General Pharmaceutical Council

Master of Pharmacy degree (MPharm)

University of Portsmouth

Report of a reaccreditation event
June 2018

Event summary and conclusions

Provider	University of Portsmouth
Course	Master of Pharmacy degree (MPharm)
Event type	Reaccreditation
Event date	27-28 June 2018
Accreditation period	2017/18 – 2023/24
Outcome	Approval. The team agreed to recommend to the Registrar of the General Pharmaceutical Council that the MPharm degree delivered by University of Portsmouth should be reaccredited for a full period of six years. The team will look forward to seeing the progress made in the planned development of the MPharm at the interim event in three years' time.
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 6 years.
Key contact (provider)	Dr Marisa van der Merwe, Principal Lecturer and MPharm Course Leader
Accreditation team	Professor Ian Marshall (Team leader) Emeritus Professor of Pharmacology University of Strathclyde Dr Geoff Hall (Academic), Retired, formerly Associate Head, Leicester School of Pharmacy, De Montfort University Professor Angela Alexander (Academic), Professor Emerita, University of Reading Professor Brenda Costall (Academic), Professor of Neuropharmacology, Former Pro-Vice Chancellor Planning, Research and Resources, Deputy Vice Chancellor and Head of Pharmacy, University of Bradford Professor Helen Howe (Pharmacist), Retired hospital Chief Pharmacist Mrs Samantha Amos (Newly qualified pharmacist), Senior Clinical Pharmacist, Maidstone and Tunbridge Wells NHS Trust Ms Leonie Milliner (Lay member), Chief Executive, Association for Nutrition

GPhC representative	Ms Joanne Martin, Quality Assurance Manager, GPhC
Rapporteur	Professor Brian Furman, Emeritus Professor of Pharmacology, University of Strathclyde

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 Portsmouth MPharm (Hons) Pharmacy degree is offered by the School of Pharmacy & Biomedical Sciences within the University's Faculty of Science. The institution has been offering a pharmacy degree since 1966. The programme was last reaccredited by the GPhC in March 2012 for a full period of six years, subject to the condition that all staff contributing to the MPharm degree must be trained in equality and diversity; this condition, which was to meet criterion 3.2, was duly met. On that occasion, the team also recommended that the School should consider revising its MPharm academic regulations to be explicit that the requirements of criterion 5.9 are met. This was because of the team's concern that the school wished to allow students to pass some units with an average of 40% overall, while permitting assessment elements to be failed; the team's concern was that in an integrated course a failed assessment component might feed into another area of the course, where passing was clearly a matter of patient safety. The GPhC received a satisfactory response to this recommendation. At the interim visit in 2015, the team imposed a condition that the School should articulate its strategy for inter-professional education (IPE) and for patient and public engagement (PPE). To meet this condition, the School has worked with colleagues in the School of Health Sciences and Social Work (SHSSW) to expand the provision of IPE across all years of the programme; this includes working with students from the Dental Academy, radiography, paramedic science, social work, nursing and optometry. In collaboration with SHSSW, the School has also established a joint Public and Patient Engagement Group, which currently has a database of over 40 patients and members of the public; the course provision now includes patient and public engagement throughout all four years. At the interim visit, the team also recommended a review of the curriculum and assessment in the early years of the MPharm to show students clearly where integration lies; the team also recommended that the School should devise a clear assessment

strategy for the course and disseminate it to staff. The course team reflected on the recommendations and submitted a learning, teaching and assessment support strategy (LTASS) to address the recommendation; this LTASS has been further developed to more clearly show integration and address the need for a clear assessment strategy.

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 Portsmouth on 5 June 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. At the pre-visit, the provider was asked to produce additional documents before the event; these comprised a glossary of terms referred to in the submission and evidence, student feedback and SSCC minutes from the last three years, a table of entry qualifications for the current students (years 1-4), responses to the external examiners' reports (last three years), a table of student progression, attrition and completion, and any minutes or notes from meetings relating to patient and public engagement.

The event

The event, which comprised a series of meetings with staff and students of the University, began with a private meeting of the accreditation team and GPhC representatives on 27 June 2018. The remainder of the event took place onsite at the University of Portsmouth on 27-28 June 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.

Key findings

Standard 1: Patient and public safety

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

The School has established systems to ensure that students do not jeopardise patient safety. All applicants are checked against the Exclusion Database shared between the Pharmacy, Medicine, Veterinary and Dental Schools' Councils before any offer is made. On entry to the programme, students are required to make a full fitness to practise declaration and have an Enhanced Disclosure and Barring Service (DBS) check; for international students who have not been resident in the UK for 12 months, the DBS check will be delayed until the start of the second year of study. Subsequently, all students are required to complete an annual fitness to practise declaration at the start of each academic year. An introduction to patient safety, including clinical governance, is presented early in the first year. Key issues covered at this stage include the concept of standard operating procedures, errors and their implications, and the management of errors. It is stressed that patient safety is central to all activities of a pharmacist. Within the first week of teaching in year 1, students are introduced to the GPhC's Standards for Pharmacy Professionals, as well as to the School's fitness to practise policies and procedures. This is built

upon in an interactive lecture on professionalism, allowing discussion around ethical scenarios early in the course. The concepts of ethics and professionalism are constantly reinforced throughout all four years of the programme. Within the University, students undertake simulated practice which is assessed by a variety of methods including practical skills assessments (PSAs) and observed structured clinical examinations (OSCEs). Before undertaking any community or hospital placement, students are reminded of the professional requirements with respect to their behaviour and conduct. This includes a reminder of the University Code of Student Behaviour and the GPhC Standards for Pharmacy Professionals. Placement providers are required to notify the University if they have any concerns about a student during a placement. In the event of serious concerns, the student would be removed from the placement; this would result in academic failure in the unit, as well as, potentially, disciplinary or fitness to practise action. At no point are students allowed to undertake any unsupervised, patient-focused practice. As their competence develops across the years, students are given correspondingly increased freedom, with the level of control decreasing gradually as they progress. When work is undertaken outside the University, students are clearly briefed on what is expected of them, including the need to work within their levels of competence. Students undertaking hospital placements are directly supervised at all times. Final year students undertaking general medical practice and mental health placements will be supervised by a responsible staff member, for example, a GP, practice nurse, or mental health pharmacist. Before attending these fourth year placements, students must successfully complete the NHS Core Skills Training Framework, have an additional Enhanced Disclosure and Barring Service (DBS) check, and undergo an occupational health screening, which includes ensuring that vaccinations are up-to-date. Unsafe practice in PSAs and OSCEs, including the failure of students to recognise, or act upon, patient-safety critical incidents that may cause moderate or severe harm, or death of a patient, will lead to academic failure. When students are undertaking non-assessed workshops, such as dispensing classes, their performance is monitored formatively and advice and guidance given immediately if there are concerns about the safety of their working procedures. Where a student's conduct or health gives rise to concern with respect to patient safety, this will be addressed through the fitness to practise (FTP) process; if students' conduct is such that they are deemed to pose a risk to the public, then they will be subject to FTP procedures which can result in their removal from the programme, with their details being uploaded to the Exclusion Database.

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

All criteria relating to this standard are met.

There are systems in place to monitor, review and evaluate entry requirements, the quality of teaching, learning and assessment, and of placements and other practice learning opportunities, as well as educational resources and capacity. The key bodies that oversee the management of the University are the Board of Governors, the University Executive Board (UEB) and the Academic Council, the last having three main subcommittees, one of which is the Education and Student Experience Committee, which is advised by the University's Quality Assurance Committee on all matters relating to quality assurance of degree programmes, including the appointment of external examiners, who play a key role in assuring the quality of the MPharm. At School level, quality assurance involves the Associate Head (Education), the Course Leader, and the unit coordinators. The Faculty personnel responsible for quality assurance are the Associate Dean (Academic), the Associate Dean (Students), the Student and Academic Administration Manager, and the Faculty Validation Officer. At University level, quality assurance is the responsibility of the Pro Vice-Chancellor (Education and Student Experience), the Associate Pro Vice-Chancellor (Student Experience), the Academic Registrar, and the Head of Student and Academic Administration. Courses are governed by the 'Programme Specification Document' and the unit descriptors, with the Programme Specification Document being subject to annual review, and any modifications to the programme being reviewed by the University's Quality Assurance Committee. Unit modifications can be approved by the Associate Dean Academic. Unit evaluation reports dealing with student achievement and feedback, as well as feedback from external examiners, are submitted to the Unit Assessment Board. Programmes are monitored annually, as well as through periodic review; the latter takes place every six years, and is undertaken by a panel that includes an external subject specialist. The annual monitoring process is

