



Master of Pharmacy
degree (MPharm)

University of Sussex

Report of a step 5 accreditation event

February/March 2018

Event summary and conclusions

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| Provider | University of Sussex |
| Course | Masters of Pharmacy degree (MPharm) |
| Event type | Accreditation |
| Step | 5 |
| Event date | 28 February-1 March 2018 |
| Accreditation period | Working towards accreditation: next visit due 2018-19 |
| Outcome | <p>Approval with conditions</p> <p>The accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council (GPhC) that the University of Sussex should be permitted to move from step 5 to step 6 of the accreditation process for new MPharm degrees, subject to one standing condition.</p> |
| Conditions | There was one standing condition (see below). |
| Standing conditions | <p>The standing condition was imposed by the Registrar of the GPhC at step 2 that the University must keep the GPhC fully informed of all planning decisions relevant to pharmacy accommodation and the implications to the MPharm degree. The team acknowledged that although the GPhC had been kept informed about the progress of the planning permission by the Director of Pharmacy, it was agreed that the University senior executive team will keep the GPhC informed about University decisions related to pharmacy as promised by the Pro-Vice Chancellor for Planning. This condition has been imposed to ensure that the GPhC is in possession of all the facts relevant to the development of pharmacy at the University of Sussex. This relates to the pre-requisites 2.6, 2.7 and 2.8 for meeting standard 2.</p> |
| Recommendations | No recommendations were made |
| Registrar decision | Following the event, the Registrar of the GPhC accepted the accreditation team's recommendation and approved the progression of the programme from step 5 to step 6 of the GPhC's accreditation process. |
| Key contact (provider) | Professor Bugewa Apampa, Director of Pharmacy |
| Accreditation team | <p>Mr Peter Curphey (Team leader), Pharmacy consultant</p> <p>Professor Barrie Kellam (Academic), Professor of Medicinal Chemistry, University of Nottingham</p> <p>Professor Brenda Costall (Academic), Professor of Neuropharmacology, University of Bradford</p> <p>Ms Raminder Sihota (Pharmacist), Senior Manager and Professional</p> |

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| | <p>Development, Boots UK (unable to attend due to weather/travel problems)</p> <p>Mrs Barbara Wensworth (Pharmacist), Freelance Consultant Pharmacist</p> <p>Mrs Samantha Amos (Pharmacist – newly qualified), Senior Clinical Pharmacist, Maidstone and Tunbridge Wells NHS Trust</p> <p>Ms Catherine Boyd (Lay member), Consultant, Axient Consulting Limited</p> |
| GPhC representative | Ms Joanne Martin, Quality Assurance Manager, GPhC |
| Rapporteur | Professor 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 accreditation 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/ukxi/2010/231/contents/made>

Background

In 2013, the University of Sussex approached the General Pharmaceutical Council (GPhC) with a view to the University entering the process for accrediting a new MPharm degree. Consequently, a Step 1 meeting took place on 7 January 2014, during which the University was advised that as it intended to develop both a four-year and five-year degree, a robust business plan to support both courses would be required, since the funding, staffing strategies and placements would be significantly different for each course.

The Step 2 event took place on 20-21 November 2014 at the University at which the business case was examined in depth, and staff appointments made between step 1 and step 2, the philosophy of the integrated course, the learning, teaching and assessment strategy, plans for patient and public involvement in course design and delivery, the inter-professional learning strategy and the plan for practice activities were considered. The accreditation team agreed to recommend that the

