PROGRAMME SPECIFICATION	

1	**Awarding Institution**	Newcastle University
2	**Teaching Institution**	Newcastle University
3	**Final Award**	BSc (Honours)
4	**Programme Title**	BSc (Hons) Pharmaceutical Studies
5	**Programme Code**	1314U
6	**Programme Accreditation**	N/A
7	**QAA Subject Benchmark(s)**	Pharmacy
8	**FHEQ Level**	6
9	**Last updated**	July 2021

10 Programme Aims

The aim of the proposed programme is to provide a high-quality, research-led educational experience that will educate and train students as rigorous pharmaceutical scientists and able to relate evidence-based research.

The programme develops graduates who:

- demonstrate applied knowledge of pharmaceutical science integrated with a range of appropriate skills and competencies
- demonstrate detailed knowledge of the National Health Service (NHS);
- are capable of effective communication with colleagues; and
- are research driven, demonstrating an enquiring attitude and a range of research skills

11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas.

Knowledge and Understanding

On completing the programme students should demonstrate:

A1 essential knowledge of fundamental chemical and pharmaceutical science to support patient care and professional practice;

A2 essential knowledge of the normal anatomy, physiology and function of the human body including an understanding of associated nomenclature;

A3 essential knowledge of the structure and function of eukaryotes, prokaryotes and viruses, their identification, isolation and quantification;

A4 essential knowledge of communication skills and structured frameworks of consultation;

A5 essential knowledge of the regulatory frameworks governing the profession of pharmacy;

A6 systematic knowledge of the aetiology, epidemiology, pathophysiology, clinical presentation and appropriate therapeutic intervention within cardiovascular, respiratory, renal and gastrointestinal system disease states;

A7 applied understanding of physical examination and clinical monitoring of diseases of the cardiovascular, respiratory, renal and gastrointestinal systems including adverse effects of drugs used in management;

A8 understanding of pharmaceutical intervention in the context of patient care, multidisciplinary health teams and the wider National Health Service (NHS) community;

A9 systematic knowledge of law and ethics and safe, effective and accountable practice;
A10 comprehension of the design of pharmaceutical preparations and the effect of individual components of a formulation in the context of the final medicinal product;
A11 applied knowledge of the factors affecting the absorption, distribution, metabolism and excretion of pharmaceutical compounds including the management of drug interactions and poisoning;
A12 understanding of the process of drug discovery, rational design or development, quality control and regulation.
A13 systematic knowledge of the aetiology, epidemiology, pathophysiology, clinical presentation and appropriate therapeutic intervention of central nervous, musculoskeletal, endocrine, urinary and reproductive system disease states.
A14 applied understanding of physical examination and clinical monitoring of diseases of the central nervous, musculoskeletal, endocrine, urinary and reproductive systems including adverse effects of drugs used in management;
A15 systematic understanding of the management of multiple treatment strategies for patients exhibiting co-morbid disease states;
A16 conceptual understanding that enables the student to critically evaluate current research and advanced scholarship in modern drug delivery and future drug development;
A17 originality in the application of knowledge around a research topic relating to pharmacy.

Intellectual Skills

On completing the programme students should be able to demonstrate:

B1 the ability to study effectively, safely, ethically and lawfully for pharmacy at degree level, including the use of reflective techniques and teamwork;
B2 the ability to relate the activity and physical properties of pharmaceutical molecules and biological macromolecules to their structure;
B3 the ability to accurately and reliably perform pharmaceutical calculations;
B4 the ability to analyse and evaluate therapeutic regimens to treat single disease states;
B5 the ability to generate, search for, analyse and evaluate experimental data and relevant primary literature;
B6 capacity to evaluate and discuss therapeutic decisions and associated adverse outcomes in an informed manner with reference to appropriate literature;
B7 the ability to apply an appropriate quality management framework to ensure the safe checking and supply of medicines and medical devices;
B8 the ability to use valid decision making pathways with regard to patient care;
B9 capacity to analyse and evaluate therapeutic regimens used to treat co-morbid disease;
B10 the ability to formulate and justify judgements in the absence of complete data and communicate to colleagues;
B11 an understanding of research ethics and the means of gaining approval for research projects.

