



Overseas
Pharmacists'
Assessment
Programme (OSPAP)

University of Hertfordshire
Report of a reaccreditation event
March 2019

Event summary and conclusions

Provider	University of Hertfordshire
Course	Overseas Pharmacists' Assessment Programme (OSPAP)
Event type	Reaccreditation
Event date	6 - 7 March 2019
Accreditation period	2018/19 - 2021/22
Outcome	Approval The accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council (GPhC) that the OSPAP provided by the University of Hertfordshire should be reaccredited for a further period of 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 three years.
Key contact (provider)	Dr Eman Al-Saeed, Programme Leader OSPAP and Senior Lecturer in Clinical Practice
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> <p>Ms Sabina Khanom (pharmacist), Patient Safety Policy Lead (Primary Care), NHS Improvement</p>

	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 Mr Chris McKendrick, Quality Assurance Officer, General Pharmaceutical Council (Day 2 only)
Rapporteur	Ian Marshall, Emeritus Professor of Pharmacology, University of Strathclyde; Proprietor, Caldavan 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

The University of Hertfordshire OSPAP is delivered by the Department of Clinical and Pharmaceutical Sciences (CAPS), which in turn is part of the School of Life and Medical Sciences. The OSPAP was first accredited by the GPhC at an OSPAP Step 2 accreditation event held in July 2012 which resulted in accreditation for three years. A reaccreditation event took place in 2015 at which the accreditation team agreed to recommend to the Registrar of the General Pharmaceutical Council that the University should be reaccredited to provide an OSPAP for a further period of three years, with no conditions or recommendations. However, the accreditation team identified a number of areas for further consideration. As part of the planned review of the assessment strategy, the accreditation team encouraged the course team to develop an assessment strategy to better integrate OSCEs across modules. The role and appropriateness of the post-OSCE professional competence panel interview should also be reviewed. The accreditation team's view was that the high assessment burden hindered the most effective delivery and use of academic feedback, therefore these areas should also be considered in this review to manage student expectations on feedback.

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 3 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 meeting with OSPAP students, followed by a private meeting of the accreditation team and GPhC representatives on 6 March 2019. The remainder of the event took place onsite at the University on 6-7 March, and comprised a series of meetings with staff and students of the University.

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

The Departmental system to ensure that students do not jeopardise patient safety starts prior to students being admitted on to the course and continues throughout the OSPAP programme. The admissions process involves an interview with the admissions tutor, who is also the Programme Lead and a pharmacist, where the applicant's professional attitude and behaviour is reviewed. This interview is either face-to-face or via Skype which is mainly used if an applicant is overseas. If it is not possible to arrange a face-to-face or Skype interview, a telephone interview is undertaken using the same question structure. All applicants provide evidence of good character and reference checks as part of the GPhC application process to decide eligibility to apply for the OSPAP. Students complete a Self-disclosure and undergo enhanced Disclosure and Barring Service (DBS) checks during induction. In addition to the enhanced DBS check, overseas students who have been present in the UK for less than five years, normally submit a Certificate of Good Conduct from their country of origin. Where this is not possible, the applicant may sign a Statutory Declaration in front of a solicitor to confirm that they have not been convicted of any criminal activities. Where any issues arise, these are investigated by the Programme Lead and further action taken where necessary, according to the University's Student Fitness to Practise (FtP) policy. 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 will prevent the student from undertaking the placement and will be required 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. The team was told that there had been sensitive discussions about the NHS hospital practice of 'bare below the elbow', and that students had been directed to the DoH guidance on health and washing. Hand-washing is an element of the diagnostic OSCE in the induction period, and the team was told that there had never been a case of non-acceptance of the approved process. Patient safety is a focus in inter-professional education which forms part of the Preparation for Practice module. Safety is also stressed both in the practice and laboratory environments. Students'