University be permitted to move from Step 2 to Step 3 of the accreditation process. While no conditions were initially set, the accreditation team made a recommendation that the School achieve the right balance of science and practice experience in the staffing profile when recruiting new staff members, in order to support the development of an integrated curriculum and its associated assessments, and asked that the GPhC be informed of the staffing profile and their expertise as new members of staff were recruited. In response, the University made a commitment to bring forward 3 staff appointments during the 2015-16 academic year, providing a total staff complement of 12 new posts for 2015-2016. In a post-visit development relating to the initial rejection of the campus masterplan and the potential impact on planned pharmacy accommodation, two new conditions were set. These were that the University was required to keep the GPhC fully informed of all planning decisions relevant to pharmacy accommodation, including the outcome of an on-going appeal against the rejection of the University's masterplan for its campus redevelopment and any decisions relating to the accommodation for pharmacy in the short, medium or long term. Additionally the University was required to present the GPhC with a revised business case and risk analysis in which the Life Sciences building, the planned permanent home of pharmacy, was delayed by one, two or more years or was not built at all. Subsequently, the objections by Brighton and Hove Council to the campus masterplan proposals were fully withdrawn and the University's appeal was granted.

The Step 3 event took place on 10-11 December 2015 at which the accreditation team examined the course in depth and deliberated on the development of the learning, teaching and assessment strategy; explored the plans for patient and public involvement in course design and delivery, the inter-professional learning strategy and the plan for practice activities. It also considered staff appointments made between Step 2 and Step 3. The team agreed to recommend to the Registrar of the General Pharmaceutical Council (GPhC) that the MPharm degree proposed by the University be permitted to move from Step 3 to Step 4 of the accreditation process, subject to one condition and one standing condition. The condition was that the University must have received approval of the fitness to practise procedures from the GPhC before the intake of the first cohort of students. Subsequently, the University received such formal approval and admitted its first pharmacy students in September 2016. The standing condition remained that imposed by the Registrar at Step 2 which stated that the University must keep the GPhC fully informed of all planning decisions relevant to pharmacy accommodation. Further to the standing condition, a letter outlining the submission of the planning application to Brighton & Hove City Council for the new building was sent to the GPhC.

The Step 4 event took place on 19/20 April 2017 at which event the accreditation team agreed to recommend that the University should be permitted to move from Step 4 to Step 5 of the accreditation process for new MPharm degrees, subject to one condition, one recommendation, and one standing condition. The condition was that the University must provide the GPhC with formal confirmation that the MPharm degree is covered by academic regulations approved by the University Senate in June. This was to meet standard 5.9. The standing condition was that set previously. The recommendation was that the University must submit a risk analysis against the business plan in its evidence at Step 5. Given that the estimated due date to move the MPharm degree into the new building had been delayed another year from the original proposal presented at Step 1, this was to provide the GPhC with assurance that the University had a satisfactory contingency plan in place as the MPharm degree develops. This related to standards 9.1a, 9.1g and 9.1h.

A Step 5 event was scheduled for 28 February to 1 March 2018 and this document is a record of that event.

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 of Sussex on 5 February 2018. 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 28 February 2018. The remainder of the event took place onsite at the University of Sussex on 1 March 2018, and comprised a series of meetings with staff and students of the University and included a tour of the University facilities.

Declarations of interest

There were no declarations of interest, but it was noted that Mrs Amos had been taught by the Director of Pharmacy at the latter's previous institution.

Key findings

Standard 1: Patient and public safety

The team was satisfied that all criteria relating to this standard will be met. (See Appendix 2 for criteria)

The submission stated that a strategic approach has been adopted to ensure that patient and public safety is a prime concern. This encompasses learning, teaching, assessments and the building of a pharmacy community of learning that ensure students accept and develop their individual responsibilities towards patient safety. Systems have been put in place to ensure that students are aware of their individual and personal responsibility for assuring patient safety at all times. These systems focus on a culture of professionalism, fitness to practise, Open days & other admissions & recruitment events, dissemination of information to applicants and students, teaching & assessments on the MPharm that ensure safe and effective practice, and experiential learning. It was stressed at all the meetings that the concept and practise of professionalism is embedded into the curriculum from the start, at recruitment and induction which concentrates on professional issues such as ethical decisions rather than on numeracy skills. Professional attitudes are built up through the emphasis on communication and consultation skills, the Patient as Teacher scheme, the Cultural Competency scheme, and through contact with the clinical preceptors (the Sussex equivalent of teacher-practitioners). Professionalism was said to be involved everything that is delivered to students, and is supported by a Cultural Competency scheme that involves Year 1 students experiencing working with homeless and severely disabled people is designed to develop altruism, empathy, a sense of social justice, along with self-development, interpersonal and leadership skills, all while making a positive contribution to the local community. The fitness to practise (FTP) approach aims to ensure the safety of patients and the public. Pharmacy FTP procedures operate alongside the University of Sussex Suitability for Professional Practice Policy and Procedures. The Pharmacy procedures deal with all FTP concerns that arise in relation to a pharmacy student, operating at stage 1 of the University FTP procedure. All germane FTP matters are then referred into Stage 2 of the University of Sussex process. During recruitment interviews, the School FTP policy and the GPhC Standards for Pharmacy Professionals are highlighted to applicants alongside the philosophy underpinning the MPharm course.