Practical Skills

On completing the programme students should be able to:

C1 apply a range of laboratory techniques, analyse the data and present the outcomes in an appropriate form;
C2 conduct patient assessments and counselling using appropriate communication and consultation skills;
C3 choose appropriate equipment to measure basic physiological parameters;
C4 perform basic physical examinations on human volunteers and simulators with regard to the cardiovascular, respiratory, renal and gastro-intestinal systems;
C5 perform basic physical examinations on human volunteers and simulators with regard to the central nervous, endocrine and musculo-skeletal systems.

Transferable/Key Skills

On completing the programme students should be able to:

D1 the ability to express one's own ideas orally and in writing, to summarise the ideas of others and to distinguish between the two;
D2 the ability to manage time to meet a set of pre-determined deadlines both as an individual and as part of a team;
D3 the ability to understand and evaluate numerical data using basic statistical skills;
D4 the ability to outline key concepts and apply them to a specific issue, problem or question;
D5 the ability to apply basic theoretical frameworks at an intermediate level;
D6 confidence in identifying, analysing, interpreting and solving problems creatively using appropriate knowledge and skills;
D7 the ability to work as part of a multidisciplinary and diverse team and to address the relevance and importance of ideas with open-mindedness;
D8 the ability to articulate and communicate ideas, principles, theories, problems and solutions verbally and in writing to specialist and non-specialist audiences;
D9 the ability to distinguish and differentiate conceptual/theoretical models, and critically assess and evaluate their comparative strengths and weaknesses, detect false logic or reasoning, identify implicit values, defines terms adequately and generalise appropriately;
D10 self-direction and originality in tackling and solving problems, and act autonomously in planning and implementing tasks at a professional or equivalent level.

Teaching and Learning Methods

The development of knowledge and understanding, intellectual skills, practical skills and transferable skills is delivered in an integrated manner through the programme. The strategy for supporting learning includes the following activities:

- **Lectures or equivalent**: the teaching team delivers most formal lectures; visiting lecturers in specialised areas deliver keynote lectures, allowing them to share valuable, current experience with the students. We have a number of partners around the region to help support this and, where possible, we involve students in research seminars with invited speakers. Students will have access to lecture notes or handouts, summarising beforehand via the VLE. Lectures are an essential part of the delivery strategy and when supplemented by other support mechanisms are effective. Staff offer guidance to students around developing strategies to supplement the material provided in lectures with their own study; this involves direction to specific references or by using personal experience to help demonstrate the context of learning. We use our own research experience to inform teaching in lectures and we integrate this with a wider discussion of the best current available evidence within the specific discipline. Part of this strategy is to give students the tools to critically examine research and draw their own conclusions as to its validity/impact in the context of the subject area as a whole. This will be a key skill in their eventual employability.

  We use a variety of multimedia resources to deliver lectures and to help students fully understand important concepts. This approach ensures that students are able to identify meaningfulness in the material being covered and that they can immediately see application for it within the context of professional practice. We employ student response systems within lectures to promote concentration and to test learning.

  As the programme progresses there is less dependence on lectures as a delivery method and more focus on interprofessional education (IPE), small group teaching and problem-based learning (PBL).

- **Laboratory Classes**: practical work, in the form of laboratory or workshop exercises, engages students in independently producing, analysing and interpreting results and information. Laboratory work is continued throughout the programme.

Practical sessions relating to the checking process develop understanding of the law relating to pharmacy, competence in the supply of medicines and further develop students' communication skills. Checking sessions are considered as laboratory classes for the purpose of this documentation, but are based in the working environments of our local stakeholders.

We make use of technology in the learning process wherever we can. The use of SimMan® to teach physiology and pharmacology as an augmentation to the use of traditional tissue experiments is incorporated. In addition, we use newer IT platforms to support ADI PowerLab equipment meaning that students can perform physiological measurements on themselves and compare them to those within a clinical case designed as part of the experiment in question. The important aspect of this strategy is that the technology is used with practical experimentation rather than as a replacement for it. This approach augments the problem-based orientation of the programme and helps students to understand links between the material in the context of the care of patients.