professional attitude and application of the above Standards for Pharmacy Professionals is assessed summatively in the Professional Competency Panel in Medicines and Pharmacy Practice where students discuss complex ethical dilemmas. During placements students are supervised directly for half of their time, spending the other half working independently to complete specific placement tasks from a Placement Workbook. Mentors ensure that students are not left alone in direct contact with patients, and mentors must be contactable by the student at all times. Placement site mentors are accredited prior to taking students, to ensure that they understand the regulations and can evaluate the student in the workplace and raise any concerns. Throughout the OSPAP, students are supported to provide awareness of the standards and learning outcomes required to gain the OSPAP award. The Department has a comprehensive process to ensure that students meet the requirements for numeracy in the OSPAP, and students accepted onto the OSPAP course must have achieved an IELTS score of at least 7 in all sections of the English test in one sitting. Both English and numeracy skills are tested in diagnostic assessments during the induction period at the outset of the programme. It is made clear to the students that the GPhC Standards for Pharmacy Professionals applies in all settings. Also, the processes within the Department regarding FtP apply in all settings. The team was told that to date, there have been no incidences of students being removed from the OSPAP or refused entry to the OSPAP on any grounds where FtP may be compromised. The team was told that the Department had not experienced any serious issues with DBS checks, but that any late approvals would result in the student not attending the early hospital placement. All OSPAP students are qualified in their own country, where pharmacy practice differs from the UK with a different socio-cultural context. These differences are proactively discussed from application and throughout the OSPAP. Discussion of FtP mechanisms within the School of Life and Medical Sciences is initiated in induction week and discussed during personal academic tutor meetings. Any issue that calls into question a student's FtP is dealt with, where possible, by local resolution and by support to the student to understand all the issues. 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 an OSPAP

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 OSPAP in addition to the MPharm degree programme, the MSc Pharmacy Practice and the MSc Clinical Pharmacy Practice. Each programme has a bi-annual Programme Committee which meets each Semester, chaired by the Programme Lead. Admissions Policies, Regulations and Procedures are within the OSPAP Programme Specification which is the responsibility of the OSPAP Programme Committee. The entry requirements for the academic year 2019–20 are published on the University website. 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 issues, student support and guidance at programme level, and resource support for the programme. Reporting is through the Annual Monitoring and Evaluation Report (AMER). 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 including 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. 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

Department completed in January 2019. 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. The team learned that the timing of the Postgraduate Taught Experience Survey (PTES) was difficult for OSPAP students, occurring at the end of the second semester but that the scores had been good. 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.

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. Published outcomes suggest that students from non-traditional backgrounds, which include a disproportionate representation from ethnic minority backgrounds, perform less well at university and in the registration examination of the GPhC. Thus, the teaching and learning and assessment aims of the OSPAP are to mitigate the problems with transition to UK higher education. The Admissions Team in the Department undertakes University training in admission procedures, which includes applicants with disabilities. All staff members associated with the OSPAP undertake equality training on an annual basis and are expected to attend the 'Working with International Students, a shared experience' workshop. 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 Equality Office delivers training sessions for staff 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. The team was told that OSPAP students are very accepting of the UK rules relating to equality and diversity, and that they know that if they have any problems supplying medicines to patients with protected characteristics, they must pass the patient on to another pharmacist who is willing to effect the supply. The team was told that OSPAP students are aware that the law in the UK is likely different from that in their country of origin and adapt accordingly, particularly as their culture is treated with respect by the teaching team.

Standard 4: Selection of students

All criteria relating to this standard are met.