through the Annual Standards and Quality Evaluative Review (ASQER), and is based on annual reports to the Board of Study by the Course Leader and Head of School; these reports are discussed in an ASQER meeting with the Faculty Associate Dean (Academic) and the Associate Dean (Students), following which the Associate Dean (Academic) produces a summary report, which is submitted to the Faculty Executive Committee and the University's Quality Assurance Committee. Finally, this forms part of the University ASQER, which is considered by the University's Academic Council and Board of Governors. The ASQER is informed by feedback from students, which is obtained through unit and course questionnaires, as well as through informal mid-year feedback; a general response to this feedback addressing the main points raised is communicated to the students. Feedback on the programme is also obtained from the results of the National Student Survey, the results of which are considered carefully in order to make improvements. There is a Staff-Student Consultative Committee (SSCC), which reports to the Board of Study. Development of the MPharm has been informed by online student consultation, as well as by consultation with pre-registration trainees, hospital and community pharmacists, and with patients and the public. There are regular and informal interactions with hospitals in and around Portsmouth, Southampton, Winchester and Chichester. Patients are also invited to discuss the course, although this happens infrequently; they make suggestions for modification, and see how their views feed into the programme. Pharmacy students undertake placement-based learning in all four years of the MPharm programme. There are formal agreements in place for visits to pharmacy settings and both community and hospital providers are paid for their services. Quality assurance of community pharmacy visits and placements depends on the area manager of the multiple chain used, or, for independent pharmacies, the owner of the pharmacy, the duty pharmacist and the relevant MPharm unit coordinator; feedback is collected both from the students and the community pharmacists facilitating the placements. Hospital placements are arranged and managed by the School's four hospital teacher practitioners, each of these being based in one of the hospitals in Portsmouth and the surrounding area. Quality assurance of these hospital observational visits includes formalisation of arrangements and the use of feedback to evaluate the student experience; feedback from students is collected and sent to the hospitals via the teacher practitioners. At the same time, feedback on general performance and the operation of the placement is collected from each provider by the teacher practitioners and this is fed back to the hospital for action, if required. The final year placements in GP practices and on mental health wards are quality assured through the Science Faculty Placement Office, which uses a detailed audit form. The University has recently introduced a new Curriculum Framework that uses two semesters to define the academic year, and requires years 2 and 3 of programmes to be delivered using short, semester-long units (modules) rather than units that span the whole year. Because this approach is incompatible with the delivery of an integrated MPharm programme, the University has agreed to an extension of the current mode of delivery, which is based exclusively on year-long units.

Standard 3: Equality, diversity and fairness

Both criteria relating to this standard are met.

The University is committed to the principles of equality, diversity and fairness, so that all members of the institution can expect to be treated with dignity and respect, not to be bullied, harassed, abused, intimidated or victimised, and to be provided with relevant support, guidance and training. These principles are supported by various policies, including the Religion and Belief Policy, the Gender Identity and Expression Policy, and the Dignity and Respect Policy, as well as by University structures that include an Equality and Diversity Unit, which reports to Academic Council via the Equality and Diversity Committee. Promotion and development of equality and diversity is part of the responsibilities of the Associate Dean (Students) at Faculty level. The University takes an evidence-based approach to the monitoring and assessment of performance in matters of equality and diversity, including the use of both quantitative and qualitative evidence. The University has held the Athena SWAN Institutional Bronze Award in recognition of its commitment to advancing women's careers in STEM (science, technology, engineering and mathematics) since 2014, and the School of Pharmacy and Biomedical Sciences also holds a Departmental Bronze Award. Following funding of the 'Changing Mindsets' projects by HEFCE,

first year MPharm students have actively engaged with workshops that encourage a growth mind-set, and that erode stereotype threat and implicit bias as barriers to learning. Student feedback following the workshops was very positive, and these sessions have now been formally incorporated into the first year of the programme. The 'Changing Mindsets' project included an analysis of student data from the School of Pharmacy and Biomedical Sciences, which demonstrated attainment gaps between white and BME students, and between students from the most disadvantage background, compared with students from a more advantaged background; further analysis will be undertaken looking specifically at data for the MPharm students. As part of their core training requirements, all new members of staff undertake online equality and diversity covering 'Equality and Diversity in the Workplace', 'Unconscious Bias Awareness', and 'Anti-Bullying and Harassment'. Staff members are also required to complete the core training related to Equality and Diversity every three years. Before students can attend final year GP and mental health placements, they are required to successfully complete the NHS 'Core Skills Training Framework' (CSTF); this training consists of 11 mandatory subjects, of which the first is 'Equality, Diversity and Human Rights'. In relation to equality and diversity informing the curriculum, members of staff are expected to reflect on their training in relation to their teaching and on the case studies used. Students are aware of their responsibilities in relation to protected characteristics such as gender, disability and ethnicity.

Standard 4: Selection of students

All criteria relating to this standard are met.

All admissions activities are carried out in accordance with the University Admissions Policy, which is a public document aimed at prospective students, applicants, higher education advisers and University of Portsmouth staff. It contains detailed information about the processes that guide decision-making, and aims to give applicants the information needed to understand how their application is considered. The MPharm website also provides applicants with detailed information on the entry requirements including the requirement for an Enhanced DBS check. Current entry requirements are ABB at A Level (or equivalent for other qualifications), include two science subjects, one of which is chemistry; applicants must also have appropriate level GCSE qualifications in mathematics and English language, with non-native English speakers having an IELTS score of 6.5 with no component less than 6.0 (or equivalent qualifications). All offer letters for pharmacy applicants provide a link to the GPhC's Standards for Pharmacy Professionals. The School has recently introduced values-based recruitment into the selection process, this being used for all healthcare programmes in the University. The process uses multiple mini-interviews (MMIs) and is now employed as a screening tool for all applicants, although applicants who are unable to attend, for example, those who are overseas, are interviewed by video-conferencing. Values-based recruitment is used because pharmacy is now more clinically focussed, and the process allows the identification of the appropriate attributes and knowledge. The interviews comprise eight stations, covering situational judgements and communications, as well as testing basic chemistry, biology and mathematics. Applicants who achieve a minimum of 80% in every single interview station, and have predicted A-level grades of AAA, may be made an unconditional offer for entry to the MPharm. As described under standard 1, upon entry to the programme, students undergo an enhanced DBS check, which for overseas students, is delayed until year 2. For the final year GP and mental health placements, students undergo a further enhanced DBS check, as well as an occupational health screening and a check for up-to-date vaccinations.

Standard 5: Curriculum delivery and student experience

All criteria relating to this standard are met.

 The School's new learning, teaching and assessment strategy has been driven in part by the changing role of pharmacists, who are becoming increasingly more integrated within the healthcare team, providing a wider range of services and requiring a new range of skills. Thus, GP practices are now recruiting clinical pharmacists, who can focus their skills where they are most needed, for example, in treating, monitoring and managing long-term conditions. Key objectives in developing the programme

included the production of an integrated and patient-focussed curriculum, with increased experiential learning in practice, while ensuring that the approach to assessment is coherent with the learning and teaching strategies. Other key objectives are the development of students as independent learners, and using technology-enhanced learning, such as interactive lectures and laboratory classes, as well as simulation. The new integrated and patient-focused curriculum, brings the traditional MPharm subject areas closer together, and enables students to see the links between topic areas. It uses a description of a disease and the patient as the normal starting point, followed by a discussion of the relevant anatomy and physiology, along with the aetiology, pathophysiology and diagnosis, leading to a consideration of treatment including drugs, then moving on to consider the relevant products, such as medicines or devices; this then leads to considerations around supply, the provision of advice in line with clinical guidelines, and a discussion of clinical therapeutics. Each year has a theme overlaying the units (modules), thus providing the opportunity to tackle a clinical topic across the year, while identifying the linked teaching in the various units and facilitating integration. The development of a clinically-focussed final year includes a 'Clinical Skills for Pharmacists' unit in preparation for the future prescribing role. The programme delivery employs lectures, workshops and tutorials based on case studies, laboratory classes, and project work, and also uses inter-professional learning and placements in community and hospital pharmacy, as well as in GP practices and on mental health wards in the final year. There is extensive use of patients whom students meet both in sessions in the University and while on placements. Inter-professional education (IPE) activities, which are now incorporated into each year of the programme, involve pharmacy students working with students of nursing, dentistry, optometry, radiography, social work, operating department practice, and paramedic science; the activities include working on case studies, covering topics such as health and social care inequality, common drug errors, and history-taking, with students learning as part of a multidisciplinary team. One key objective of the new learning, teaching and assessment strategy is to ensure the coherence of assessment with the curriculum design and the approaches to learning and teaching, with assessment being integral to the learning process, as well as to the demonstration of students' achievement in meeting the GPhC's standard 10 learning outcomes. While summative assessments ultimately ensure that graduates are safe and competent, the use of formative assessments enables students to develop. A variety of assessment tools is used, including written examinations comprising multiple choice, single best answer and extended matching questions, as well as essays, objective structured clinical examinations (OSCEs), and practical skills assessments (PSAs), the last being simplified OSCEs. Both PSAs and OSCEs are used to assess students' competence in safe and effective practice; in these assessments, students must show that they can correctly identify and address any significant patient safety incidents, and failure to do this will result in failure if it may have resulted in moderate or severe patient harm, including the death of a patient. Clinically-based questions increase in complexity as students progress through the course, culminating in the final year with essay questions based on 'Therapeutic Frameworks' to assess the reasoning underlying clinical decision making. The School aims to provide timely, good quality and meaningful feedback on both formative and summative tasks, including informing students of their major strengths, as well as how to improve their performance. Most written coursework assessments are submitted and marked online, and feedback is made available to students within 20 working days of submission.

Standard 6: Support and development for students

The single criterion relating to this standard is met.

To support the development of students as both learners and professionals, the School employs academic staff with a wide ranging expertise in the science and practice of pharmacy, with 21 staff members being registered as pharmacists with the GPhC. The tutorial system is central to the support and development of students. On joining the programme, each student is assigned a personal tutor, who will normally remain that student's tutor for the whole of the student's time on the course, and who provides both academic and pastoral support. Students meet regularly with their tutors, with a number of sessions specified in each year of study and each session having a particular theme; these may be either individual or small group meetings, depending on the subject to be discussed, and cover various topics, including discussion of performance, personal development planning (PDP), continuing

professional development (CPD), preparation for assessments and presentations, and advice on the preparation of job applications and CVs. In addition to support provided directly by the School, the University has extensive central support facilities and services, including the Academic Skills Unit, the Department of Careers & Employability, the Additional Support and Disability Centre, the Counselling Service, the Chaplaincy, the Students Union, the International Office, the Accommodation Service and the Student Finance Office; students are introduced to these services early in the first year and can be signposted to them by their personal tutors. There is an annual pharmacy careers fair which provides an opportunity for students to meet directly with employers representing a wide range of organisations. Specific advice and assistance on careers and employability includes advice about the Oriel process for applying for pre-registration training places in England and Wales; students are familiarised with the questions used in situational judgement tests, and participate in mock interviews, which are designed to mirror the Oriel interview process.

Standard 7: Support and development for academic staff

All criteria relating to this standard are met.

The University provides a wide range of development opportunities for academic staff; these are managed and coordinated by central departments, including Human Resources and the Department for Curriculum and Quality Enhancement (DCQE). A personal induction plan must be implemented for all new members of staff; this includes the provision of information, for example, about the School and the Faculty, the physical resources available to them, working practices and policies, learning and teaching strategies, and their teaching duties, as well as opportunities for continuing professional development. They are also directed to the core training that all members of staff must complete within their probation period; such training covers a wide range of topics, including equality and diversity, information governance, and an introduction to University information technology systems. Staff development opportunities offered by DCQE focus on learning, teaching, assessment and curriculum development and include a wide variety of resources such as pedagogical seminars, workshops and training events that are well-publicised. Within the Faculty, further training opportunities are provided in the development of online teaching, learning and assessment. Pharmacy course team meetings offer essential continuing professional development, and facilitate the close working of pharmacy practice and non-pharmacy practice staff in the joint development of the course and units, ensuring that the science and practice come together to deliver the curriculum in a pharmaceutical context. Non-pharmacy staff members are also offered the opportunity to shadow the School's teacher-practitioners in local hospitals, this facilitating their understanding of the links between science and practice. All staff members undertake an annual performance and development review (PDR) which encompasses both staff development and appraisal. This review allows discussion of the individual's performance over the preceding year, as well as agreeing objectives for the next 12 months, including the support that may be needed through personal and professional development, along with the funding implications. PDR meeting also allow discussions of staff workload, for which a workload planning system is in place, with staff members agreeing their workloads with their line managers; this agreement covers teaching loads and all roles, including the personal tutor system, which is demanding in all years of the MPharm, but especially at stage 1, where tutors meet their students on ten occasions across the year. Staff mentoring is available through the unit teaching teams, and each new member of staff is allocated a separate mentor for each of teaching and research during the first year; moreover, members of staff can apply for a mentor at any stage of their careers for any purpose, including teaching, research, and career progression. New staff members are initially given a reduced workload and are supported strongly during the first couple of years, after which they become progressively independent. Funding is available at Faculty and School level for members of staff to attend conferences, the need for which is flagged up during the annual PDR.

Standard 8: Management of initial education and training

Both criteria relating to this standard are met.

There is a clear management process for the MPharm programme that extends from the level of individual units through to the course level, and there are defined University procedures for the monitoring and review of the programme. The roles of those involved in the management of the MPharm, including the Head of School, Course Leaders, Unit Co-ordinators, Personal Tutors, Chairs of Unit Assessment Boards, Boards of Examiners and Boards of Studies are defined in University policy and guidance documents. The Board of Studies is the central to the management and development of the MPharm programme; its membership includes the Head of School, the Course Leader, and the chair of the Staff-Student Consultative Committee, and is also attended by student representatives and, from the Faculty (as additional members), the Associate Dean (Academic) and the Associate Dean (Students). Management of the programme also includes annual meetings of the course team, as well as meetings of the staff delivering each year and each unit of the programme. As a result of the recent departure of the Head of School, the Dean of the Faculty of Science will be acting in that capacity as an interim measure, supported by a School Leadership Group comprising the three Associate Deans of the Faculty (Academic; Students; Research), the Faculty Manager, the Innovation Manager, and the three Associate Heads of School (Education; Research; Innovation). Reporting to this Group will be the School Management Group (which will be joined by the newly appointed Professor of Pharmacy Practice from October 2018), the School Resources and Policy Committee, Equality and Diversity Committee, and Health and Safety Committee, each chaired by the Dean, together with the School Education, Innovation, and Research committees, each chaired by the respective Associate Heads. This interim School leadership will remain in place until the beginning of 2019, when a new Head will be appointed. In addition to the general management of the programme, mechanisms are in place for the management of placements. The management of community placements is undertaken jointly between the School and the Science Faculty Placement Office, using a 'Community Pharmacy Agreement', which details the exact nature of the placement and how it should operate. Hospital placements are managed by a hospital teacher-practitioner through formal agreements with each of the four hospitals in which placements are undertaken, each of which has its own teacher-practitioner; this ensure the presence of a member of staff during each placement. The hospital teacher-practitioners are responsible for organising the activities within each hospital, and for briefing relevant hospital staff on the nature and expectations of the provision.

Standard 9: Resources and capacity

All criteria relating to this standard are met.

The University operates a devolved budget system, where funding is allocated to each faculty, the faculties being the budgetary units for teaching, although academic delivery is organised through schools or departments. The University has a transparent resource allocation model, which ensures that both income and expenditure are properly attributed or charged to those budgetary units producing the income or incurring the expenditure. The teaching grant income and home/EU fee income is distributed to each faculty according to the weighted full-time equivalent student numbers, which are calculated for each faculty based on the expected mix of students that they will be teaching. The costs of central University support services are recovered from the gross income to each faculty based on student and staff numbers, and the physical space occupied by the faculty. Within the Faculty of Science, the School receives a devolved budget that does not include academic and support staff employment costs, as these are charged against the Faculty. Following determination of the School's income early in the calendar year, the Head of School and the Financial Administrator propose a model budget based on the previous year's expenditure and projected changes in the financial requirements; this budget is subsequently passed to the Faculty for approval. The MPharm course currently generates a surplus, although student recruitment has declined significantly in recent years, apart from for the current academic year, when 135 students were recruited. Although the business plan for the next six years is predicated on recruiting 135 students annually, this number is unlikely to be achieved, but the Faculty is confident in the sustainability of the programme; risks are modelled across the Faculty and the University, with sustainability not being judged at an individual course level. The Faculty has a diverse range of courses, some of which, for example psychology, always recruit large numbers, allowing cross subsidy of other

programmes. Moreover, the School has other courses, including the BSc (Hons) in Biomedical Science, which recruits above target, as well as the successful postgraduate 'Prescribing and Therapeutics' course. When additional resources are required, for example, as a result of increased costs for placements, the School of Pharmacy can be supported by looking at resource allocation across the Faculty and re-balancing the budget, with the Faculty Executive deciding on priorities. The School of Pharmacy is the top research income earner in the Faculty and the University, with devolved budgeting allowing QR income to be retained by the School. The University as a whole operates a financial surplus which is predicted to continue. There is an extensive range of equipment and resource available to support learning, teaching and research. Laboratories are equipped with all appropriate facilities and instrumentation for teaching scientific principles and procedures. The refurbished library offers study spaces for over 1400 readers, 24-hour access each day, 500 PCs for student use, numerous laptops that students can borrow for use in the building, and a core collection of e-textbooks available to all pharmacy students. The University continues to make significant investment in IT facilities for students, with excellent WiFi allowing students to have access to all electronic resources via their laptops or other mobile devices. Since 2012, there has been substantial investment in refurbishing the School's accommodation to ensure that facilities remain up-to-date and fit for purpose; this has involved many teaching laboratories, as well as the purchase of equipment. MPharm teaching increasingly uses the Centre for Simulation in Health Care; this is a central Faculty resource that was expanded in 2015 through significant financial investment by the University. The facility allows students to develop the necessary practical skills for working in health and care related sciences in a safe, contextual and realistic environment. The Centre comprises hospital wards, each with four to six beds, along with a fully equipped operating theatre, an ultrasound suite, and a flexible simulation suite that can be modified according to requirements, for example, being used either as an intensive care area, or as a pharmacy patient assessment area; it also has its own ambulance. There are 15 human patient simulators in the Centre.

Standard 10: Outcomes

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

The learning outcomes were scrutinised by discussions between the accreditation team and the teaching staff. Four outcomes were selected for detailed discussion, these being 10.1.c, 10.1.h, 10.2.2.e, and 10.2.3.b (see appendix 2). In this meeting, the team explored how the outcomes were delivered, how knowledge was integrated, and how the outcomes were assessed to show the appropriate level of achievement ('knows how', 'shows how' or 'does'). These discussions, along with scrutiny of the documentation relating to all of the other outcomes, led the team to agree that all 58 outcomes are met at the appropriate levels.

Indicative syllabus

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

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

Appendix 1 - Standing conditions

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

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

Appendix 2 – Standards

GPhC standards for the initial education and training of pharmacists

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

Standard 1: Patient and public safety

1. **There must be clear procedures to address concerns about patient safety arising from pharmacy education and training. Concerns must be addressed immediately.**

1.1 There must be effective systems in place to ensure that students *and trainees*:
   1.1.a   do not jeopardise patient safety;
   1.1.b   only do tasks for which they are competent, sometimes under supervision;

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

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

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

2.1 There must be systems and policies in place covering:

2.1.a	information about roles and responsibilities and lines of accountability;
2.1.b	university information on:

2.1.b.i	entry requirements;
2.1.b.ii	the quality of teaching, learning and assessment;
2.1.b.iii	the quality of placements and other practice learning opportunities;
2.1.b.iv	appraisal and feedback systems for students *and trainees*;
2.1.b.v	supervision requirements;
2.1.b.vi	educational resources and capacity;

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

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

Standard 3: Equality, diversity and fairness

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

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

3.2 Strategies for staff training in equality and diversity

Standard 4: Selection of students *and trainees*

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

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

4.2 Selection criteria must be explicit. They should include:

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

4.3 Selectors should apply selection criteria fairly. They should be trained to do this. Training should include equality and diversity matters

Standard 5: Curriculum delivery and the student experience

5. The curriculum for MPharm degrees *and the pre-registration scheme* **must deliver the outcomes in Standard 10. Most importantly, curricula must ensure students** *and trainees* **practise safely and effectively**. **To ensure this, pass criteria must describe safe and effective practice.**

5.1 Curricula must be integrated.

5.2 Curricula must be progressive, dealing with issues in an increasing more complex way until the right level of understanding is reached.

5.3 An MPharm must be delivered in an environment which places study in a professional and academic context and requires students to conduct themselves professionally. *Pre-registration training must be delivered in a professional environment which requires trainees to conduct themselves professionally.*

5.4 An MPharm must be delivered in an environment informed by research. This means that whether or not all staff are engaged in research, their teaching must be informed by research.

5.5 An MPharm degree teaching and learning strategy must set out how students will achieve the outcomes in Standard 10. Learning opportunities must be structured to provide:
  5.5.a an integrated experience of relevant science and pharmacy practice;
  5.5.b a balance of theory and practice;
  5.5.c independent learning skills.

5.6 The MPharm degree curriculum must include practical experience of working with patients, carers and other healthcare professionals. Practical experience should increase year on year.

5.7 There must be a clear assessment strategy for the MPharm degree. Assessment methods must measure the outcomes in Standard 10.

5.8 The MPharm degree assessment strategy should include:
  5.8.a diagnostic assessments;
  5.8.b formative assessments;
  5.8.c summative assessments;
  5.8.d timely feedback.

5.9 Academic regulations must be appropriate for a degree that is both academic and professional and may lead to further professional training. As a general principle, all assessments must be passed. This means that condonation, compensation, trailing, extended re-sit opportunities and other remedial measures should be extremely limited, if they are permitted at all. MPharm degree academic regulations may be more stringent than university norms. This may include higher than usual pass marks for assessments demonstrating knowledge and skills essential to safe and effective pharmacy practice.

5.10 Marking criteria must be used for all assessments and all pass criteria must reflect safe and effective practice.

5.11 Patient safety must be paramount in assessments: any evidence of an assessment demonstrating unsafe practise must result in failure.

5.12 A pre-registration training plan must describe how the learning outcomes for pre-registration will be delivered.

5.13 A pre-registration training plan must describe all assessments, including tutor evaluations and tutor sign-offs.

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

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

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

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

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

7.1. There must be a range of mechanisms in place to support anyone delivering initial education and training to develop in their role.

7.2. Induction programmes are provided for and university staff as appropriate. This should include induction programmes for non-pharmacists working on MPharm degrees.

7.3. Everyone involved in delivering the curriculum should have:

    7.3.a effective supervision;

    7.3.b an appropriate and realistic workload;

    7.3.c effective personal support;

    7.3.d mentoring;

    7.3.e time to learn;

    7.3.f continuing professional development opportunities.

7.4. Tutors should have an identified source of peer support.

Standard 8: Management of initial education and training

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

8.1. All education and training will be supported by a defined management plan with:

    8.1.a a schedule of responsibilities

    8.1.b defined structures and processes to manage the delivery of education and training

Standard 9: Resources and capacity

9. **Resources and capacity are sufficient to deliver outcomes.**

9.1 There must be:

    9.1.a robust and transparent mechanisms for securing an appropriate level of resource for delivering an accreditable MPharm degree;

    9.1.b sufficient staff from relevant disciplines to deliver the curriculum to students *and trainees*. Staff must be appropriately qualified and experienced. The staffing profile must include:

9.1.b.i   sufficient numbers of pharmacists – registrants of the GPhC – with experience of teaching in higher education to ensure that an MPharm degree can produce students equipped to enter pharmacist pre-registration training in Great Britain.

9.1.b.ii   sufficient numbers of pharmacists to act as tutors and professional mentors at university *and in pre-registration*. Not all personal tutors must be pharmacists.

9.1.b.iii   pharmacists who are leaders in the profession and in their university, who can influence university policy relevant to pharmacy

9.1.b.iv   non-pharmacist academics who can influence school and university policy relevant to pharmacy

9.1.b.v   staff who are sufficiently experienced to supervise research. It would be unusual for anyone to supervise research at a particular level unless they had researched to that level or beyond. New research supervisors must be mentored and signed off as being fit to supervise after a period of mentoring

9.1.b.vi   science academics who understand the relevance of their discipline to pharmacy and deliver their area of expertise in a pharmaceutical context

9.1.b.vii   academic pharmacists and other experienced MPharm degree staff who are able to act as mentors to non-pharmacist colleagues

9.1.c   *pre-registration tutors who meet the GPhC's standards for pre-registration tutors;*

9.1.d   career pathways in universities for all staff teaching on MPharm degrees, including pathways for practice staff

9.1.e   clear lines of authority and responsibility for the strategic organisation and day-to-day management of placements

9.1.f   training and ongoing support for all non-pharmacists involved in the delivery of MPharm degrees which must help them understand:

9.1.f.i   help and understand the relevance of their work to pharmacy

9.1.f.ii   how to deliver their area of expertise in a pharmaceutical context

9.1.g   appropriate learning resources

9.1.h   accommodation and learning resources that are fit for purpose

9.1.i   *pre-registration premises which meet the GPhC's standards for pre-registration premises*

Standard 10: Outcomes

10.1 Expectations of a pharmacy professional

Learning outcome		MPharm	*Pre-reg*
10.1.a	Recognise ethical dilemmas & respond in accordance with relevant codes of conduct and behaviour	**Shows how**	*Does*
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**	*Knows how*
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**	*Does*
10.1.d	Apply the principles of clinical governance in practice	**Knows how**	*Does*
10.1.e	Demonstrate how the science of pharmacy is applied in the design and development of medicines and devices	**Shows how**	*Knows how*
10.1.f	Contribute to the education and training of other members of the team, including peer review and assessment	**Shows how**	*Does*

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

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**	*Does*
10.2.1.b Access & critically evaluate evidence to support safe, rational & cost effective use of medicines	**Shows how**	*Knows how*
10.2.1.c Use the evidence base to review current practice	**Shows how**	*Does*
10.2.1.d Apply knowledge of current pharmacy-related policy to improve health outcomes	**Knows how**	*Shows how*
10.2.1.e Collaborate with patients, the public and other healthcare professionals to improve patient outcomes	**Knows how**	*Shows how*
10.2.1.f Play an active role with public and professional groups to promote improved health outcomes	**Knows how**	*Knows how*
10.2.1.g Contribute to research & development activities to improve health outcomes	**Knows how**	*Knows how*
10.2.1.h Provide evidence- based medicines information	**Shows how**	*Does*

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**	*Shows how*
10.2.2.b Identify inappropriate health behaviours and recommend suitable approaches to interventions	**Shows how**	*Does*
10.2.2.c Instruct patients in the safe and effective use of their medicines and devices	**Shows how**	*Does*
10.2.2.d Analyse prescriptions for validity and clarity	**Shows how**	*Does*
10.2.2.e Clinically evaluate the appropriateness of prescribed medicines	**Shows how**	*Does*
10.2.2.f Provide, monitor and modify prescribed treatment to maximise health outcomes	**Shows how**	*Does*
10.2.2.g Communicate with patients about their prescribed treatment	**Shows how**	*Does*
10.2.2.h Optimise treatment for individual patient needs in collaboration with the prescriber	**Shows how**	*Does*
10.2.2.i Record, maintain and store patient data	**Shows how**	*Does*
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**	*Does*

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

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

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**	*Does*
10.2.5.b	Reflect on personal and professional approaches to practice	**Does**	*Does*
10.2.5.c	Create and implement a personal development plan	**Does**	*Does*
10.2.5.d	Review and reflect on evidence to monitor performance and revise professional development plan	**Does**	*Does*
10.2.5.e	Participate in audit and in implementing recommendations	**Knows how**	*Shows how*
10.2.5.f	Contribute to identifying learning and development needs of team members	**Knows how**	*Does*
10.2.5.g	Contribute to the development and support of individuals and teams	**Knows how**	*Does*
10.2.5.h	Anticipate and lead change	**Knows how**	*Shows how*

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 pharmaceutics, 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)**