Laboratory sessions test students' initiative, accuracy and ability to function as an individual and as part of a team. The eventual progression to the research project is facilitated by the range of understanding obtained from laboratory classes

- **Anatomy sessions**: students take part in sessions to observe anatomy. We use prosections to help students understand the structure and function of the human body in combination with various IT-based computer programmes. The focus of these sessions is around helping students to visualise the human body as a whole and to be aware of the various structures therein.
- **Clinical skills sessions**: students attend a variety of clinical skills sessions using peers, volunteers and simulation facilities throughout the programme. Any ethical requirements associated with this teaching are managed in advance and in line with institutional requirements. We have 3G SimMan® simulators for this purpose and a variety of other low fidelity simulators on which students can practise. Students develop physical examination skills, communication and consultation skills as well as the confidence to approach patients in a structured manner. We develop these sessions in tandem with our medical and dental colleagues and create shared learning experiences where possible and appropriate.

- **Problem-based learning (PBL) sessions**: our strategy is to integrate PBL into the programme from the very start, using the premise of case-based learning outlined within the lecture course. We start with smaller groups at Stages 1 and 2 where students work in a relatively low-risk environment to develop their ideas and communication skills. The problems at these stages have a specific orientation to the integration and application of science to practice or industrial challenges. PBL sessions focus on the breadth of material within each stage and encourage students to deepen their understanding of what they are being taught and to create the basis for transfer of information to new, more advanced situations. The term 'case-based integration' is used to highlight these sessions to students, as we want them to be clear that the purpose is the development of integration strands within the material being taught. As the programme moves on, there will be an increased emphasis on PBL sessions, which become gradually more problem-orientated and require students to bring together large sections of knowledge to answer complex problems. We do not use PBL as the only teaching and learning strategy in the later years; it is part of a rounded approach to teaching.

- **Team-based learning (TBL) sessions**: students take part in this small-group learning sessions to consolidate and reinforce deep learning of specific concepts learnt from lectures.

- **Interprofessional education (IPE)**: a significant feature of our programme is the development of IPE from the start and throughout. We have developed seminars and workshops involving pharmacy, medical and dental students and where

possible, will include other professional groups. These sessions demonstrate the importance of multidisciplinary team working as well as the specific role of each professional group therein. Further to that, the sessions allow us to underpin our problem-based approach. This process is designed to augment the practical experience and plays an important part in encouraging skills to enhance employability from the start of the course.

- **Practical experience**: our programme includes significant practical experience. We see this experience as essential in terms of contextualisation our students' knowledge, and to introduce them to the communities of practice within which they will ultimately work.

  The practical experience is comprised of:

  - Work with peers (including medical and dental students) in patient-based scenarios;
  - Work with volunteer patients within and outside of the University (ethical considerations managed in advance as for clinical skills sessions);
  - Simulation using SimMan® and other computerised simulation, checking practice is included here, but may be undertaken in the working environment of our partners;
  - Experience of working with scientists, health professionals and students.

- **Webcasts:** these are used to support lecture and seminar material. They are in audio and video format. Webcasts are available in addition to material provided in lectures, labs and PBL sessions and form part of the directed learning allocation for each stage. We use webcasts as a method of encouraging students to enquire more deeply, within specific areas of the programme and to challenge them to think and develop their own opinions on current issues. Webcasts will be used as method of introducing expert opinion on various subjects using a 'talking heads' approach. This material will involve current practitioners discussing an aspect of pharmacy in the context of current practice and best available evidence.

- **Directed self-study**: students are required to add to their knowledge by following the directed self-study recommendations made by academic staff. We offer guidance around self-study during Stages 1 and 2 by directing students to appropriate reading and begin the process of ensuring they have a critical approach to the literature or whatever they read in wider information sources. In many cases, this self-study is preparatory work for PBL sessions or it may be practice for various practical aspects of the course, including introduction to some of the experimental techniques necessary for laboratory sessions. Students are given directed learning through the VLE, during lectures or other sessions and in the unit of study and programme guides**.**

- **Independent self-study**: references to additional sources of information are made available to enable students to read around the unit of study topic to provide opportunities for broadening of knowledge. They are expected to read widely, highlighting the importance of lifelong learning. Material covered within independent learning will be required to support all aspects of the programme. We clearly support students in this endeavour as they make the transition to higher education by demonstrating the benefit of further reading and highlighting areas of the students' performance, which would be improved by focused self-study.