The University's OSPAP website provides information on the entry requirements for the OSPAP, the fees, scholarship opportunities, timetabling including days per week and term times, course structure and content, links to the GPhC application process and GPhC's Standards for Pharmacy Professionals. This includes a statement that applicants cannot apply directly to the University for registration onto the OSPAP and directs prospective applicants to the GPhC website for Overseas (non-EEA) qualified pharmacists. It informs prospective applicants that after receipt of these documents from the GPhC, they will be sent application details directly from the University. Students must have undertaken the GPhC adjudication process for eligibility onto the course. Students must have evidence that they have practised in a pharmacy setting, in a patient-facing role. The admissions interview provides the focus for ensuring applicants appreciate the commitment it takes to complete the OSPAP and pre-registration training and in providing awareness of the professional qualities needed by the applicant. The interview will normally consist of a demonstration of communication skills, an understanding of the role of the pharmacist in the UK, knowledge of the profession and an understanding of the work commitment needed to complete the course and the organisation of the applicant's life around the course. The applicant's professional attitude and behaviour is reviewed, which can include assessment of general manner, appearance, timing keeping and professionalism. English language skills of listening and speaking of English are assessed. Due to the academic rigour of the OSPAP, the Admissions Tutor restricts admission to students who are likely to succeed on the course. As a minimum, the applicant will normally require a pharmacy degree equivalent to a UK bachelor qualification as measured by NARIC. If the applicant's pharmacy qualification is equivalent to less than a UK Bachelor level qualification, the OSPAP admissions tutor will examine the additional documents that the GPhC requires the applicant to provide. These include a completed international comparative assessment framework, a syllabus of the degree the applicant studied and a translation if not in English. The Admissions Tutor also uses degree transcripts to highlight the student's strengths and weaknesses in areas of the course. This information is used to identify students who may be unsuitable for the OSPAP, for example, a student that has failed specific elements of their programme repeatedly. In addition, an applicant that has failed the OSPAP at another institution would not be offered a place. The admissions team in the Department have to undertake University training in admission procedures, which includes dealing with applicants with disabilities and from diverse backgrounds.

Standard 5: Curriculum delivery and student experience

All criteria relating to this standard are met.

The aims and philosophy of the OSPAP are to instil in students the attributes required for professional pharmacy practice in Great Britain and to support students in their further development as independent practitioners in their chosen field of pharmacy. The objectives are to create a balanced programme that integrates science and all aspects of professional practice, for staff to teach effectively in an integrated curriculum, to develop a rigorous assessment programme that balances formative and summative measures, and to establish and maintain an active research community to ensure teaching is informed by research. The team was told that the main challenges include the diversity in the student group with a mixture of recent graduates and those who have not been in formal education for many years. The team was told that it can also be difficult for students to go back over material that is already familiar to them. However, the small size of the OSPAP cohort was said to facilitate individual action plans and of discussion in small groups. As the course is delivered on three days per week over a nine-month period, the team was told that much attention had been paid to the scoping and sequencing of the material to avoid an overly rushed programme. Enhancing integration is a key driver of the OSPAP curriculum delivery, particularly multidisciplinary, interdisciplinary and transdisciplinary integration, concepts often unfamiliar to many OSPAP students. The GPhC Standards for Pharmacy Professionals are integral to curriculum delivery, as are the University's six graduate attributes of Professionalism; Learning and Research Skills; Intellectual Depth, Breadth and Adaptability; Respect for Others, Social Responsibility and Global Awareness to provide a holistic, outcome-based approach in the broad structure and framework of the OSPAP. However, it is recognised that OSPAP students have diverse educational backgrounds, some from systems with an