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

The team was satisfied that all criteria relating to this standard will be met.

There is an external stakeholder advisory to advise on the quality of the provision of learning, teaching, assessment and research by providing a forum for issues to be raised relating to these aspects of the School of Pharmacy courses, and on regional strategies for interprofessional education, practice experience learning and the student experience. Additionally, there is a Patient and Public Stakeholder Advisory Group to help to optimise the development of the MPharm course. The team noted that there had been few recent meetings of the above external groups, but was told that the concept of the Patient as Teacher scheme had arisen from the Patient and Public Stakeholder Advisory Group, had been well-received and its potential recognised as valuable in the development of students' communication and active listening skills. Additionally, there had been feedback on the programme from the organisations involved in the cultural competency scheme. A team consisting of academic staff members, clinical preceptors on fractional appointments and designated members of the stakeholder advisory group meets regularly to oversee practice learning opportunities and ensure a strong focus on patient and public safety at all times. At the step 4 visit, the team had expressed surprise that a pharmacy student committee had not yet been established, but was pleased to learn that there will be a Pharmacy Staff Student Liaison Group convened from September 2018.

See commentary to standard 9 below for fuller details, but the team agreed that the **standing condition** imposed by the Registrar of the GPhC at step 2 should remain extant, that the University must keep the GPhC fully informed of all planning decisions relevant to pharmacy accommodation and the implications to the MPharm degree. The team acknowledged that although the GPhC had been kept informed about the progress of the planning permission by the Director of Pharmacy, it was agreed that the University senior executive team must keep the GPhC informed about University decisions related to pharmacy as promised by the Pro-Vice Chancellor for Planning; the Pro-Vice Chancellor committed the University Executive to comply with this requirement. This condition was imposed, and will remain, to ensure that the GPhC is in possession of all the facts relevant to the development of pharmacy at the University of Sussex. This relates to the pre-requisites 2.6, 2.7 and 2.8 for meeting standard 2.

Standard 3: Equality, diversity and fairness

The team was satisfied that both criteria relating to this standard will be met.

The documentation submitted indicated that the University is committed to ensuring that its Equality and Diversity policy is enacted throughout the institution. The University promotes equality and diversity, providing an inclusive and supportive environment for all and has robust systems in place to support this commitment. Statistics relating to the protected characteristics of the University's staff and students are prepared and used to monitor the progress of the University against its equality objectives. The policy is implemented through the Equality and Diversity Committee and an Equality and Diversity Forum. The Committee reports directly to both Senate and Council. Two joint deputy Pro Vice Chancellors for Equality and Diversity were appointed in 2016. The School of Life Sciences follows the University Equality and Diversity Policy. The School applied for and was granted Athena SWAN Bronze award in September 2014 and the Silver award in April 2016. An action plan of work to improve the retention of women across the sciences, which includes Pharmacy, is under way. As a result of the Equality Act 2010, the University has taken steps to implement Green Flag provision into the way that reasonable adjustments for students with specific learning difficulties are actively implemented into teaching and assessment. As part of its on-going commitments to equality and diversity and the Athena SWAN Charter, the University has entered into partnership with the Daphne Jackson Trust, an independent charity dedicated to helping STEM researchers return to careers after career breaks, and sponsors four Daphne Jackson Fellowship All staff members associated with the MPharm are required to complete training on Equality & Diversity. Certificates of completion are automatically recorded and stored on 'Sussex Direct'. A significant number of staff members who teach on the MPharm course have undertaken an Equalities Training; Putting Equality Law into Practice workshop. The first cohort of pharmacy students attended a workshop on Equality Law in Practice; the second cohort was required to complete the University's online Equality and Diversity training package 'Diversity in the Workplace' and upload their completion certificates to their respective portfolios. Students are also trained to appreciate equality and diversity issues throughout the curriculum. Students' learning in this area is supported by off-campus cultural competency scheme with agencies that provide care to the underserved population, raising students' awareness of the impact of diversity on health and social welfare.