Our students will develop as independent learners, as they progress through the programme. In the higher stages students have developed independence and understand how to improve their own learning and knowledge base using strategies they feel comfortable with.

Assessment Strategy

The assessment of knowledge and understanding, intellectual skills, practical skills and transferable skills is delivered in an integrated manner through a range of course-work tasks,

competency assessments and examinations. The strategy for assessment includes the following:

- **Unseen examinations**, written and/or multiple-choice format. Test the range, depth and sophistication of students' knowledge and understanding of the unit of study material. Written examinations test student's ability to argue coherently, demonstrate creative thought, integrate information and communicate effectively in writing, working under time constraints. Due to the integrated nature of the programme long answer examination question are 'composite' in that students apply a range of scientific and practice-based knowledge to a patient-based problem. We also have a separate law examination at Stage 2.

  Pharmaceutical numeracy tests, unseen tests included at each stage as 'must pass' items of assessment. This aspect of assessment addresses the concern within science and healthcare environments of errors resulting from failures of arithmetic.

- **ACCeS log**, conducted at Stage 2 only. This is a 'must pass' item of assessment, which is graded as pass/fail but does not contribute to the final unit of study mark or degree classification. Students are required to complete a specified number of hours as well as document their practice-based experiences in relation to the pre-determined tasks.

- **Objective Structured Clinical Examinations (OSCE)** are used at all stages of the programme to test students' ability to apply knowledge in the context of patient care, for example clinical examination skills. These assessments are 'must pass' and are not awarded a mark; rather, they are graded as pass/fail. The OSCE assessments do not contribute to the final unit of study mark or degree classification at any stage. Typically, students are presented with multiple 'stations', which must be completed in an allotted time without any significant error or demonstration of illegal or unsafe practice. Marking schedules are agreed prior to all OSCE assessments as part of a wider procedure designed to guarantee reliability and validity of the OSCE assessment strategy. As students progress through the programme, the OSCE assessment becomes more complex and assesses a wider range of knowledge and competency.

- **Laboratory reports** are essential to demonstrate students' ability to accurately record their experiments and subsequent results, whilst constructing an argument to explain the results in the context of the original hypothesis. In all instances students will be required to demonstrate a very high degree of accuracy within their experimental conduct in order to comply with the analytical standard in question. Laboratory reports are included throughout the programme; they are used to develop students' ability to construct an argument, think and write creatively and use references appropriately. Alongside these skills, students develop a systematic approach to methodology and the ability to analyse an experimental approach in the context of the ultimate validity of the results. As the programme progresses, we expect students to develop these skills throughout all of their work.

- **Oral presentations** are done individually and as part of a group; they are used throughout the programme allowing the students to consider and apply what they have learned in the context of a particular issue or problem. They are intended to develop students' analytical, presentational and interpersonal skills, including (in the case of group presentations) working effectively as part of a team. Students are required to undertake an oral defence of their research project. This is a discussion of the entire course of their project and includes consideration of their contribution to the research team and/or the environment in which they have worked. Many students will undertake their research in a practice environment and the importance of team working should not be underestimated.

- **Reflective pieces** are used at each level, as part of the assessment related to the practical experience section of the programme, Students are required to reflect on various aspects of their work within placement environments and IPE sessions
- **Poster presentations** require students to work as part of a team in order to present an area of research, either directly undertaken by the student or in summary of clinical literature. This exercise tests students' ability to work as a team and to present complex information in a visual format.

  Written reports are used throughout the programme in a variety of formats including essays, reports, case-reviews and literature reviews. For example, students are required to write reports with regard to disease profiles, proposed therapeutic management plans or strategies to formulate poorly soluble drugs.. These exercises test the students' ability to construct an argument with appropriate support from the literature, working under word-length and time restraints**.** As with other aspects of the assessment strategy students are required to demonstrate integrated, creative and critical thought within their writing, all supported by aspects of the literature within the field. These items of assessment demand that students can demonstrate skills including appropriate and thorough literature searching, critical appraisal and, where necessary, the application of statistics.