emphasis on didactic teaching methods and learning by rote. In addition, pharmacy practice in their home country can be limited in scope compared to practice in Great Britain. Hence, it is accepted that many OSPAP students may need support to become integrative thinkers. The curriculum has been designed to assess students' ability at entry to the course and to introduce them to UK pharmacy practice, then to build from this with increasing complexity until the final assessments. To facilitate transition, the student's journey starts with evidence-based practice with harmonised, shared and correlated integration of pharmaceutical sciences, then progressing through organ-based themes based on the British National Formulary chapters. The curriculum is designed and timed to provide the evolving educational and training needs of the students as they progress through the course, starting with a multidisciplinary model of integration to introduce organ-based themes. This ensures that the student's individual existing knowledge of basic pharmaceutical principles is reiterated, expanded and further elucidated with cases and examples throughout the OSPAP. The approach moves from multidisciplinary, allowing for student identification of individual strengths and areas of weakness, the gradual introduction and use of UK resources, legislation and approach to practice, to the trans-disciplinary model of integration as student self-reliance develops. The OSPAP culminates with assessments that demonstrate the student's ability to apply their knowledge to the real world. Learning experiences are student-centred and coordinated to reinforce knowledge and continually prepare the student for higher-order learning. The majority of the clinical cases developed through the modules are based on real patient scenarios; each case ensures that the student demonstrates an understanding of the pathology, signs, symptoms, requirements for monitoring and choice of therapy. Modules are designed to provide relevant, contextualised learning experiences that are not necessarily limited to the classroom, laboratory or the computer. These include simulation and virtual laboratories as well as public and private sector pharmacy exposure together with extensive patient-facing contact. The focus for the first semester is towards evidence-based management of illnesses and diseases in the human body according to organ-based themes, the design, action and uses or drugs used in the management of those diseases, as well as the presentation of medicines and their provision to patients. A substantial part of the semester is devoted to the legal and ethical framework for the clinical use, dispensing and supply of medicines in professional practice, the communication and consultations skills required to deliver healthcare, as well as the NHS in the provision of healthcare. The hospital visits during the first semester allow an initial insight into how the semester's learning is relevant in the context of UK practice. The second semester is designed to conclude the OSPAP by completing the organ-based theme teaching. The syllabus covers evidence-based use of medicines and pharmacy practice, patient safety and pharmacovigilance and includes the opportunity to develop clinical therapeutic intervention skills. Students are provided with an in-depth understanding of public health, health promotion, quality and risk management and how to address the challenges involved. The second semester also enhances the student's understanding of the wider implications of professional practice, their legal and ethical responsibilities and their role in an inter-professional health and social care environment. Interprofessional education (IPE) runs as a common theme throughout the course, allowing students to see how healthcare professionals interact to improve outcomes in patient care. Students and registered health professionals from disciplines such as dietetics, nursing, optometry, physiotherapy, paramedics, radiography, physicians associate and social work, work with OSPAP students in a variety of ways, including challenging lifestyle situations. Students are placed in practice environments in the first and second semesters. In the first semester, the aim of the hospital visit is to observe how the pharmacist fits into the healthcare system; the scope of professional practice; pharmacists' attitudes and specialist skills; the role of medicines management and development. In the second semester, the placement aims to provide students with practical experience of integrating theory with practice, and an essential opportunity for patient contact during a five-day community pharmacy placement at which OSPAP students are expected to understand the range of services offered. The team learned that from September 2019 the new placement opportunities arranged for MPharm students, in GP practices and care homes, would also become available to OSPAP students. The team was told that there are possibilities for the future of OSPAP students working with medical doctors studying in the Postgraduate Medicine group. Additional patient experiences are provided with the use of both real and simulated patients in replicated practice settings, including a patient interview session with expert patients with a range of

long-term conditions. Patients interviewed described the OSPAP students as taking a more mature approach to communication with patients than do the early years MPharm students. The assessment strategy for the OSPAP reflects both the broad aims of the course as well as the learning outcomes of individual modules. The strategy emphasises the ability of the students to demonstrate clinical focus and competency as well as inculcating professionalism and scientific rationale to all aspects of independent practice. Almost all of the OSPAP assessment methods, for example OSCEs, extemporaneous dispensing test, aseptic test and dispensing test, professional competency panel, involve some element of practice that requires application of underpinning scientific theory to problem-solving. Minimum pass criteria are set at the level of basic competency. No assessment can be passed if patient safety is compromised. All OSPAP students undertake a diagnostic numeracy test during the induction programme, covering mental arithmetic, chemical concentrations and dilutions, and basic pharmaceutical calculations, plus a diagnostic test that assesses their basic scientific and clinical knowledge. The majority of OSPAP students have not previously encountered OSCEs in their undergraduate studies. Thus, a diagnostic OSCE session is run in the early weeks of the OSPAP to allow students to experience the assessment and to gauge their performance. Critical fail assessments in competency-based assessments feature throughout the OSPAP, including the dispensing competence test, extemporaneous dispensing test, the aseptic laboratory practical, a numeracy competency assessment, OSCEs in which there are critical fail elements covering issues of patient safety and pharmacy law, a law test which must be completed to a high standard, all of which must be passed for students to graduate. The team was told that the students get regular numeracy worksheets that they are expected to complete under examination conditions. The team was told that OSPAP students are aware of the imminence of the GPhC Registration Examination with its numeracy requirements, and therefore ask for help if experiencing problems with pharmaceutical calculations. Coursework is returned to students together with feedback no later than 4 weeks after the submission deadline, in line with University requirements. In practice, feedback can often be immediate and is usually well within the 4-week timeframe. The regulations pertaining to the OSPAP have always been more stringent than the University norm with a number of programme-specific regulations to maintain patient safety and to operate within legal frameworks.