Standard 4: Selection of students *and* trainees

The team was satisfied that all criteria relating to this standard will be met.

The documentation stated that the centralisation of both undergraduate and postgraduate taught admissions at Sussex is designed to ensure parity and improve fairness in applicant handling by well-trained staff. All applications to the University of Sussex are considered fairly, equally and in line with the University's admissions policy. Careful student selection is a cornerstone of the approach to admissions onto the MPharm course. Applicants are informed about the demands for professional standards of behaviours expected of healthcare professionals and that professionalism is therefore a recurrent theme throughout the course, onsite at the University and off-site when students are on their practical experiences, and also in their day-to-day lives. Applicants are also informed about the GPhC Standards for Pharmacy Professionals that also apply to pharmacy students as well as the Fitness to Practise procedures. Offers made are contingent on the applicant meeting the academic and professional entry requirements, including health and DBS checks. Students who meet the academic entry requirements and demonstrate the necessary skills and qualities for a pharmacy career in their personal statement are invited to SKYPE interviews, and for face-to-face interviews for applications from foundation course students. Values-based interviews are conducted by two interviewers, one each from science and practice staff, based on scenarios in which the applicants' views are sought. The team was told that to date, no students had been admitted to the MPharm through the Clearing process. The team noted that only a small minority of A-level entrants had met the standard MPharm offer of AAB and was told that generally the University accepts BBB grades to allow flexibility. However, the team was assured that any entrants offering less than BBB would only have been accepted on the basis of the University widening participation policy. The team was told that the variability in entrance qualifications had led to some adjustments of the teaching and learning approach, with even entrants with A-level mathematics struggling with pharmaceutical calculations.

Standard 5: Curriculum delivery and student experience

The team was satisfied that all criteria relating to this standard will be met.

The MPharm curriculum is an evidence-based, outcomes-focused curriculum, integrated around selected body systems, and underpinned by core clinical conditions and core medicines lists. These are designed to facilitate the horizontal & vertical integration of student learning across the disciplinary tracks that contribute to pharmacy practice and patient care. The themes provide connections across contributing disciplines, when covering minor ailments to major diseases, from conception through to the end of life and act as a focus for students' learning of the relevant basic and applied sciences. There is one module per term, carrying 60 credit points, with integration sessions held every two weeks that bring together the scientific and practice elements of the teaching. Within the context of such multidisciplinary curriculum integration, peer-reviewed clinical cases are used to facilitate the integration of biological, chemical, pharmaceutical, social, behavioural and clinical sciences. Each year builds on the preceding year to ensure a spiral progression of learning. The approach employs both team & case-based learning techniques with directed questions to support student learning. As the students progress through the curriculum, the model of integration moves from multidisciplinary to inter-disciplinary, with students taking more responsibility for the integration of their knowledge and skills to solve clinical problems. There are team-based learning (TBL) classes with formal lectures and video clips, underpinned by a flipped classroom approach, for which students prepare in advance of class, engage with contextualised learning and receive immediate feedback supporting meaningful learning. These sessions are designed to ensure that learners are able to construct their own conceptual framework for learning. Students interviewed appreciated the value of the integrated approach and were able to identify the spirality as the programme developed. A multidisciplinary team of teaching staff provides oversight & scrutiny of the integrated curriculum to ensure a consistent integration of learning. A variety of assessment methods is used, including short answer questions (SAQ), single best answer questions (SBA), extended matching questions (EMQ), essays and OSCEs.