12 Programme Curriculum, Structure and Features

Basic structure of the programme

This is a three year full-time non-modular programme. Stages 1, 2 and 3 individually consist of one Unit of Study equal to 120 credits. To be awarded the BSc (Hons) Pharmaceutical Studies students must successfully complete each stage of the programme and gain the equivalent of 360 credits.

The programme is designed around the principle of an integrated, spiral curriculum, specifically focusing on multi- and inter-disciplinary teaching. Figure 1, overleaf, outlines the curriculum structure.

The programme is organised around case studies, both clinical and science-based. Students do not focus on any one academic discipline, but use the case study as the point of orientation. The idea of this approach is to ensure that all aspects of what is taught are contextualised in terms of the practice of pharmacy. This is not to say that the science aspects of the programme will be reduced in favour of applied subjects or that we fail to have an industrial focus within our programme. The examples we use and the context is the important issue. These ideas clearly follow the constructivist approach to education by immediately including context and elaboration of examples to ensure that students can create links between factual material and their ultimate professional role. Experience of teaching pharmacy students from established schools has shown that some students do not really understand why they are learning basic pharmaceutical science at Stage1. They sometimes neglect this material or develop a very superficial understanding. This then leads to problems as the students progress, because they do not have sufficient foundation knowledge or a true understanding of the material and thus how to apply it. Demonstrating context and encouraging transferability is the main focus of this approach.

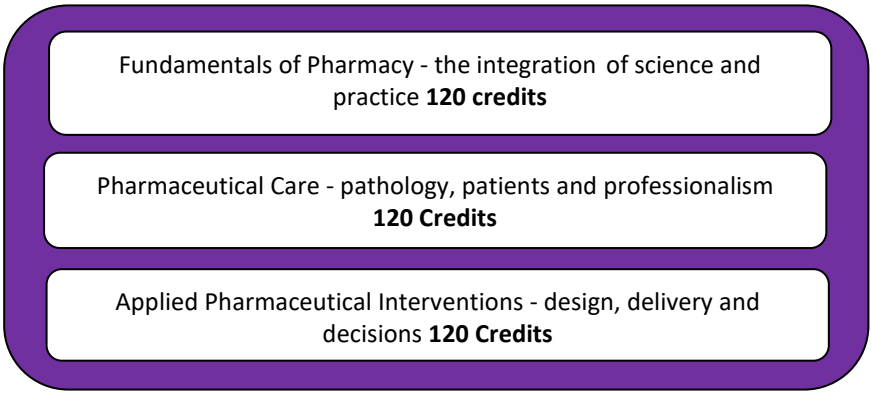

Figure 1: BSc Pharmaceutical Studies Structure

The programme is designed around the concept of a spiral curriculum, where ideas are presented to students then repeated throughout the provision at increasing levels of complexity. Students orientate all theoretical and practical information around applied scenarios, which gradually become more complex and more detailed as they progress. Rather than signposting units of study with subject areas such as pharmaceutical chemistry or pharmacokinetics, we have strands within each unit of study based around cases studies, which combine issues from fundamental sciences and clinical medicine. Figure 2, overleaf, demonstrates an example of a single disease state integration pathway. In this case, the teaching is orientated around a simple case, which then leads to a 'strand' within one of the large unit of study. The strand in this case is hypertension and is very clearly something that is understood at a broad level by the student as a problem for health and wellbeing; the initial premise is therefore within the bounds of the students' existing cognitive schemata. The issues around hypertension allow for a number of subject areas to be hooked on that particular case; for example, public health, formulation of controlled/sustained release devices and therapeutic drug monitoring. These issues have a wide application and are relevant throughout pharmacy, but, in this instance, we teach them in the context of hypertension then expect the student to take that knowledge and apply it in another case where it may be relevant. Pain relief is a prime example of where the principles of controlled/sustained release formulation are important. We do not repeat the principles of formulation in those cases, but highlight any novel extensions to the field. This idea fits within a significant body of educational theory, which suggests that students are more likely to fully understand material if it makes sense in the context of what they already know and if it has an obvious application within their perceived, eventual professional role. The spiral curriculum model continues in this manner throughout the entire programme.