Standard 6: Support and development for students

All criteria relating to this standard are met.

For international students, the International Student Support (ISS) team is available to assist with advice and support on all aspects of their time in the UK, including immigration, employment and personal matters. Help is also provided with renewing student visas. Upon completing their studies, the team can help them to replace their student visa with another immigration category. The Induction Programme in the first two weeks of the OSPAP introduces the students to many aspects of University life and to the OSPAP and is designed to provide the foundations for the student journey through the OSPAP. The content includes careers and pre-registration training information, occupational health, counselling and other University student support, StudyNet skills, data base-searching skills and critical appraisal skills, team work and individual learning styles analysis, and introduction to the BNF. The team was told during the induction period diagnostic assessments are carried out that form the basis of each student's development plan. On commencement of studies, each student is allocated to a small learning group with a mix of students chosen to provide a blend of gender, cultural background and UK practice experience versus no prior UK experience. Students remain in the same learning group for the duration of the OSPAP for all group work with an allocated Personal Academic Tutor, who is a pharmacist; the groups meet regularly. Each Personal Academic Tutor, part of a group of tutors separate from the MPharm personal tutors, provides support for the group who meet five times starting from the early part of the programme, along with pastoral and academic support along with individual pastoral and academic support which is pivotal as many OSPAP students are known to find the early transition period difficult, and although, to date, this has not led to early attrition, there has been some sub-potential achievement. There is a structured programme of tutorials in place that is flexible in approach with students able to request specific content. 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. To date, all OSPAP students who wish to have gained pre-registration training employment and all the OSPAP students interviewed had obtained places. If GPhC approval to start the OSPAP arrives too late for applications through the Oriiel system, the Department will provide support for non-Oriiel applications, often to community pharmacies involved in the Department's placement scheme.

Standard 7: Support and development for academic staff

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 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; Local induction programme within CaPS, overseen by the line manager and a mentor; 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. 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 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. The team was told that OSPAP students are able to talk to staff members who have undergone the programme and who have experience of navigating through it. Staff members have time allocated in their workload for such student support.

Standard 8: Management of an OSPAP

All criteria relating to this standard are met.

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 and OSPAP programmes 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 context of the OSPAP Degree the key staff are: Programme Lead and Admissions Tutor, Learning and Teaching lead, Academic Quality lead, Student Experience lead, Module Leads, Personal Academic Tutors,

Programme Administrator, as well as the School's technical support staff, Academic Conduct Officer and Lead for Fitness to Practise.

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 Health 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 OSPAP student intake targets for the duration of this re-accreditation are expected to remain constant at a total of 15-25 students per year, with the University aiming to attract a fifth of the applicants to the GPhC each year, a target of 20 students. The team was told that recruitment had revived in recent years after a period of barely sustainable recruitment, and the Head of Department told the team that he was confident of the continued viability of the programme. In consultation with the Finance Department and subject to the approval of the Dean, 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. It is the GPhC's intention to write to all schools noting that contingent budgets will be accepted for accreditation purposes until the outcome of the review is known, at which point the situation will be revisited. In this respect, the team was told that the Department, although not cognisant of the University 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. 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 noted that the Department had currently eight vacant posts but was assured that none of these was in the OSPAP teaching team. The majority of staff members teaching on the OSPAP are pharmacists or overseas pharmacists with UK postgraduate qualifications. The OSPAP Personal Academic Tutors are all pharmacists. 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 who plan and organise teaching, learning and assessment include a mix of disciplines, and the delivery of the programme ensures that pharmacists and non-pharmacists work 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 which is ongoing and illustrated by 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, three outcomes (10.1.d, 10.2.2.f, 10.2.3.c) 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 three 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 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 the Teaching, Learning and Assessment meeting 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 OSPAP met the requirements of Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications for an OSPAP.