SBA's are used to efficiently test knowledge and understanding within a clinical context while SAQ's are used to test problem-solving skills, especially where integrated themes are being assessed. Although the multiple modes of assessment are designed to ensure that assessments are valid and reliable, the team was concerned that the pharmacy teaching team had decided against adopting an external examiner's recommendation that it employ negative marking to prevent the possibility of passing MCQ's by guesswork, considering invalid the teaching team's reasoning that the approach was the same as that for the GPhC registration examination. Students are required to successfully complete each stage of the MPharm course, at least achieving the pass mark of 40% at years 1-3 and 50% at year 4, and are required to pass all the competency Pass/Fail assessments, in order to progress to the next year of their study or graduate. As at the step 4 event, the team considered that the original teaching and learning strategy presented in the submission was largely aspirational and theoretical, and could benefit from updating in the light of experience of delivering the programme.

Year 1 students are involved in an intra-professional experience day which involves meeting and learning about the key roles of pharmacy support staff including medicines counter assistants and pharmacy technicians. To facilitate inter-professional education with the Brighton and Sussex Medical School (BSMS), the body systems curriculum has been aligned with the pattern of the phases 1 & 2 studies on the medical degree, when the medical students are on-site at the University. Pharmacy has also entered into collaboration with the department of Social Work & Social Care, to facilitate inter-professional education, with plans for 4th year MPharm students to shadow social work students during their placement home visits, where they will observe and experience how medicine management issues are dealt with. There are also nascent plans for sessions with nursing students from South Bank University. Following St John's Ambulance (SJA)-led Homelessness Awareness training and First Aid Training, pharmacy students are enabled to serve in the community in Brighton & Hastings alongside the SJA professionals, developing in self-confidence, personal skills, and first-aid skills as well as acquiring work experience, both non-medical and medical. Year 1 students also visit the Chailey Heritage Foundation, a charity providing education, care and transition services for children and young people with complex physical disabilities and health needs. Students are provided with numerous formative practice opportunities focused on patient and public safety throughout the curriculum; patient encounters are embedded into the programme from the first term of the first year, to enable students learn from volunteer 'expert' patients, under supervision by appropriately qualified teaching staff. Students must attend mandatory briefings before they go out on practice experiences; during these briefings they are reminded of the GPhC Standards for Pharmacy Professionals, the FTP policy and what to do if they find that patient/public safety is being compromised. After the initial cultural competency community service in Year 1, students will undertake placements, of up to 5 days in duration, in hospital pharmacy in each year of the programme, in community pharmacy in Years 1-3, in industrial pharmacy in Year 2, and in hospital/general practice/primary care in final year, all under the supervision of pharmacists. Two members of staff have visited all the community placement providers, and organised a 1-day orientation session for placement supervisors. Students described their experience on placements in community pharmacy as being valuable but occasionally variable, with some pharmacists being ill-informed of the requirements of the placement, but assured the team that such problems had been resolved expediently.

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

The team was satisfied that all criteria relating to this standard will be met.

Students are allocated an Academic Advisor whom they meet during induction and regularly throughout the programme. The availability of Academic Advisors for individual student guidance and support is published on the student personal page on Sussex Direct, and students are able to book themselves into available slots on-line. Academic Advisors are required to timetable at least two hours per week for their assigned tutees. Students told the team that academic advisors have an open agenda, and although there are variable arrangements for meetings, do check students' progress and are available for advice when required. In addition, professional mentors, part of a community of practice model comprising professional mentors, clinical preceptors and pharmacy students, created to support the development of students' professional capabilities, engage with students regarding them as developing colleagues. Pharmacy students are reminded that they are undertaking a professional course of study and thus they are expected to attend all teaching sessions and no fewer than 80% of all monitored teaching events for their modules. Student Life Advisors provide one-to-one

advice and support on a wide range of issues and where expert help is needed, signpost to other services quickly and smoothly. For Peer Assisted Learning, trained student peers are undergraduate and postgraduate students, trained to help students succeed in their studies and to make the most of their time at the University. A Student Reps scheme ensures that student concerns, views and opinions are heard and acted upon, offering students the chance to have a genuine impact within the University. The scheme is co-run by the University and the Students' Union. The Reps are undergraduate and postgraduate students elected by students and to find out about issues impacting on student's studies and experiences, and bring these to termly student-chaired Student Experience Meetings at School level, which are attended by the Head of School, Director of Student Experience, School Manager and a designated member of the administration staff. As indicated in the commentary to standard 2 above, the team was pleased to learn that a Pharmacy Staff Student Liaison Group will be instituted in September 2018. A Sussex Abroad scheme offers undergraduate students the opportunity to spend one full academic year studying at a partner institution in countries all around the world. Pharmacy students that meet published academic requirements are provided with the opportunity to learn in overseas institutions for one full year after their second year. Students are required to follow a full course load at the host university and are expected to pass the modules taken, submitting their official transcript on returning to Sussex. On their return, students will recommence their studies in year 3 of the MPharm course. The Director of Pharmacy and other teaching staff welcomed the current plans to restrict the intake to the MPharm programme to 50 students per year (see commentary to Standard 9 below), citing the greater ability to oversee student progress and offer a high level of student support. Students described the role of the academic advisor as providing personal as well as academic advice, and were said to be highly approachable and helpful, with some having an open-door policy, and being prepared to advise students either individually or in groups.

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

The team was satisfied that all criteria relating to this standard will be met.

The Head of the School of Life Sciences is responsible for all staff involved in the delivery of the MPharm. It was emphasised that training is provided to all academic staff members, clinical preceptors and technicians to enable them to undertake an accredited Postgraduate Certificate in Higher Education qualification (PGCertHE) and secure Membership/Fellowship of the HEA, under the auspices of the Academic Development and Quality Enhancement Office, either through direct application or via successful completion of an accredited course. Newly appointed staff members are contracted under a three-year probationary period during which they are required to demonstrate achievement against agreed performance standards, including teaching, as specified in the annual Performance Review, before confirmation in post can be granted. A mentor/buddy is identified for each new staff member who is responsible for answering any practical questions, a campus tour, and introduction to colleagues to ensure that they have a good understanding of the expectations, duties and activities expected of their role. Teaching staff told the team that all modules have two module leaders and that there is a good workload balance. Non-pharmacist staff members are introduced to the GPhC standards for the initial education and training of pharmacists, to the School Fitness to Practise policy and procedures, and the GPhC Standards for Pharmacy Professionals. Non-pharmacists demonstrated to the team that they have a full understanding of the course content and the integrated approach to course delivery. The School operates an appraisal scheme that involves an on-going process of review, support and development. Annual appraisals are the responsibility of the Head of the School of Life Sciences who delegates this role to the Subject Chairs.

Standard 8: Management of initial education and training

The team was satisfied that all criteria relating to this standard will be met.

The team learned that, since the previous step visits, there has been a new leadership team at the University and in the School of Life Sciences, with a new Vice Chancellor, Deputy Vice Chancellor, and Head of School, with the previous Pro-Vice Chancellor for Teaching and Learning having left the institution. Although the MPharm represents a programme delivered from within the School of Life Sciences, the day-to-day management of the programme is under the responsibility of the MPharm Management Committee, led by the Director of Pharmacy, and including the Director of Postgraduate Pharmacy Education, the Admissions Tutor, a research representative, Year Tutors, Module Convenors, Disciplinary Leads, the Preregistration Training Lead, the IPE

Lead, and an Administrator (Secretary). Modules are managed by convenors in accordance with guidelines developed by the Director of Teaching & Learning and the Deputy Head of School. Year Leads, supported by the examinations lead, have responsibility in terms of oversight and scrutiny for all teaching, learning and assessments on the course, ensuring that the integration and contextualisation of learning is focused on enhancing the student experience. The School Teaching and Learning Committee also oversees and scrutinises the MPharm course. The School Director of Student Experience is responsible for pharmacy student experience and is supported in this role by Year and Practice Experience Tutors. The School Director of Student Experience works to implement the University Policy on Student Attendance. This requires students to notify the Director of Student Experience, through the School Office, of any absence of six days or more. The clinical preceptors are registered pharmacists who have received training on the skills and knowledge required to support trainees in the work place, and are usually accredited Educational Supervisors. During practice/work experiences, students are allocated to trained clinical preceptors who are responsible for their support and guidance.

Standard 9: Resources and capacity

The team was satisfied that all criteria relating to this standard will be met.

The pharmacy provision is currently housed mainly in the John Maynard Smith (JMS) Building, part of which had been renovated to good standards to provide a mock pharmacy, a medicines information centre, a simulation suite and consultation rooms for the initial intake of MPharm students in 2016. At the time of the submission of the documentation, the Council of the University of Sussex had committed to building a new life sciences building at a cost of £145M, which would have provided space to accommodate specialist pharmacy staff and laboratories. Substantial accommodation was planned for pharmacy staff and students within the new building, including a pharmaceutical care centre, and a specialist clinical teaching suite, which would have been used for the delivery of the Patient as Teacher scheme. However, just before the accreditation event, the GPhC learned that the University Executive intended to recommend to the University Council that the construction of the new building be postponed until the political and economic conditions relating to the future funding of higher education became clearer. As a result, the MPharm intakes would have to be restricted to the current 50 entrants per cohort for the foreseeable future; the team was presented with a new business plan based on these restricted numbers. The team was concerned at yet another change in the University's planning for the development of pharmacy occurring just days before the accreditation event, but was given a pledge by the Pro-Vice Chancellor for Planning that the University would continue to give full support for the MPharm degree regardless of the future accommodation plans at the University. The team was also concerned that restricting the intake in perpetuity would restrict the sustainability and future development of the subject area, but was reassured from the latest business plan that, although the submission document stated that pharmacy staff was planned on the basis of an academic student: staff ratio (SSR) of 16:1, the core staff complement would rise to twenty five, resulting in an approximate SSR of 8:1 at the new steady state population of approximately 200 students, a level more favourable than the norm for the sector. The team was told that it is planned that 50% of the core teaching team will be GPhC -registered pharmacists. In addition, a number of science academics teach onto the MPharm and demonstrated to the team that they have a full understanding of the course content and the integrated approach to course delivery; a comprehensive induction and regular team meetings ensure that their expertise is continually being related to pharmacy and the professional context, and that content is made relevant to pharmacy. The team also toured the existing facilities which, as at the step 4 visit, and along with facilities in the Arundel Building, it considered to be adequate to deliver the programme to a smaller cohort than initially intended. The team agreed that the **standing condition** imposed by the Registrar of the GPhC at step 2 should remain extant, that the University must keep the GPhC fully informed of all planning decisions relevant to pharmacy accommodation and the implications to the MPharm degree. The team acknowledged that although the GPhC had been kept informed about the progress of the planning permission by the Director of Pharmacy, it was agreed that the University senior executive team must keep the GPhC informed about University decisions related to pharmacy as promised by the Pro-Vice Chancellor for Planning; the Pro-Vice Chancellor committed the University Executive to comply with this requirement. This condition was imposed, and will remain, to ensure that the GPhC is in possession of all the facts relevant to the development of pharmacy at the University of Sussex. This relates to the pre-requisites 2.6, 2.7 and 2.8 for meeting standard 2.

Standard 10: Outcomes

The team was satisfied that all 58 outcomes relating to Standard 10 will be delivered at the appropriate level.

It was agreed at the pre-visit that this Step 5 event would not include an outcomes session, but the team remained satisfied from evidence in the submission and from the various meetings with staff and students that the GPhC outcomes in Standard 10 would be 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 accreditation 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.
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 those wishing to offer 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 |
|------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------------|
| 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)*