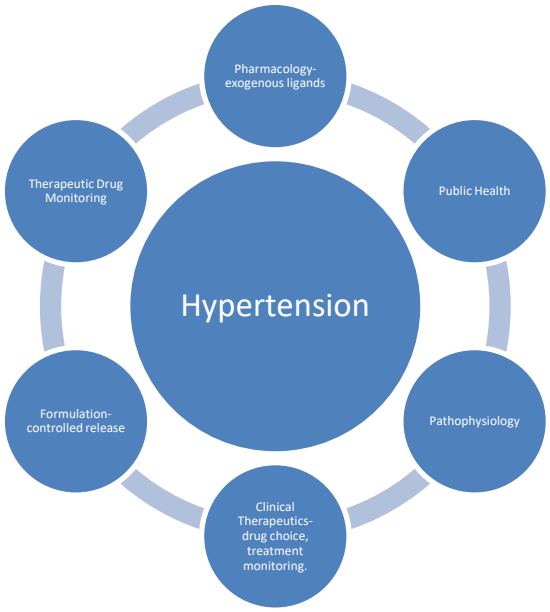

Figure 2: Example of an Case-based Pathway

The spiral curriculum results in major areas of conceptual understanding, which we would want students to grasp at each stage. These can be broadly thought of as being:

Stage 1: underpinning science including studies of anatomy and physiology, orientation to the profession. Fundamental knowledge of formulation science and pharmaceutical chemistry in the context of the discovery, synthesis, formulation and stability of drugs and medicines. Understanding of methodological approaches to research including the context of research being conducted within the University. Understanding of the process of academic writing including referencing and the construction of an argument based upon best available evidence.

Stage 2: aetiology, epidemiology pathology and therapeutics; strategies for treatment of disease. Students will learn to manage single disease states. The formulation of medicines will be examined in greater detail with students developing skills in predicting the effects of altering a formulation on the final medicinal product. Applied understanding of the use of research within healthcare including both quantitative and qualitative methods of enquiry.

Stage 3: evidence-based decision making around semi-complex cases (i.e. involving more than one disease state). Further detail around advanced drug discovery, including molecular modelling techniques and nanotechnology. Critical approach to the use of research methods within their own personal work and in terms of the literature specific to relevant areas. Demonstrable use of research evidence within clinical decision-making.

In terms of key skills students will broadly develop:

Stage 1: writing and oral presentations skills along with fundamental research skills including data collection and literature searching. The assessment strategy encourages students to think creatively and start the process of developing their own integrations within the material. Initial team-working skills.

Stage 2: understanding theoretical frameworks and their application to pharmacy, team working within the University and during placement visits. Ability to communicate ideas to a range of audiences in writing and verbally. Clear evidence-based approach to subjects, drawing from appropriate research and literature to support arguments.

Stage 3: increased problem-solving skills including the ability to construct and defend a cogent argument or question those of others. Analytical approach to therapeutic regimens incorporating fundamental scientific information with current best evidence to ensure maximum benefit to the patient in terms of symptom control and health benefit.

The programme is designed to examine the patient as a whole. We do not separate out the management of minor ailments from that of major disease or adult patients being different from paediatric or geriatric ones. The concepts around consultation, prescribing, examination and disease management are addressed in exactly the same way, irrespective of how the condition is managed or in what type of patient it appears. We discuss each minor condition within the relevant system area and relate dosage and drug interactions to the appropriate area when necessary.

Coherence: the programme has a clear focus around patient care in the context of pharmaceutical sciences. All aspects of pharmacy and pharmaceutical science are patient-driven including drug discovery and formulation sciences. We maintain that focus throughout the programme in order for students to understand their potential role in detail. The programme has a clear sequence and logically moves from simple management of single component problems to the more complex management of real situations where incomplete data may regularly confound the issue at hand. This allows the student to construct management strategies around simple problems at a time when their knowledge base is developing. By slowly increasing complexity, we allow students to elaborate on their knowledge and to transfer knowledge to new situations. This develops confidence and gives students a solid foundation for decision-making. Material is delivered, as described above, in the context of case studies.

