>Does</i>
10.2.2.h	Optimise treatment for individual patient needs in collaboration with the prescriber	Shows how	<i>Does</i>
10.2.2.i	Record, maintain and store patient data	Shows how	<i>Does</i>
10.2.2.j	Supply medicines safely and efficiently, consistently within legal requirements and best professional practice. NB This should be demonstrated in relation to both human and veterinary medicines.	Shows how	<i>Does</i>

10.2.3 Ensuring safe and effective systems are in place to manage risk inherent in the practice of pharmacy and the delivery of pharmaceutical services

Learning outcome	MPharm	Pre-reg
10.2.3.a Ensure quality of ingredients to produce medicines and products	Knows how	<i>Shows how</i>
10.2.3.b Apply pharmaceutical principles to the formulation, preparation and packaging of products	Shows how	<i>Shows how</i>
10.2.3.c Verify safety and accuracy utilising pharmaceutical calculations	Does	<i>Does</i>
10.2.3.d Develop quality management systems including maintaining appropriate records	Shows how	<i>Shows how</i>
10.2.3.e Manage and maintain quality management systems including maintaining appropriate records	Shows how	<i>Does</i>
10.2.3.f Procure and store medicines and other pharmaceutical products working within a quality assurance framework	Knows how	<i>Does</i>
10.2.3.g Distribute medicines safely, legally and effectively	Knows how	<i>Does</i>
10.2.3.h Dispose of medicines safely, legally and effectively	Knows how	<i>Does</i>
10.2.3.i Manage resources in order to ensure work flow and minimise risk in the workplace	Knows how	<i>Shows how</i>
10.2.3.j Take personal responsibility for health and safety	Does	<i>Does</i>
10.2.3.k Work effectively within teams to ensure safe and effective systems are being followed	Knows how	<i>Does</i>
10.2.3.l Ensure the application of appropriate infection control measures	Shows how	<i>Does</i>
10.2.3.m Supervise others involved in service delivery	Knows how	<i>Does</i>
10.2.3.n Identify, report and prevent errors and unsafe practice	Shows how	<i>Does</i>
10.2.3.o Procure, store and dispense and supply veterinary medicines safely and legally	Knows how	<i>Knows how</i>

10.2.4 Working with patients and the public

Learning outcome	MPharm	Pre-reg
10.2.4.a Establish and maintain patient relationships while identifying patients' desired health outcomes and priorities	Shows how	<i>Does</i>
10.2.4.b Obtain and record relevant patient medical, social and family history	Shows how	<i>Does</i>
10.2.4.c Identify and employ the appropriate diagnostic or physiological testing techniques to inform clinical decision making	Knows how	<i>Shows how</i>
10.2.4.d Communicate information about available options in a way which promotes understanding	Shows how	<i>Does</i>
10.2.4.e Support the patient in choosing an option by listening and responding to their concerns and respecting their decisions	Shows how	<i>Does</i>
10.2.4.f Conclude consultation to ensure a satisfactory outcome	Shows how	<i>Does</i>
10.2.4.g Maintain accurate and comprehensive consultation records	Shows Does	<i>Does</i>
10.2.4.h Provide accurate written or oral information appropriate to the needs of patients, the public or other healthcare professionals	Shows how	<i>Does</i>

10.2.5 Maintaining and improving professional performance

Learning outcome	MPharm	Pre-reg
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10.2.5.a Demonstrate the characteristics of a prospective professional pharmacist as set out in relevant codes of conduct and behaviour	Does	<i>Does</i>
10.2.5.b Reflect on personal and professional approaches to practice	Does	<i>Does</i>
10.2.5.c Create and implement a personal development plan	Does	<i>Does</i>
10.2.5.d Review and reflect on evidence to monitor performance and revise professional development plan	Does	<i>Does</i>
10.2.5.e Participate in audit and in implementing recommendations	Knows how	<i>Shows how</i>
10.2.5.f Contribute to identifying learning and development needs of team members	Knows how	<i>Does</i>
10.2.5.g Contribute to the development and support of individuals and teams	Knows how	<i>Does</i>
10.2.5.h Anticipate and lead change	Knows how	<i>Shows how</i>

Appendix 3 – Indicative syllabus

It is expected that education providers will use the indicative syllabus to develop a detailed programme of study which will enable pharmacists to meet the learning outcomes.

A1.1 How medicines work

Therapeutics

- Routes of administration
- New therapeutic advances
- Infection control
- Complementary therapies
- Clinical therapeutic uses of drugs

Applied Physical, Chemical and Biological sciences

- Sources and purification of medicinal substances
- Physicochemical characteristics of drugs and biological systems
- Thermodynamics and chemical kinetics
- (Bio)Analytical principles and methods
- Drug design and discovery
- Cell and molecular biology
- Biochemistry
- Genetics
- Microbiology
- Immunology
- Pharmaceutical chemistry
- Drug identification
- Drug synthesis

Pharmacology, pharmacokinetics & pharmacodynamics

- Contraindications, adverse reactions and drug interactions
- ADME
- Prediction of drug properties
- Pharmacogenetics and pharmacogenomics
- Drug and substance misuse
- Clinical toxicology and drug-over-exposure
- Molecular basis of drug action

- Metabolism

Pharmaceutical technology including manufacturing & engineering science

- Biotechnology
- Manufacturing methods
- Quality assurance processes
- Sterilisation and asepsis
- Environmental control in manufacturing

Formulation and material science

- Materials used in formulations and devices
- Biopharmaceutics, developmental pharmaceuticals, pre-formulation and formulation studies
- Design and standardization of medicines
- Microbiological contamination
- Contamination control
- Product stability
- Medical devices

A1.2 How people work

Normal & abnormal structure & function

- Nutrition
- Physiology
- Pathology
- Infective processes

Sociology

- Social and behavioural science

Health psychology

- Health promotion
- Disease prevention
- Behavioural medicine

Objective diagnosis

- Differential diagnosis
- Symptom recognition
- Diagnostic tests

Epidemiology

- Aetiology and epidemiology of (major) diseases

A1.3 How systems work

Healthcare management

- Public health
- Organisations: NHS, DH, govt priorities
- Other professionals
- Health care systems

Evidence-based practice

- Health information systems/ resources
- Health policy and (pharmaco)economics

Professional regulation

- Legislation
- Professional ethics and fitness to practise
- Sale and supply of medicines
- CPD
- Political and legal framework

Medicines regulation

- Evaluation and regulation of new drugs and medicines
- Pharmacopoeial specifications and biological standards
- Medicines licensing
- Product quality, safety and efficacy
- The supply chain
- Packaging, labelling and patient information

Clinical governance

- SOPs
- Research methodology / research ethics
- Risk & quality management
- Good manufacturing/dispensing practice
- Good clinical practice
- Health policy, clinical and science research methods

Clinical management

- Disease management
- Chronic medicines management
- Medicines use review
- Care planning

Workplace Regulation

- Health & Safety
- Sexual boundaries
- Independent Safeguarding Authority
- Data protection
- FOIA
- Consumer protection incl. complaints procedures

A1.4 Core and transferable skills

Professionalism

Research and research methods

Critical appraisal

- Audit and learning from errors

Problem solving

- Study skills
- Team-working skills

Clinical decision making

- Leadership skills

Accurate record keeping

Reflective practice (incl. continuing professional development)

Effective communication

- Interpersonal skills
- Medical terminology

Interpret & interrogate clinical data

Analyse & use numerical data

Pharmaceutical numeracy

Technological literacy

A1.5 Attitudes and values

See the GPhC *Code of Conduct for pharmacy students (2010)* and *Standards of conduct, ethics and performance (2010)*