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 timescales 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 education and training of non-EEA pharmacists wanting to register in Great Britain

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:
 - 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 OSPAP 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 an OSPAP

2. **The quality of an OSPAP 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;
 - 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.

Standard 3: Equality, diversity and fairness

- 3. OSPAPs 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

- 4. Selection processes must be open, fair and comply with relevant legislation. Processes must ensure students 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 the GPhC's adjudication requirements;
 - 4.2.b** meeting academic and professional entry requirements;
 - 4.2.c** meeting numeracy requirements;
 - 4.2.d** recognizing 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 OSPAPs must deliver the outcomes in Standard 10. Most importantly, curricula must ensure students practise safely and effectively. To ensure this, pass criteria must describe safe and effective practice.**
- 5.1** Curricula must be integrated. By this the GPhC does not mean that an OSPAP and pre-registration training must be delivered as single two tier course, but that the component parts of an OSPAP must be linked in a coherent way.
- 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 OSPAP must be delivered in an environment which places study in a professional and academic context and requires students to conduct themselves professionally.
- 5.4** An OSPAP 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 OSPAP 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 OSPAP curriculum must include practical experience of working with patients, carers and other healthcare professionals. We are not suggesting that off-site placement visits are the only way to achieve this. Schools should articulate their strategy for meeting this criterion, which may include off-site placement visits, using patients, carers and other healthcare professions in-class and simulations.
- 5.7** There must be a clear assessment strategy for the OSPAP. Assessment methods must measure the outcomes in Standard 10.
- 5.8** The OSPAP 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 postgraduate qualification 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. Course 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 OSPAPs must include an induction programme orientating students to study in the UK. The programme should include diagnostic testing.

Standard 6: Support and development for students

6. Students must be supported to develop as learners and professionals during their OSPAP.

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

Standard 7: Support and development for academic staff

7. Anyone delivering an OSPAP should be supported to develop in their professional roles.

- 7.1. There must be a range of mechanisms in place to support anyone delivering an OSPAP 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 OSPAP.
- 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.

Standard 8: Management of an OSPAP

8. An OSPAP must be planned and maintained through transparent processes which must show who is responsible for what.

- 8.1. All OSPAPs must 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 an OSPAP

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 OSPAP;
- 9.1.b** sufficient staff from relevant disciplines to deliver the curriculum to students. 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 OSPAP 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. 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 pharmacy staff who are able to act as mentors to non-pharmacist colleagues
- 9.1.c** career pathways in universities for all staff teaching on OSPAPs, including pathways for practice staff
- 9.1.d** clear lines of authority and responsibility for the strategic organisation and day-to-day management of placements;
- 9.1.e** training and ongoing support for all non-pharmacists involved in the delivery of OSPAPs, 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.f** appropriate learning resources
- 9.1.g** accommodation and learning resources that are fit for purpose

Standard 10: Outcomes for non-EEA pharmacists wanting to register in Great Britain

10.1 Expectations of a pharmacy professional

Learning outcome	OSPAP	Pre-reg (for reference only)
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	OSPAP	<i>Pre-reg (for reference only)</i>
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>Does</i>
10.2.1.c Use the evidence base to review current practice	Shows how	<i>Show how</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>Does</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	OSPAP	<i>Pre-reg (for reference only)</i>
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	OSPAP	Pre-reg (for reference only)
10.2.3.a Ensure quality of ingredients to produce medicines and products	-	<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	OSPAP	Pre-reg (for reference only)
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 how	<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	OSPAP	Pre-reg (for reference only)
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)*