Breadth: students cover a huge breadth of information at Stage1, including fundamental pharmaceutical chemistry, formulation, pharmaceutical microbiology, anatomy, physiology and clinical biochemistry. The role of the pharmacist in all areas of practice is examined including the structure of the UK healthcare system. Things examined at this level include use of effective communication strategies and detailing formal models of consultation.

Moving through the programme, material builds upon the general principles delivered at Stage1, but focuses on areas of clinical medicine throughout Stage 2 and 3. Formulation science and aspects of pharmaceutical chemistry are delivered throughout the remainder of the programme in the context of the specific disease being examined at that time. Material around law, ethics and other relevant areas of pharmacy practice are delivered specifically at Stage 2.

Depth: the programme is developed to facilitate a spiral curriculum in which core skills and knowledge are revisited at each stage but each time requiring a greater depth of understanding. The Stage 3 unit of study offers students an opportunity to engage with more complex issues including patients with multiple, co-morbid disease states and thus highly complex treatment regimens. Students are required to demonstrate a high-level understanding of the complexity of disease management, including application of therapeutic drug monitoring and implementation of the principles of pharmacokinetics.

Our students engage with cutting edge research throughout the programme, much of which is conducted within the School or the wider University. Students are fully familiar with the concepts of critical appraisal and are able to understand research outputs in terms of the real effect on patients. This applies to clinical research and that based in the scientific disciplines, which is nonetheless related to patients, new approaches to therapeutic problems or drug delivery. Our students demonstrate a systematic understanding of quantitative and qualitative research methods.

International, intercultural or global dimension: pharmaceuticals and the wider scope of 'health' are primarily engaged with issues of a global reach. The multi-cultural nature of our society results in the need to understand illness and treatment in the wider context of cultural beliefs and genetic predisposition to disease. Students are encouraged to situate their intellectual endeavours alongside personal interests and values, in the development of an

active and engaged citizenship. Our students are encouraged to consider the key problems in 'health' as concerns for humanity in general rather than simply the NHS and the UK. This approach is essential within modern healthcare; graduates are likely to work in a multi-cultural environment and must understand the different influences that pharmaceutical science brings to bear in the context of health.

The importance of communication in the context of professionals working in a multicultural society is examined in depth and students are given the opportunity to engage with this in real-life practice throughout the programme. This includes examination of intercultural influences in terms of working with professional colleagues.

We discuss other healthcare systems around the world to help students see the NHS in context and to appreciate the way other nations approach healthcare, particularly in view of those with less available resource. This is related to patterns of illness, which are directly attributable to cultural influences and the mechanisms of healthcare delivery.

13. Key features of the programme (including what makes the programme distinctive)

Integrated/spiral curriculum one of the unique aspects of the programme is the way in which we provide an integrated spiral curriculum. Integration supports a reflective approach to the subject as a whole rather than bracketing learning off into individual subject disciplines it allows for the maintenance of a level of study as a coherent whole. This approach ensures that our graduates are confident and capable of systematic enquiry and application of their knowledge and skills to provide answers and solutions to complex problems not always enabled through more linear styles of learning.

Inter-Professional Education (IPE) within the programme provides an excellent opportunity for the students as developing professionals to engage with colleagues in a range of disciplines including those within the Faculty through the MBBS and undergraduate dental provision. IPE within the programme includes the planning of learning activities around the concept of learning with, from and about each other. The overall aim is to modify students thinking and understanding of interprofessional teamwork through the recognition of the roles and responsibilities played by different healthcare professionals, and as a consequence create respectful and conscious team players.

Anatomy teaching One of the unique aspects of the programme is the use of cadavers giving hands on experience to support traditional anatomical teaching, an aspect not usually experienced within pharmacy education.

Programme regulations (link to on-line version)

https://teaching.ncl.ac.uk/docs/regsdocs2021/documents/-R1314U_vFinal.pdf

14 Support for Student Learning

https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf

15 Methods for evaluating and improving the quality and standards of teaching and learning

https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf

16 Regulation of assessment

https://www.ncl.ac.uk/ltds/assets/documents/qsh_progspec_generic_info.pdf

In addition, information relating to the programme is provided in:
The University Prospectus: http://www.ncl.ac.uk/undergraduate/degrees/#subject Degree Programme and University Regulations: http://www.ncl.ac.uk/regulations/docs/

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided.