

***Master of Pharmacy (MPharm)***

Faculty of Applied Sciences

Department of Pharmacy, Health & Wellbeing

**PROGRAMME SPECIFICATION**

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## Version History

<b>Version</b>	<b>Occasion of Change</b>	<b>Change Author</b>	<b>Last Modified</b>
1.0	Version presented for approval	<i>Andy Husband MPharm Programme Leader</i>	<i>23/2/2011</i>
2.0	Amendments following institutional approval	<i>Kathryn Davison MPharm Programme Leader</i>	<i>21/7/2015</i>
3.0	Revisions at annual review after first year of operation		
4.0			

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## 1. Core information

<b>Programme title:</b>	Master of Pharmacy
<b>Target award:</b>	MPharm (Hons)
<b>Interim or exit awards:</b>	Certificate of Higher Education Diploma of Higher Education B.Sc Studies in Pharmaceutical Sciences B.Sc Studies in Pharmaceutical Sciences (Hons)
<b>Awarding body:</b>	University of Sunderland
<b>Programme Assessment Board:</b>	Pharmacy

QAA subject benchmark(s) applicable:

<http://www.qaa.ac.uk/academicinfrastructure/benchmark/honours/pharmacy.pdf>

Accrediting body / bodies: General Pharmaceutical Council (GPhC)

Other points of reference:

QAA Framework for Higher Education Qualifications

<http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI/default.asp>

NICATS level descriptors (NB Level 4 is the equivalent of HE Stage 1, Certificate level)

[http://www.nicats.ac.uk/doc/scr\\_pnc\\_guide.pdf](http://www.nicats.ac.uk/doc/scr_pnc_guide.pdf)

National credit guidelines

[http://bookshop.universitiesUK.ac.uk/downloads/Burgess\\_credit\\_report.pdf](http://bookshop.universitiesUK.ac.uk/downloads/Burgess_credit_report.pdf)

University of Sunderland credit framework and regulations

<https://docushare.sunderland.ac.uk/docushare/dsweb/View/Collection-247>

## 1.1 Modes of delivery and duration:

	Tick all that apply	Min number of years	Max number of years	Intake dates (months)	Any other issues
Full-time	✓	4	7	September	
Part-time					
Sandwich					
Off-campus					
On-campus					
Distance learning					
Work-based learning					

## 2. Aims of the Programme

The MPharm programme aims to prepare graduates for the varied practice of a professional pharmacist. The programme is designed to ensure that students receive an integrated education, which is fit for the future direction of the profession and encourages the development of well-rounded professionals who can communicate the safe and effective use of medicines to patients and peers. By promoting the integration of science and practical based knowledge and encouraging students to learn from applied clinical scenarios we will ensure that our graduates are capable of practice at the highest level, within all branches of the profession.

The programme has been designed as a spiral curriculum wherein we will constantly revisit many concepts at an increasing level of complexity. Our students will undertake integration sessions to ensure that the material they learn is integrated and applied to the management of patients, whilst still ensuring that the traditional scientific skills of pharmacists are maintained. The programme also aims to develop in each student the essential skills for continued and lifelong learning to enhance competence and innovation in the continually developing role of the pharmacist.

### 2.1 Overall Objectives of the Programme

The objectives of the MPharm are in line with the educational standards produced by the General Pharmaceutical Council and are adapted from the QAA Pharmacy benchmarks<sup>1</sup>, namely:

- To provide a fully integrated pharmacy education suitable to prepare students with the knowledge, competencies and skills for practice in any field of the profession;
- To provide an environment that allows students to develop an enquiring attitude and encourages integration and application of knowledge;
- To facilitate the development of students ability to communicate with patients, peers and other professionals to an appropriate level for entry into pre-registration training;
- To produce graduates who are capable of making informed, evidence based decisions using an integrated knowledge base;

In addition, and within the University context, it is intended that the programme will;

- continue to develop pharmacy as a major discipline capable of delivering the University mission for quality teaching, research and outreach whilst maximizing the student experience.

<sup>1</sup> QAA Benchmarks for Pharmacy: <http://www.qaa.ac.uk/academicinfrastructure/benchmark/masters/pharmacy.asp>

### 3. Learning Outcomes of the Programme

The pharmacy learning outcomes have been developed to promote and assess the key knowledge and abilities of pharmacists across a wide range of employment, with particular reference to the QAA Benchmarks in Pharmacy, the QAA Framework for HE Qualifications,<sup>2</sup> the QAA Master's degree characteristics<sup>3</sup>, the General Pharmaceutical Council Guidance on standards for education and training of pharmacists<sup>4</sup> and the University Learning, Teaching and Assessment Strategy.<sup>5</sup> Students are made aware of the General Pharmaceutical Council Guidance and the QAA Benchmarks in the MPharm Programme Guide and are encouraged to access the information to guide their studies and the development of skills.

The General Pharmaceutical Council Guidance is currently subject to a public consultation. It has been used to inform the design of this programme. If the consultation results in significant change then the programme team will consider the effect that those changes may have. The structure of the guidance, should it change, is unlikely to have a significant effect as it does not impose a rigid structure.

To achieve the Certificate in Higher Education, a student must have successfully studied 120 Level 1 credits and demonstrated:

- K1. essential knowledge of pharmacy-related aspects of fundamental pharmaceutical and human sciences and how this material relates to patient care;
- K2. essential knowledge of the normal anatomy, physiology and function of the human body including an understanding of associated nomenclature and notation;
- K3. fundamental understanding of the profession of pharmacy;

Students will also have gained the necessary skills and abilities to:

- S1. study and train effectively, safely, ethically and lawfully for pharmacy at degree level, including the use of basic reflective techniques and teamwork;
- S2. perform a range of laboratory techniques, analyse the data and communicate the outcomes in an oral or written form;
- S3. predict the properties of pharmaceutical molecules and biological macromolecules;
- S4. perform fundamental pharmaceutical calculations;
- S5. carry out fundamental patient assessments and counselling using appropriate communication and consultation skills and where necessary, choose appropriate equipment to measure basic physiological parameters;

To achieve the Diploma in Higher Education, a student must have successfully completed 240 credits, including 120 credits at each of Levels 1 and 2. In addition to the learning outcomes listed above, students will have demonstrated:

- K4. detailed knowledge of the basis and clinical presentation of cardiovascular, respiratory, renal, ocular and gastrointestinal system disease states, fundamental physical examination of each and treatment;
- K5. understanding of the context for pharmaceutical intervention within the wider sphere of patient care and multidisciplinary health teams; its practice and problems;
- K6. knowledge of strategic pharmacy issues, such as law, ethics and safe, effective and accountable practice;
- K7. comprehension of the properties of pharmaceutical preparations and of the factors affecting the choice and manufacture of particular formulations;
- K8. understanding of the process of the development of medicines, from initial discovery, rational design or development, through quality control to regulation.

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<sup>2</sup> QAA Framework for HE Qualifications: <http://www.qaa.ac.uk/academicinfrastructure/FHEQ/EWNI08/FHEQ08.pdf>

<sup>3</sup> QAA Master's degree characteristics: <http://www.qaa.ac.uk/academicinfrastructure/benchmark/masters/MastersDegreeCharacteristics.pdf>

<sup>4</sup> Currently under public consultation, due for publication in March 2011

<sup>5</sup> University of Sunderland Assessment Policy: <https://docushare.sunderland.ac.uk/docushare/dsweb/Get/Document-2999/AQH-F6++Assessment+Policy.pdf>

Students will also have gained the necessary skills and abilities to:

- S6. communicate with patients, using formal models of consultation;
- S7. perform basic physical examinations on human volunteers and simulators with regard to the cardiovascular, respiratory and gastro-intestinal systems;
- S8. generate, search for, analyse and evaluate experimental data and relevant primary literature;
- S9. evaluate and discuss therapeutic decisions in an informed manner with reference to the evidence base;
- S10. work effectively as a team member;
- S11. operate within a quality management framework to ensure the safe supply of medicines;

To achieve the BSc (Hons) Studies in Pharmaceutical Sciences, a student must have successfully completed 360 credits, including 120 credits at each of Levels 1, 2, and 3. In addition to the learning outcomes listed above, students will have demonstrated:

- K9. comprehensive knowledge of the basis of central nervous, musculo-skeletal, endocrine and genito-urinary system disease states, fundamental physical examination of each and treatment.
- K10. an applied knowledge of modern drug delivery and future drug development;
- K11. detailed knowledge of, and original thinking in, a research topic relating to pharmacy;

Students should also have gained the necessary skills and abilities to:

- S12. demonstrate the ability to use valid decision making pathways with regard to patient care;
- S13. perform basic physical examinations on human volunteers and simulators with regard to the central nervous and musculo-skeletal systems and the assessment of the diabetic patient;
- S14. critically evaluate prescribing decisions of others;
- S15. integrate information from first principles to address problem based scenarios
- S16. successfully design an appropriate experimental method for a research topic related to pharmacy, write a thesis to present and evaluate the project and verbally defend the work;

To achieve the MPharm, a student must have successfully completed 480 credits, including 120 credits at each of Levels 1, 2, and 3 and 120 credits at M Level. In addition to the learning outcomes listed above, students will have demonstrated:

- K12. mastery of knowledge relating to the principles of oncology and infectious disease including fundamental physical examination and treatment;
- K13. critical understanding of the purpose of pharmacists, in all branches of the profession, including the laws and ethical issues relating to practice;
- K14. an applied knowledge of modern drug targeting, personalised medicine and management of barriers to drug absorption;
- K15. an integrated knowledge base which can be applied to the management of composite patient scenarios involving multiple pathologies and complex therapeutic interventions ;

Students should also have gained the necessary skills and abilities to:

- S17. form, support and debate an argument through its stages of development, understanding the limitations and suggesting solutions;
- S18. formulate and justify judgements in the absence of complete data and communicate their conclusions at a variety of levels;
- S19. act autonomously and efficiently in the planning and implementation of responsibilities at a professional level;
- S20. interact with patients in a professional manner using appropriate consultation and examination skills where necessary;

### 3.1 Additional learning opportunities

Throughout the programme we have various opportunities to visit different areas of practice or to work with other professional groups or students. These opportunities are offered wherever possible to all students.

#### Primary Care Pharmacy

There are opportunities for students to spend time in primary care, usually in general practice surgeries as part of our level 3 placement provision. Students will typically spend some time shadowing a pharmacist who works in a surgery and observe a clinic ran by a practice nurse. In some instances, this will extend to become part of the Level 3 project for individual students who choose to study in this area.

#### Nursing Students

Whilst we do not currently have an undergraduate nursing provision at the University we have numerous postgraduate and top-up programmes. We work collectively with colleagues in the Health Team to ensure that our students work together around the use of medicines and clinical skills. This involves students in level 4 of the programme interacting with practicing nurses.

#### Biomedical Sciences Students

We have a large programme in biomedical sciences within the department. As with the nursing students, we organise joint sessions where students can come together and examine aspects of therapeutic drug monitoring and pharmaceutical care. This involves Levels 1 of the programme.

### 3.2 Non-Honours (Ordinary) degree

Students awarded an Ordinary degree will have achieved the majority of the learning outcomes above. However they will have gained fewer credits at Stage 3 than students awarded an Honours degree. Their knowledge will typically be less broad and less proficient in higher-level skills such as independent learning.

## 4. Programme Structure and Content

### 4.1 Programme regulations

The MPharm degree operates within the MCS regulations for the University of Sunderland extended undergraduate degrees. However, due to its vocational nature and also the requirements of the General Pharmaceutical Council, this programme will be subject to a number of programme specific regulations.

- *Maximum period of registration*

The normal maximum period of registration on the MPharm programme will be 7 years from the date of first registration.

- *Exemption from modules*

Exemption will not normally be awarded for learning that has been used to gain admission to the programme.

- *Accreditation for Prior Learning (APL)*

Accreditation for prior learning or prior achievement will not normally be awarded.

- *Assessment Board Structure*

The Module and Programme Assessment Boards will be held as a combined Board to facilitate the operation of the programme specific regulations. Results will be considered in terms of each student alphabetically rather than in terms of individual modules. This lends the opportunity to view the students' performance across each level.

The Pharmacy Module Board operates a shared model as such the module results of non-Pharmacy students will be considered and decided in the usual manner of a Module Assessment Board; these results will be communicated to the relevant Programme Assessment Boards.

- *Progression*

All modules at each Level must be passed before progression to the next Level is allowed.

- *Compensation*

Compensation between elements of assessment within a module will not be allowed in any module at any level of the MPharm; there is no compensation at programme level within the MPharm.

An element of assessment is accepted to represent a mark or set of marks from a module and is listed on SITS, along with its relevant weighting, as one of the elements that contribute to the overall module mark. It is possible, therefore, for more than one assessment in a particular module to be failed, providing an overall pass mark is achieved for the assessments that make up one element;

- *Reassessment*

Students may sit referred assessments at the discretion of the Board. The pass mark for all modules must be achieved on referred elements of assessment;

At Level 1 and at the discretion of the Board, students may repeat with attendance any number of modules.

Students may repeat with attendance a maximum of 60 credits at all other Levels, subject to registration restrictions, but will be restricted to remaining at the same stage whilst they complete that Level.

- *Deferrals*

Assessments may be deferred under extenuating circumstances after the appropriate forms have been submitted and accepted; the student will normally take the deferred assessment at the next opportunity;

Normally, each assessment may be deferred on a maximum number of two occasions; if deferred on a third occasion, the student will be required to re-sit the whole module, with attendance, to maintain currency of learning.

- *Degree Classification*

The degree of MPharm may only be awarded with Honours. Students must have passed **ALL** of the modules that constitute the MPharm programme.

The Honours classification for the MPharm will be decided on the basis of the student's performance at Level 3 and the M Level of the MPharm programme, which will normally include a contribution from Level 2, using the system described below.

**60% M Level mean : 30% Level 3 mean : 10% Level 2 mean**

The mean mark from the M Level modules, the Level 3 modules, and normally the Level 2 modules, will be averaged in a ratio of 60:30:10 to give a final percentage, from which the degree classification will be derived as indicated below:

Overall %	Class
≥ 70%	1 <sup>st</sup>
≥ 60%	2.1
≥ 50%	2.2
≥ 40%	3 <sup>rd</sup>

Students who fail any module in Levels 3 and 4 of the programme may not be awarded a first class degree irrespective of the calculation outlined above. Students will be awarded a 2.1 if they have a mark over 70% but have repeated a module in either level.

Students who do not achieve the criteria for the award of Third Class Honours in the MPharm will be awarded the B.Sc. (Hons.) Studies in Pharmaceutical Sciences, the classification of which is calculated under University of Sunderland regulations, but which may include M Level modules.

*Viva voce* examinations may be conducted after the M Level examinations, usually in the presence of one or more external examiners, to provide a failed student, who has a fail mark in **one** element of assessment at M Level within 5% of the pass mark in that one module only, the opportunity to display satisfactory knowledge in that element of assessment, and in general across the programme, such that a pass mark may be awarded for the oral defence resulting in an overall pass mark for that module. It is anticipated that this will be utilised for OSCE and/or numeracy examinations only and not for written elements of assessment.

Students who fail and subsequently pass an element of assessment may not be examined by *viva voce*.

- *Aegrotat degree*

An aegrotat degree of MPharm may not be awarded.

- *Extenuating circumstances*

With respect to extenuating circumstances, a different system will operate dependent upon whether it relates to an exam or piece of coursework.

For exams:

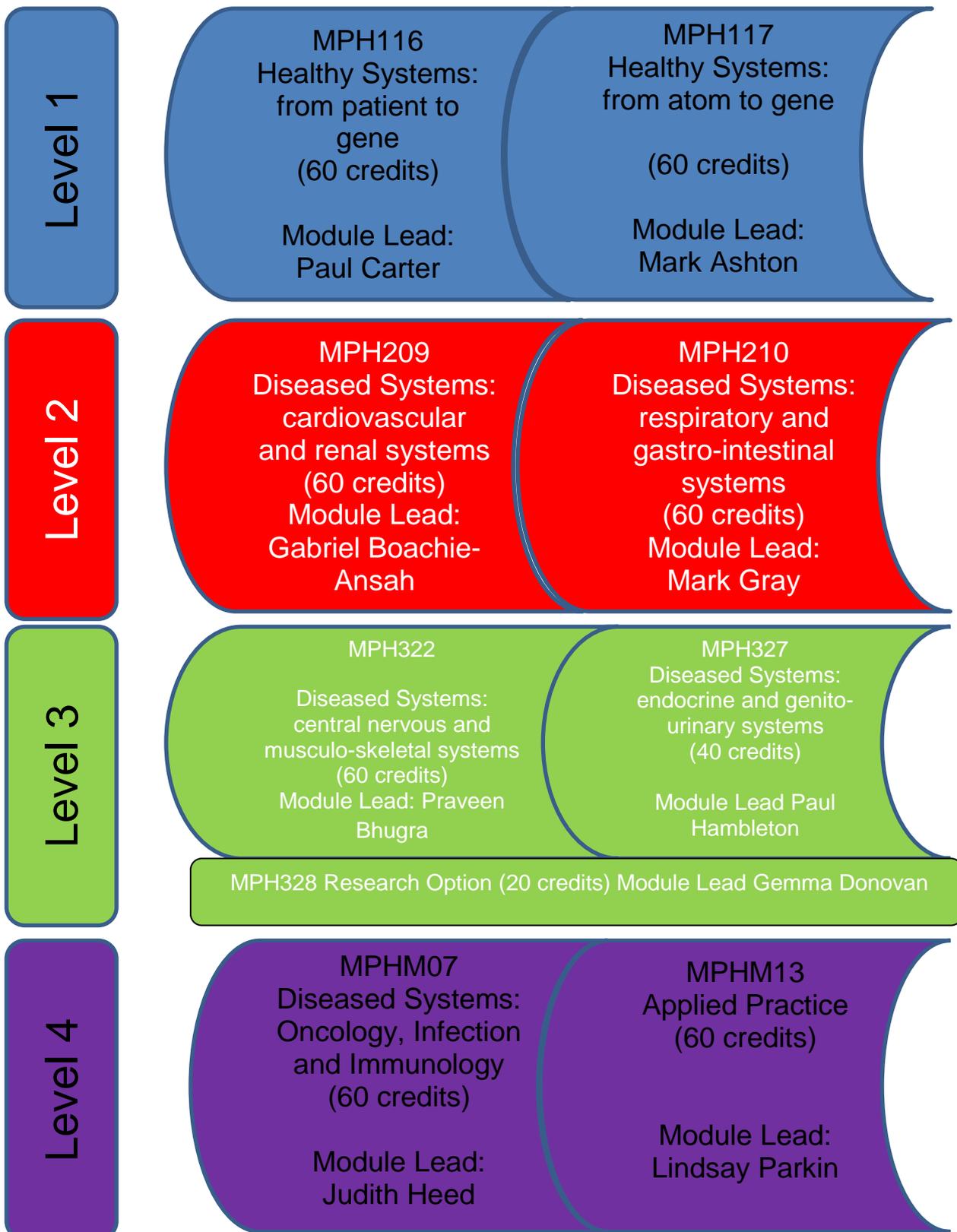
- Students must notify the Faculty Extenuating Circumstances Panel (FECP) of on-going extenuating circumstances **before** the exams commence, giving details of their situation and evidence to support their claims;
- Highly personal details or sensitive issues may be submitted for the attention of FECP Chair and will not be made public;

- If the claims are accepted FECP will notify the assessment board who will then consider a deferral in the relevant assessment. Students may then receive a deferral in the relevant exams, to sit them on the next occasion (which may necessitate remaining at the same stage — on-going problems should be resolved for effective study);
- If a claim relating to on-going circumstances is not submitted before the exams, it may not be submitted subsequently;
- If a student suffers an event during the exams that stops them from attending, they must submit a letter explaining their absence, supported by evidence, to the Pharmacy Programme Assessment Board, **before it meets** to discuss the assessments to which the evidence relates;
- Students who turn up and sit an exam will be deemed to have declared themselves fit to sit; subsequent claims for mitigation will not be accepted.

For coursework:

- Students who cannot attend a timetabled piece of assessed coursework must notify the Module/Level Leader or Programme Leader with appropriate evidence; if it is accepted, they will be issued with a letter allowing a group swap for that particular week, if possible;
- Students, who are unable to complete an assessed piece of coursework through illness or other circumstances outside their control, must see the appropriate module leader. If their evidence is accepted, they may negotiate a new deadline for submission of the coursework; the negotiations are recorded on a triplicate form, one copy of which is left with the Faculty office, one copy is affixed to the coursework when it is submitted on the revised deadline and the student retains the final copy for information;

There will be no amendment of marks due to extenuating circumstances.



### 4.3 Programme content

The programme has been conceived and designed with the aim of producing graduates who can apply their knowledge to professional practice. We have examined how we might achieve this via consultation with external stakeholders and current students, and have reached the conclusion that the programme must be integrated with all material delivered in context of professional practice.

At all levels we will use a number of patient based scenarios to direct the material, at Level 1 we will deconstruct example cases completely and focus on the initial scientific basis of the problem. At Level 2, cases will be used to help students navigate the material and as such give them a convenient “hook” for what they are being taught. We feel this will create familiarity and orientation for the students whilst avoiding the pitfall of creating separate subject areas or sections. The programme will continue in this manner with case material becoming more complex and the emphasis on students solving problems for themselves increasing.

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. This is the central tenet on which this programme is based. Students will orientate all theoretical and practical information around these applied clinical scenarios which gradually become more complex and more detailed as the students progress.

A further aspect of the programme to consider is that we will not separate out the management of minor disease from that of major disease or adult patients from paediatric or geriatric ones. The concepts around consultation, prescribing, examination and disease management will be addressed in exactly the same way irrespective of how the condition is managed or in whom. We will discuss each minor condition within the relevant system module.

#### 4.3.1 Level 1

Level 1 will provide students the base of information to help inform the rest of the programme. By the end of the level we will expect students to be fully aware of the normal structure and function of the human body. We will also expect students to understand the fundamental principles of functional group chemistry, structure and function of biological macromolecules and reaction kinetics. Students will be given a thorough grounding in the concepts around formulation of medicines. In addition, we will cover fundamental cell science including appropriate aspects of microbiology.

All material will be delivered in the context of simple clinical problems and the solution to those problems demonstrated in lectures, laboratory sessions and small group teaching. Modules will cover anatomy, physiology and normal cell signalling including the concept of receptor theory but using endogenous ligands and signals as the examples. Students will be introduced to the concepts of functional group chemistry and how structure relates to the activity of a molecule. This will range from simple molecules right through to the role of amino acids in protein formation and the structure of biological macromolecules. The role of proteins in normal physiological function will be dealt with and in particular the role and structure of DNA in the context of human, microbial, fungal and viral cells.

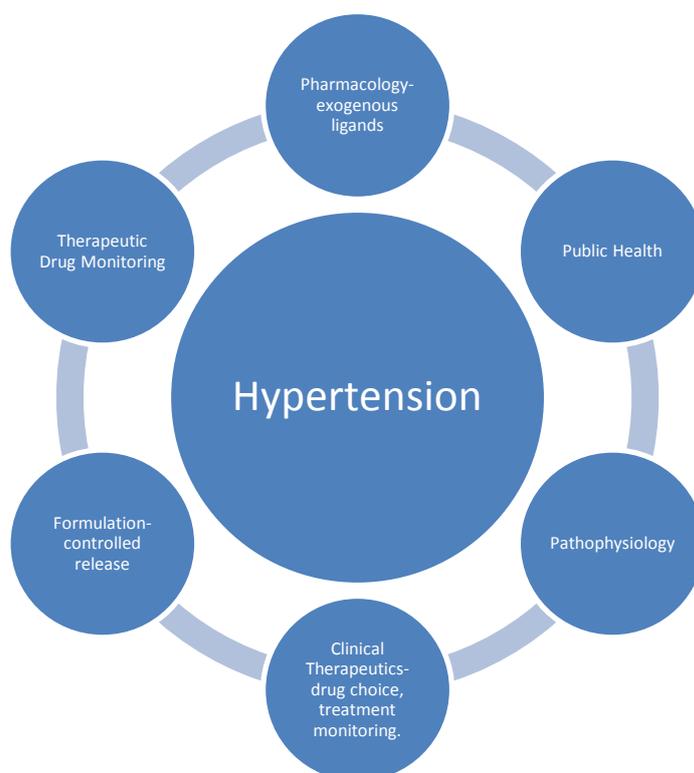
The concepts around the development of medicines will form a central theme of the level. Students will examine the principles of how medicines are designed, what properties the raw ingredients should possess and how quality is designed into the production process rather than simply checking for such properties at the end. These concepts will be underpinned with a variety of material science, in order to help students to appreciate that certain physical characteristics must be present, in order for an ingredient to be useful in the manufacture of a medicine.

Throughout Level 1, students will have integration sessions formally inserted into their schedule. This will involve 7-8 students per group as part of a wider two hour Team Based Learning Session with a group of tutors from different disciplines. The sessions will be designed around clinical case studies which present a common practice-based problem. Students will work together to see how the fundamental principles of pharmaceutical science can be applied and provide complete, reasoned solutions. Students will be expected to demonstrate effective communication and team working skills in these groups as well as the desire to question, investigate and debate.

The principles of communication will be introduced using fellow students as examples. We will introduce simple consultation skills and physical measurements including blood pressure, temperature, respiratory rate, blood glucose and urine dipstick testing.

#### 4.3.2 Level 2

Level 2 will start with a discussion of cardiovascular, cerebrovascular, and renal disease. All of the major areas will be covered in depth including hypertension, heart failure, ischaemic heart disease, stroke, acute and chronic renal failure. We will also use this module to discuss some diseases of the eye such as glaucoma. Although this does seem a departure from the main body of the module, many of the therapeutic interventions used in glaucoma are pharmacologically similar to those used in heart disease. Within each area, there will be an opportunity to include various aspects of formulation and chemical science. The diagram below gives a brief illustration of how material will be ordered and thus delivered to the students. This diagram represents the method used to deliver the remainder of the programme:



Throughout the programme we will use this idea that the central discussion of the disease is an “anchor” to which we can attach various sections of the syllabus, which are both relevant and integrated into the discussion of how that disease is managed. In this example, hypertension as a disease has a significant effect in terms of public health including other cardiovascular, cerebrovascular and renovascular morbidities. It is treated using a wide range of medicines including a significant number which are modified or controlled release and/or require some form of monitoring around dosage. We will use this opportunity to integrate the material delivered to students around a specific clinical case dealing with hypertension. The case will then act as the navigation tool for students to see how the programme fits together. Students should therefore see the management of the patient as a whole whilst still retaining the depth of knowledge around the formulation of medicines etc.

This concept will continue throughout this module and into the second module at Level 2 which deals with gastro-intestinal and respiratory disease. This module will deal with asthma, COPD, emphysema, allergies, cough, cystic fibrosis, ear, nose and throat pathology, peptic ulcer disease, GORD inflammatory bowel disease, emesis, constipation, diarrhoea, alcohol/drug-induced hepatic disorder. Supporting this will be material on the formulation of inhaled medicines and liquid dosage systems. Again with this module we will use the method outlined above to provide integrated learning pathways which relate directly back to the disease state and thus the “patient” we present in the applied cases.

During both modules, students will be taught how to conduct a physical examination of the cardiovascular, respiratory and gastro-intestinal system. We will use standardised patients and patient simulators. All examination skills will involve external clinical assessment. Consultation skills will be developed simultaneously using expert patients.

Running through both modules at Level 2 will be material relating to the law governing the supply of medicines. The main legislation will be taught in MPH209 and the dispensing programme will be delivered across both Level 2 modules. This will be integrated with seminars examining particular aspects of law and practice including issues around patient safety, professional regulation, consultation skills and medicines reconciliation.

#### 4.3.3 Level 3

Level 3 will begin with the study of the central nervous and musculo-skeletal systems. Again we will cover all major areas of disease including depression, anxiety, psychosis, neurodegenerative diseases, Parkinson's, dementia, epilepsy, substance abuse, addiction, pain, rheumatoid and osteoarthritis, connective tissue disorder, gout and muscle spasticity. As for Level 2, the diagram below gives an example of how material is "anchored" around the study of schizophrenia;



In this example, the pathophysiology and therapeutics around schizophrenia give us the opportunity to present some important issues of formulation, law and social support. We will integrate the function of the Mental Health Act with regard to the care of patients, using examples of how the Act has a significant effect on patient care. We will integrate study of the formulation of neuroleptic drugs into depo-formulations and how this in turn can affect patient care both positively and negatively. All material science and chemistry necessary will be included into this area. Further to this we will examine the neuroleptics as a group of drugs, starting with chlorpromazine and studying the changes that have taken place over years of drugs development and how those structural changes have affected activity of the drugs in question. We will use molecular modelling to show activity related to structure including binding affinity and will examine the problem from the viewpoint of adverse effect profile with the study of pharmacophores. This will also include a discussion of prodrugs and rational drug design which will continue from this module through to Level 4.

This example allows us to include discussion of medicines adherence and other factors which may affect a patient's desire or ability to take a medicine. Whilst the concepts around adherence will have

been covered in both Level 1 and 2, in this level we will consider the issue as part of a more complex pathway of care which may include various social support mechanisms such as community based carers. How pharmacists integrate with such social support mechanisms will be discussed in full as will other issues that may influence this scenario such as the Disability Discrimination Act . As in Level 2, this example will be orientated around a clinical case study.

We will then move on to the study of the endocrine and genito-urinary system including pregnancy. In this area we will cover diabetes, thyroid diseases, abnormalities of bone metabolism, adrenocortical hormones, hypothalamic and pituitary hormones, anabolic steroids, abnormalities of haematopoiesis menopause, contraception, pregnancy, infertility and men's health. This will be integrated with study of the formulation of injectable products including insulin and the challenges that have arisen in trying to develop an orally active form. We will look at total parenteral nutrition and radiopharmaceuticals as well as examining the origins of some drugs from natural sources and how synthetic analogues have been developed.

During this level, the discussion of therapeutics will start to move in the direction of critically examining prescribing decisions of others. Rather than simply considering what is used to treat a disease and how each entity works we will begin to develop students' ability to think critically about the use of a drug or combination of drugs by drawing from the literature and previous experience.

Students will continue their development with regard to physical examination and consultation with examination of the CNS, including cranial nerve examination and examination of the musculo-skeletal system. We will continue to use volunteers and patient simulators during these sessions. We will also look at the physical assessment of the diabetic patient as a separate issue where the holistic management of diabetes will be discussed with regard to some systems which have previously been studied.

This level will contain the project module, MPH328. Students will be allocated an area of study in which to conduct their project. We have numerous areas available for students to experience including research opportunities with local stakeholders in hospitals, community pharmacies and general practice. These projects are often part of larger research projects and will often contribute directly to patient care and/or safety. There will be a significant number of integrated projects where the work will span different aspects of the programme. As an example, we are currently researching the relationship between antiemetics, genotype and patient specific risk factors in chemotherapy-induced nausea and vomiting.

#### 4.3.4 Level 4

Level 4 will commence with principles of oncology and infectious disease. The delivery will again be based on the idea described at Levels 2 and 3 above with a focus on decision making and complex therapeutic intervention. We will cover cancer of the head and neck, GI tract, lung, breast, lymphatics, blood, skin and gynaecological/genito-urinary cancers. This will include study of all of the chemotherapeutic and supportive interventions used in the treatment of cancer. Chemistry and clinical medicine will be delivered side by side with the mechanism of action of each class of drug and the medicines management issues intertwined to demonstrate to the students that an integrated knowledge base is essential for such a complex area of therapeutics. Building on the skills developed at Level 3, students will be encouraged to look at prescribing and prescribing decisions in a critical manner with the added dimension that the material in this module is more complex and requires a wider scope of understanding with regard to the main focus of treatment and/or the supportive measures required.

This idea will be repeated with the delivery of education in infectious disease management where we will cover infection of the CNS, gastrointestinal, cardiovascular, respiratory, skin, genito-urinary systems as well as ear, nose and throat infections, infection in susceptible patients and viral infection such as influenza and HIV. Again we will ensure an integrated delivery where mechanism of action and medicines management are delivered in tandem. Students will once again be orientated in the subject with the use of clinical cases throughout this module.

We will integrate study of complex formulations into this material including nanoparticles, lysosomes, and liposomes. We will examine how certain formulations have been developed and why. For example, liposomal formulations of amphotericin and doxorubicin present the opportunity to discuss the short comings of non-liposomal formulation in terms of clinical care. We will examine targeted therapy with regard to cancer and infection including the use of monoclonal antibody technology to target particular cells. Connected to this will be the concept of personalised medicine. Students will have been introduced to the concept of pharmacogenetics at lower levels of the programme but at this level they will integrate this information into complex therapeutic interventions and also in consideration of other influencing factors.

The final module of the programme will be MPHM13 Applied Practice. This will deal entirely with preparing students for the practice environment. It will include an update around pharmacy law, various ethical challenges and debate in terms of the direction of healthcare.

We will incorporate a significant amount of work-based teaching using our simulation laboratories, our mock hospital ward and community pharmacy. Students will be required to examine clinical cases and address all aspects of the case in full, including integrating knowledge of pharmaceutical science. We will require students to examine patient simulators and draw from their learning at lower levels of the programme to give feedback on their findings; this will include using the options of infusing simulators with drugs and suggesting specific alternatives or solutions depending on the individual case in question. Students will be required to be fully competent in the use of consultation skills, be proficient in taking medication histories and be able to make informed decisions when presented with complex situations under pressure. In addition, we will require students to perform dispensing and OTC tasks where again the assessment will be in an OSCE format and the focus of the task will be effective communication of complex messages.

This module will include significant use of standardised and expert patients in many of the scenarios. Patients will be brought into the University for the purposes of detailed interaction with students.

#### 4.3.5 Placements, study abroad and other work experience opportunities

The programme has placements integrated within each level. Students are sent to hospital, general practice and community settings to help contextualise their learning and to gain experience of communicating with patients and other professionals. Placements are embedded into each module of the programme; students must complete a Professional e-Portfolio which has an entry in it for each placement experience. The e-portfolio is submitted at the end of **each module** and forms a pass/fail component of the assessment strategy as well as being used in the University PDP process. We do not award a weighting to the portfolio as it is a component of the overall programme and thus is not specific to any module. It is related to each module in terms of the experiential learning undertaken. The e-portfolio is discussed further in the assessment section of this document.

A member of staff has specific responsibility for organising placements within the programme assisted by a member of the administration staff.

The placement process is shown in the table below:

	<b>Hospital</b>	<b>Community</b>
Level 1	2 sessions	3 sessions
Level 2	2 sessions	3 sessions
Level 3	2 sessions	3 sessions
Level 4	UoS based	UoS based

A session is defined as a three hour period within either community or hospital practice. This time is highly focused and is supervised by an experienced member of staff from the host organisation who may or may not be a pharmacist. The time resource is highly focussed and students have a series of experiential standards to map their on-site learning to, both pre and post attendance. The concept of placements at the hospital sites is more structured and progressive, for example the Level 1 hospital placements demonstrate the journey a medicine takes from the point it is ordered to the point of administration to the patient, this is a complex process particularly in large hospitals and helps

demonstrate the logistics and quality management frameworks involved. Level 3 hospital placements examine the concepts around professional judgement, attempting to demonstrate to students that tacit knowledge is built up over time and decisions are often influenced by this experience. The typical placement experience will encompass around 10-12 hours of learning time per placement once the pre and post tasks are included.

At Level 4 we have taken a deliberate decision to bring patients and expert practitioners to students both in terms of teaching but also to help construct work-based scenarios within the University. The placements have been part of the MPharm programme for several years and during all of that time a consistent message from Level 4 students has emerged; students find placements a significant distraction during their final year of study. They have often already chosen their sector of practice and have a pre-registration place. The issue of their chosen sector being different from the placement in question is significant and often leads them to be disenfranchised by placements at Level 4. We feel that by bringing in both patients and expertise into Level 4, students will benefit from the extremely focused experience that will bring. We also feel that by conducting these interactions in the University, students will be closely observed by the staff in Pharmacy Practice and we will be able to give them detailed feedback on their performance which may not always be the case in the actual practice environment. This theory has been discussed with students of the old programme and has received unequivocal confirmation.

Level 4 students will attend several inter-professional study sessions working with Level 5 medical students examining issues around safe and effective prescribing. This initiative has been in place for a number of years and works very successfully. This has also been extended to Levels 2 and 3 of the programme, with inter-professional learning sessions involving medical students and speech and language therapy students also appearing in the relevant modules. We have a Principal Lecturer in post who's key role is to undertake development of learning and teaching of this nature.

## 5. Teaching and Learning

We have committed to designing a programme which focuses on the delivery of a graduate who can integrate the information they have gathered during the programme. As such, we feel that the strategy we have chosen to follow, along the lines of a fully integrated programme will prevent students from thinking about specific subject areas. The knowledge will be linked to application and patient care whilst retaining the necessary depth to protect what are unique skills in pharmacists.

At Level 1 and 2 students will have structured seminar and integration sessions which will gradually fall away and morph into problem-based learning and work-based learning sessions. Whilst we acknowledge that students are capable of PBL in the lower levels of the programme we feel that the guidance needed at that level is more intense and to demonstrate the links between science and practice needs more input from a tutor. Equally, work based learning sessions will be used to complement the placements at the lower levels and in particular, during the dispensing classes but will primarily be used in Level 4 to put students in typical work-based situations where they have to respond, under pressure, to queries.

The following teaching and learning methods will be used throughout the programme.

- *Lectures or equivalent:* formal lectures are delivered by the teaching team. Further direct staff contact takes the form of examination sessions and scheduled supervision of projects. Visiting lecturers in specialised areas deliver keynote lectures allowing them to share valuable, current experience with the students. Hand-outs covering key points are also provided or are available for access on SunSpace. The students are expected to augment these both in lectures and using directed study. Lectures offer the opportunity to deliver relatively large amounts of information to a large group. This is an essential part of the delivery strategy and when supplemented by other support mechanisms, can be effective. Lecture frequency will reduce as the programme progresses and will give way to additional small group teaching.

- *Webcasts* will be used to support lecture and seminar material, which will be in audio and video format. Webcasts will be in addition to material given in lectures, labs and seminar sessions and will form part of the directed learning time of each module. This type of resource will be used throughout the programme.
- *Laboratory Classes*: practical work, in the form of laboratory or workshop exercises, engage students in independently producing, analysing and interpreting results and information. Practical sessions relating to the dispensing process develop competence in the supply of medicines, and further develop students' communication skills in terms of counselling patients about their medicines and potential problems they may encounter.
- *Seminars / Workshops*: whether during seminars or whole group teaching sessions, students will be expected in the course of all modules to interact with each other and/or with the tutor to develop ideas, work on tasks, practice skills or explain material. At Level 1, this might focus significantly on ensuring that a common understanding of basic principles and procedures exists amongst the student body. By Level 3 and 4, the focus of the discussion will become much more critical and will reflect the body of clinical and scientific research which helps to underpin management of patients. These sessions allow for expansion of material delivered in lectures.
- *Integration sessions*: students will be allocated into small groups of 7-8 within a wider class group. The groups will attend a team based learning event three times in each term at Level 1 and twice per term at Level 2. These sessions will be designed around clinical cases where students' knowledge is contextualised and focused on an individual problem. The tutors from various disciplines will show students how their knowledge fits together and commence the process of getting students used to a problem-based way of thinking as well as encouraging students to make decisions relating to patient care. These sessions will continue from Level 1 to Level 2 but will decrease in frequency. We will not have them in Level 3 and 4. This is deliberate in that the sessions will develop into problem based learning sessions where groups will be slightly larger, but students will have developed the skills necessary to partake in PBL sessions.
- *Problem based learning sessions*: will form the main strand of activity in Levels 3 and 4 but will be introduced earlier in the programme, partially in the integration sessions but also as formal PBL. We feel that using PBL to a significant extent allows students to develop as individuals and as team members. Challenging and complex scenarios can be presented using PBL which address many of the higher level learning outcomes of the modules and programme as a whole.
- *Clinical skills sessions*: students will attend a variety of clinical skills sessions in our mock ward, mock pharmacy and simulation facilities throughout the programme. Students will develop physical examination skills, communication and consultation skills as well as the confidence to approach patients in a structured manner. We hope to develop these sessions in tandem with our nursing colleagues and create shared learning experiences where appropriate.
- *Patient and Professional Contact*: through the professional placement aspect of the pharmacy practice modules, students visit both community and hospital pharmacies and meet with a number of patients (both real and actors). Students must complete an online reflective journal and carry out an evidenced activity log related to their placements. We intend to bring patients into the University to work with our students at all levels. This strategy will increase significantly in Level 4 where the placement visits will be replaced by sessions with volunteer patients, allowing for intensive feedback to individual students. Whilst at Level 4 we will use genuine patients, at the lower levels of the programme and particularly at Level 1 we will use fellow students as volunteers or University staff. This reflects progression, at Level 1 students need to be able to make

mistakes without significant consequence and thus learn from their mistakes without becoming risk averse.

- *Inter-professional Learning*: the new programme will include sessions with other professional groups at all levels including medical students, speech and language therapy students, nurses and biomedical scientists. We already have a working relationship with Newcastle University and their final year medical students who attend a study day around safe prescribing with the final year. This relationship has now been extended to allow levels 2 and 3 of the programme working with medical students too.
- *Directed self-study*: students will make use of many modes of study in the various specified learning activities summarised in the module descriptors, including self-directed study of presented material, working through set examples, preparation of laboratory reports, assignments, preparation for workshop presentations or PBL sessions, prescribed reading or other media work directly related to taught or project work. Where open-learning or similar student-centred schemes are used; these are presented in association with keynote lectures. This time is essential to ensure that students can explore the depth of information required to understand pharmacy as a discipline. This time will be directly related to the use of web casts and various electronic and paper support materials.
- *Advised self-study*: reference to additional sources of information are given to enable students to read around the module topic to provide opportunities for a broadening of knowledge. They are expected to read widely, highlighting the importance of lifelong learning.

Independent work is encouraged throughout the programme; this will increase in intensity during Level 3 with extensive study in a particular chosen area for the research project. Each student is tutor-guided and is expected to demonstrate reflective, data gathering and analysis skills, while discussing results and their relevance to past and present studies. Students must effectively write and verbally defend their thesis. In addition to this, staff are available to students at all levels for support with any aspect of the programme.

SunSpace is a virtual learning environment that provides round-the-clock access and student support through a range of teaching and learning materials especially developed for the MPharm. The material for any particular module is accessible to all students registered on that module, and can include, for example, information, including pictures and videos, interactive tutorials, on-line assessments, and a discussion board. The number and frequency of students accessing SunSpace can be monitored, as can individual achievements on the tutorials and assessments. Tutors can merely monitor or actively contribute to the discussion boards. The use of Pharmacy programme SunSpace pages will continue with the new programme – there has been significant use of the SunSpace programme pages on the current programme.

Students are given directed learning and are signposted to specific websites, journals and books to encourage continuing professional development and maintenance of their personal development files.

## 6. Assessment

The assessment strategy of the programme continues the principle of integration described in Section 4.3. We have considered the programme as a whole when designing the assessment strategy to ensure that students have to apply their knowledge and to complete assessments which examine a number of subject areas at the same time.

In general, assessment will become more complex as the programme progresses with a greater emphasis on problem solving and independent working at the higher levels. Students will be required to orally present information from very early on in the programme in order to promote effective and confident communication skills. Again, as the programme progresses this will continue but the focus will

change from presentation skills to assessment scenarios where students are required to give direction to patients or colleagues, make decisions or to debate and defend an argument.

We will assess students' ability to communicate with patients throughout, starting at Level 1 with simple OSCE interactions with volunteer patients and simulators through to Level 4 where we will expect students to apply all that they have learned in scenarios which will involve communication and/or examination skills of a variety of different body systems. OSCE examinations will contribute to the module overall but will be pass or fail rather than being allocated a mark. This decision is based on the premise that OSCEs are ultimately about competence. If we were to allocate a pass mark of 40% then the problem arises, that in a competence exercise, a student could potentially get 60% of the exercise wrong and still pass. This is not appropriate in the case of pharmacy OSCEs as such an approach does not reflect safe and effective practice. The solution is that strict marking criteria are designed whereupon students must perform certain aspects of the task to an acceptable level or they are adjudged to have failed. This is a standard approach to OSCE assessment and is already a significant part of our postgraduate prescribing programme which also has GPhC accreditation. If the student passes the OSCE they are awarded a full mark for that aspect of assessment, if they fail they are awarded zero. The assessment of students using OSCE is part of a forward looking strategy of pharmacy education. Our external stakeholders stress the need for our graduates to be confident, able communicators who can make decisions and apply the knowledge they have. The use of simulated practice-based assessments is paramount to achieving this end.

As the assessments progress from module to module and level to level, they have been designed to support the students' progress so that one assessment builds the foundation for the next. This is typically demonstrated below with the assessments at Level 2, which have been designed to support the work that will come at Level 3 with the project.

The Professional e-Portfolio which is associated with the placement process will be linked to all modules with the exception of the project module and the two final year modules. This will be a required aspect of every other module but will not carry any weight in terms of assessment and will be pass or fail. We see this as an important part of our strategy to make placements integral and progressive throughout the programme in line with the requirements of the regulator. The placements are highly organised and involve a huge logistical process around the region to ensure that students attend where and when they should having prepared properly. In addition the cost to the Faculty is significant as each placement has to be paid for. In order to ensure students engage with what is essentially a programme-wide activity, we assign the e-portfolio to each module as a condition of progression but without any weighting in terms of contribution to the final module mark.

We have decided that all modules will have examinations and at Level 2 we will include the law and dispensing examinations. These examinations are statutory requirements of the regulator and as such need to be held in addition to other assessments. The final examinations at Levels 1, 2 and 3 will correspond to each module but will be sat at the end of the academic year. This strategy is designed to encourage students to think of the academic year as a whole unit rather than two separate subjects. The material within all modules will support the rest of the programme but the modules at each level will be co-dependent in terms of the programme learning outcomes. Examination questions will be composite and will cover the subject areas within individual questions to promote integration.

## 6.1 Level 1

Level 1 coursework is submitted as a number of individually written reports from selected laboratory sessions. In both MPH116 & MPH117 students will submit one full report from an individual laboratory session. The students will also take a formative MCQ assessment at the beginning of an assessment week on which, they will be given rapid feedback using an electronic assessment tool. They will then be offered support sessions for the remainder of the week and will take a summative MCQ test at the end which will represent a portion of their theory mark. This idea addresses the problems we have experienced in the past with students falling behind and rapidly losing the ability to continue to understand the material presented. This gives the students the chance to improve on their weaknesses and to review what has already been delivered to ensure that they understand it. These tests will form part of the theory mark but are essentially student support mechanisms to improve progression in Levels 1 and 2.

In MPH116, students will write a 1000 word, fully referenced report to discuss the application of taught sessions they have completed to the formulation of medicines and ultimately the care of patients. In MPH117 the students will repeat this exercise but this time as an oral presentation which acts as an oral defence of the portfolio and a demonstration of the application of their knowledge. This is vital for our integrated strategy, students must appreciate that the molecular science they are covering at Level 1 has applications which directly affect patients. This is achieved by asking the students to take a helicopter view of their work and taken with the integration sessions understand its application.

The final coursework assessment in MPH117 will be an OSCE with standardised patients and simulators addressing simple patient interactions and physiological measurements. As articulated in Section 6.0 this will be a pass/fail assessment.

Level 1 will have two final examinations, one for each of the modules with each examination contributing a 40% weighting to each module.

## 6.2 Level 2

There will be a similar strategy to that in Level 1 where students will submit a written/oral report with regards to an individual piece of coursework/lab session carried out. There will be two sets formative and summative tests which will count towards the overall theory mark, the format will be identical to that discussed above for Level 1. Again the strategy with this is to provide support and to ensure no students get lost within the integrated structure.

The other aspects of coursework within Level 2 consist of a literature review in MPH209 and a dissertation in MPH210, both of which will be aimed at focusing students' skills with regard to literature searching and evaluation, critical analysis of data and scientific writing. The dissertation will be an extension of the literature review, but not necessarily on the same subject, with a more complete discussion of a subject area with some aspects of experimental design included. The idea of these exercises is to focus students' abilities ahead of the project at Level 3. The second will be a set of clinical case reviews and laboratory reports with regard to cardiovascular disease, respiratory and gastro-intestinal disease; these reviews/reports will be integrated and will include aspects of therapeutics, formulation and in one case chemical analysis. Some of this material will be completed in seminar and laboratory sessions.

Students will be required to attend an oral defence in the Summer examination period to discuss work covered during the coursework elements throughout Level 2.

Finally, the last coursework component is an OSCE with volunteer patients and simulators examining an aspect of the consultation and physical examination skills which have been taught in each of the two modules.

In MPH209 students will have the written law examination and a module examination, both of which will contribute to the overall module assessment. Module MPH210 will contain the dispensing examination and a written module examination.

## 6.3 Level 3

At the end of Level 2 the use of integration sessions will stop and we will continue, in Level 3, the principles developed in those sessions with the use of problem based learning (PBL). Students' thinking will have gradually moved in this direction during the previous two years, with problem based enquiry having been slowly developed in the various sessions. There will be two cycles of PBL in both MPH322 and MPH327; students will be required to present their finding formally as a group which will be both tutor and peer assessed. This will further develop students' communication, team working and organisational skills and will be part of the cycle of PBL so will not increase workload for staff or students. PBL is usually conducted as two sessions one or two weeks apart with a period of directed, team study in between. The presentations will take place and be assessed within the second session

MPH322 will have a numeracy test as part of the coursework. This test will consider numerical problems in all areas including chemistry and formulation as well as typical pharmaceutical calculations and those specific to patients such as body surface area, creatinine clearance etc. In Levels 1 and 2, the numeracy problems will have been integrated into the consolidation assessments. The move in Level 3 towards a free standing examination is important to address the significant and documented patient safety issues around accurate dosage calculations. In addition, it is good practice to prepare the students for the numeracy section of the pre-registration examination.

Both modules will contain a group laboratory project building on the work done at Level 1 in particular. In both modules the work will cover a number of laboratory sessions where students design, synthesise, analyse, formulate and instigate quality control procedures using analogues of known drug substances. In MPH322, students will be required to individually write a single full report of this work. In MPH327, the report will take the form of a poster and oral defence of what was done and why. This strategy encourages students to be able to work in a group but then to present the group findings as an individual piece of work and to be able to take large projects and write a concise summary, drawing from the evidence-base. The poster will examine similar abilities to present data in a concise and user friendly manner whilst encouraging group work, team building and communication skills. The oral defence will require students to be able to articulate their understanding of what they have done and why and again, will seek to probe understanding of the wider context of patient care. The oral defence will take place and be assessed within seminar sessions.

MPH322 will have a series of ethical dilemmas where groups of students are given an ethical issue which must be formally presented to the rest of their group and debated. Students must submit their slides for assessment and both their presentation and defence of the argument will be considered. This strategy has worked well in the past with students becoming very involved in a well informed and articulate debate.

MPH327 will contain a public health assessment which will be focussed on diabetes. Students will be given a problem relating to a number of issues around diabetes such as childhood obesity, control of cardiovascular risk, infection control, and vaccination. Students will be required to consider the scenario and provide an oral presentation to the group for discussion this work will be done in groups

An OSCE with volunteer patients will examine both consultation and physical examination skills in the context of the central nervous, musculoskeletal and endocrine systems. With regard to the endocrine system, we will focus on the assessment of the diabetic patient and many of the complications therein. We will not conduct any examination of the genito-urinary system, which at this stage is beyond the scope of the pharmacist in practice.

Two final examinations, each contributing 40% weighting to the final module mark will continue the principles of integration and holistic thinking that have been encouraged at Levels 1 and 2.

MPH328 is the project module which will focus on an individual area of pharmacy. Students will be allocated an area of study and there will be a significant number of integrated projects, for example where a clinical problem may include aspects of analysis or formulation. Students will be required to submit a thesis with a maximum limit of 10,000 words. This thesis will have a particular format and within the assessment, students will have to write a final abstract in the style of a typical conference submission. The abstract is part of the thesis and is not an additional assessment. Again this is designed to encourage students to write high quality, scientific material in a concise and readable manner. The final section of the project module will consist of a final oral defence with their supervisor and an internal examiner and a final oral defence following submission of the thesis with two independent internal examiners.

#### 6.4 Level 4

MPHM07 will contain a significant amount of problem based learning sessions with five sessions in total, two in the area of cancer, two in infectious disease and one in immunology. These sessions will be taught in small groups of students, with one or two supervising academics per session depending on

the subject involved. By this stage students will have come through the lower levels of the programme with the constant message of integrating their thoughts, the Level 1 and 2 integration sessions will have guided them in the direction of how to maximise the benefit from problem based learning so at Level 4 students will have the necessary skills to address a very complex area such as those within this module.

Students will be given an area of study within oncology one which they will present a poster. The area will be highly specialist and will not reflect an overview of therapeutics. For example the posters will examine specific mechanisms of adverse effect or new and novel uses of established therapy. This assessment will test the students' ability to use their literature searching and evaluation skills developed at the lower levels of the programme to produce a concise and user friendly poster which has depth of information around a very specific subject. We feel; this type of assessment starts to show students what skills they will require at the postgraduate level.

This module will contain a number of laboratory sessions, which examine the area of nanoparticles and various drug delivery strategies. Students will be required to submit a laboratory report for this work. Students have completed laboratory reports earlier in the programme and they have also orally defended the work in the context of patient care.

The final aspect of coursework will be an OCSE which will require students to apply the clinical skills they have been taught during the module as well as complete other stations.

This module will have a single 3 hour written examination.

The assessment strategy for MPHM13 will be based on assessment of skills required for the working life of a pharmacist; this is not to say that the module will only be practical assessment. It will also work with the concept of a spiral curriculum where we ask students to use knowledge and skills they have already developed and then apply that to complex, composite problems.

There will be one open book OSCE examination plus an open book time constrained test, each will concentrate on slightly different skills with time constrained section involving analysis of a patients' condition to propose a suitable treatment regimen with consideration of the evidence base and underpinning scientific principles, critical appraisal of a patient's medication regimen, responding to signs and symptoms of illness and carrying out the appropriate clinical examination, alongside safe supply and administration of medication. The OSCE will examine many of the skills students have demonstrated previously in either written or oral form but will be presented as a composite case or question to ensure that a number of factors are influencing the answer(s) and that students are required to revisit aspects they have previously learned but at a higher level of complexity.

Building on material from Level 3 students will be required to give an oral presentation of an ethical dilemma which has been addressed using a problem based learning approach. This dilemma will be more complex than those presented at Level 3 and will require students to demonstrate clear judgement and evidence of decision making in the absence of complete information.

The final coursework assessment will be an individual presentation following a problem based approach to a dilemma involving the management of a pharmacy service. Students will be asked to develop an implementation strategy for a new pharmacy service and research all the necessary factors that would influence a commissioned bid. The presentation will be made to a number of academic staff.

The module will be assessed with two written examinations, one of which will include be a pharmaceutical numeracy paper. The other examination will require students to draw on all material taught throughout the programme and will be entirely case based using both long/short answer and multiple choice question format.

## **7. Student Support and Guidance**

The Programme Team recognises that robust and effective student support is vital in the successful delivery of all programmes, particularly, the MPharm where students have been recruited nationally and internationally. To this end, student support is aimed at ensuring that we can provide support at the point of need and within a reasonable time frame. All students receive a University e-mail address

and this forms an important link with staff to help answer queries quickly or to arrange appointments when face-to-face interaction is sought or necessary.

Each student is assigned a personal tutor from University staff, who is responsible for pastoral care and basic academic problems as well as being the member of staff to guide them through the key pieces of coursework at Levels 1 and 2. Contact between students and tutors may be by telephone, e-mail or post. Some staff make use of Facebook and Twitter as a communication option this is optional and will depend on the staff member in question. Communication within modules is available using SunSpace. This provides a forum for discussions both between staff and students, and between students. SunSpace and the MPharm Facebook page are also used to post documents about the programme and additional learning materials for downloading by the student. We also make use of the television screens around the building to display rotating messages; these will be used for informing MPharm students of important issues.

There are four Level Leaders for the MPharm; each level leader takes responsibility for identifying and offering training to group and year student representatives, for organising the students at their level into laboratory groups, giving advice and support to students at their levels, and collecting feedback at the staff-student forums. The level leaders liaise with the Programme Leader as part of the MPharm Management Group, providing an information chain, and communicating the feedback for action at programme, or even University level if appropriate. The Level Leaders are an essential part of the effective running of the programme, particularly in view of the numbers of student we recruit to MPharm.

### 7.1 Studies Advice

Studies advice is given by the Programme Leader, Level Leaders, Module Leaders, and Personal Tutors, as appropriate. All modules are core to the programme.

Advice on study skills are given early in the programme. Students are encouraged to liaise with the programme team closely throughout their period of study.

Remedial support for students who fail module assessments will be provided by the module leader. Advice on answering questions and undertaking individual assignments will be provided in the module guides. However, students will have access to staff for further advice as, and when, necessary.

### 7.2 Placements/Work Based Learning

This programme does not include single placements, such as a year in industry or a year abroad. However, the professional placement strand throughout the four year programme places students in a variety of patient contact and professional contact settings over several periods during their study at Sunderland (see Section 4.3.5). These placements include primary and secondary care and are detailed in the module guides. Students are also strongly recommended to undertake pharmacy-related employment or work-shadowing experience during vacations.

### 7.3 Personal and Career Planning

Most students who successfully complete the MPharm will go onto undertake the General Pharmaceutical Council registration examination to allow them to practice as a pharmacist in the UK. As MPharm is a vocational degree qualification there is very little request for career guidance in the normal way. However, staff do give guidance about the different aspects to the various branches of the profession and various speakers from these branches of the profession come to the University to talk to students about their work. The team has organised specific events for community and hospital pharmacy where regional employers attend an event to present their organisation but also to discuss important aspects of the profession. The last example of this for community pharmacy examined ownership of a pharmacy and a number of speakers gave their own experience of being a contractor.

A specific member of staff has the role of pre-registration lead to facilitate information to and from the General Pharmaceutical Council and to give support to those students requiring advice on pre-registration and vocational applications.

The team has a strong base of registered pharmacists, most of who continue to practice. Thus there is a significant amount of expertise for students to access in terms of knowledge of the various branches of the profession and what it means to work within each. In addition we have a large number of Academic Tutors who are still working in practice who can advise students on the current workforce issues.

#### 7.4 Induction arrangements

Students arrive for the MPharm at Level 1 in the normal way. All students go through the University induction process which involves standard orientation and introduction to the MPharm and the University. At present an informal buddy system exists within the SPSA where various members from the higher levels of the programme give advice and support to new students.

#### 7.5 Guidance for Further Study

MPharm students, almost entirely, go on to undertake their pre-registration training year immediately after graduation. The pre-registration year is a formal session governed by the General Pharmaceutical Council.

A small number of students each year take up the offer of guidance from staff and approach staff with regard to full-time postgraduate study leading to MSc, MPhil or PhD. However, the most common route to postgraduate education for MPharm students is *via* the part-time route, which allows them to remain in employment whilst undertaking, for example, a postgraduate diploma in clinical pharmacy. This is a significant issue for the profession as the number of academic pharmacists falls and shortages in specific areas such as pharmaceuticals continue to worsen. The team are working on a number of projects which cross the different disciplines in pharmacy, it is part of this strategy that we may attract more pharmacists in to undertake further study if we can make the offer relevant to their current employment.

All on-campus students have access to the University's central support services including Counselling, Disability Service, Health and Well-being, Chaplaincy, financial support and advice, International Office and Careers and Employability Service. The Students' Union provides an independent service which offers advice and support across the full range of personal and academic problems which students may encounter. Students wishing to lodge a complaint or an appeal can seek advice from the Students' Union or from Academic Services. Full details of all these services can be found on the University's web-site. Where appropriate, academic or support staff in the Faculty will sign-post students to these specialist services.

## 8. Admissions

The minimum entry qualifications are normally one of the following:

- a) A General Certificate of Secondary Education (GCSE) and General Certificate of Education (GCE) with passes in six subjects including three subjects at Advanced Level (to include two science subjects, one of which must be Chemistry). Appropriate AS level qualifications can be considered, but cannot be substituted for the two Advanced Level science subjects.
- b) An appropriate BTEC National Certificate (NVQ level 3) with distinctions in science subjects, plus an A level in Chemistry.
- c) Scottish National Qualifications at Higher and Advanced Higher level. Passes in at least four subjects at higher level, or three at advanced higher, including Chemistry and other science subjects.
- d) Irish Leaving Certificate at higher level in five subjects, including Chemistry and other science subjects.

e) Such other qualifications or appropriate experience as the Programme Studies Board deems to be equivalent, e.g. other degrees or Access courses validated or approved by the University of Sunderland or kite-marked by other institutions.

f) International applications are considered on individual merit

For each of the above, where appropriate:

All GCSE passes must be to at least C grade and include English Language and Mathematics or equivalent.

UCAS Tariff entry requirements: at least 300 points with Chemistry at 100 points.

Where an applicant's first language is not English, and where an applicant possesses qualifications other than those indicated in (a) to (d) above, evidence is required of at least Level 6 attainment in the International English Language Testing Scheme (IELTS) or a Cambridge Certificate at grade B or a pass in the University's own English Language proficiency Test or any equivalent to these.

## 9. Programme Management and Quality Assurance

The programme is managed and quality assured through the University's standard processes. Modules are overseen by a Module Studies Board and each year each module leader provides a brief report on the delivery of the module, identifying strengths and areas for development. The Programme Studies Board, which includes module leaders, student representatives and, where applicable, typical employers, is responsible for the programme as a whole, ensuring the coherence of the programme overall, its currency, progression, and alignment between the learning outcomes and modes of teaching, learning and assessment. Student achievement, including progression between levels and degree classification, is kept under review. The programme is reviewed annually and a report is sent to the Faculty Quality Management Sub-Committee which in turn reports issues to Academic Board via the University's Quality Management Sub-Committee (QMSC) and Academic Experience Committee (AEC). A development grid forms a section of the annual reports and is intended to ensure that the programme is updated throughout the year both in response to staff and students comment and in relation to external examiner feedback.

MPharm programme regulations are significantly different from University Regulations and all modules are core and unique to the MPharm, no other students study on MPharm modules. As such the MPharm Module and Programme Assessment Boards are merged and function is one event where module decisions are considered at the same time as programme decisions. This allows for regulations to be applied properly and for consideration of student performance across the piece. This has worked well over the last few years and is well received by external examiners who have documented their approval of this process.

External examiners are appointed to oversee and advise on the assessment of the programme in line with University policy<sup>6</sup>. They verify the comparability of the standards of the programme with the standards of similar programmes elsewhere in the UK and the quality of the assessment process. They are also invited to comment on proposed developments to the programme. Their reports are sent to the DVC (Academic) as well as to the Faculty; he requires a report from the Faculty on any major issues of concern raised by the external examiner. In addition we involve our External Examiners in programme development and in new projects. This input is highly valued and ensures that our developments keep pace with other providers. Our principles of integration in the current programme have received significant praise from externals as being innovative and the way forward for the profession. The new programme has also been seen by our externals and has received very positive feedback.

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<sup>6</sup>Policy on the Role of External Examiners: <https://docushare.sunderland.ac.uk/docushare/dsweb/Get/Document-2997/AQH-G1+Policy+on+the+Role+of+External+Examiners.pdf>

All programmes are reviewed by the University on a six-yearly cycle to identify good practice and areas for enhancement. Programmes are revalidated through this review process. These reviews include at least one academic specialist in the subject area concerned from another UK HEI.

Students' views are sought through module questionnaires and by other methods. The feedback informs module leaders' annual reports on their modules. Students are represented on the Programme and Module Studies Boards; in the former they are involved in discussion of external examiners' reports. Alongside this, student views are sought at meetings once per term for each level with each of the four MPharm Level Leaders. These meetings form the base of how we respond to the comments of our students each meeting is discussed by the MPharm Management Team. Any changes or improvements we can make immediately in response to comments; we try to make, the minutes of each meeting are then released to the student body as a whole with details of how we have responded included. Quite clearly this immediate action is not always possible so improvements in other areas may take longer. We will collate pertinent student feedback and will add it to the following year's module guide with the action we have taken to address each of the points in hand. This is an attempt to follow through the "you said-we responded" initiative from year to year; students should see the programme developing over time which may help to contextualise the problems they may experience.

Feedback from the NSS Survey is constantly used to refine the programme, recent examples of this is the extensive use of MP3 feedback which the MPharm team now use when marking assessments. Students find this type of feedback more helpful and more focused than written comments; this was a development which came out of issues raised in the NSS.

An academic member of staff is responsible for all placements within the programme and also organises yearly consultation sessions with our placement providers in both hospital and community practice. These sessions examine the previous year in terms of student and employer feedback on placements and how we might develop the process for the following year. Other issues are discussed at these meetings including all changes we intend to make to the programme and the placement scheme, this feedback is considered when developing and implementing developments.

An external consultation group was convened in September 2009 to examine the plans for this programme under consideration for validation. That group is comprised of experts from all areas of practice and includes regional nurses and doctors. The group has had the opportunity to contribute to the shaping of the new programme and to comment on our ideas and theories as they have been presented. The group did not include current students; we have consulted with students separately to gather feedback on our ideas as well as regular updates on programme development which have been discussed at Module and Programme Studies Boards in the presence of student representatives.

## 10. Learning Environment and Resources

### 10.1 Staff resources:

Department of Pharmacy, Health and Well-being - Staff Teams					
Team	Name	Title	FTE	Grade	FTE in Pharmacy
Head of Department	Alabaster TA	Prof R	1	SM	1
			1		1
Professoriate	Anderson RJ	Prof	1	Prof.	0.8
	Crosland A	Prof	1	Prof.	0.2
	Davies MS	Prof	1	Prof.	0.8
	Markham A	Prof	1	Prof.	1
	Wilkes S	Prof	1	Prof.	0.6
		5	5		3.8
Biosciences	Bingle L	Dr	1	SL	0.4
	Carter NM	Dr	1	SL	0.1
	Colclough R	Mr	1	PL [TL]	0.1
	Cunningham AC	Dr	1	PL	0.1
	Gunasekera PD	Dr	1	SL	0.6
	Jones A	Dr	1	SL	0.4
	Kuit J	Dr	1	PL	0.2
	Price M	Dr	1	SL	0.1
	Shamssain M	Dr	1	SL	0.3
	Thomas KR	Dr	1	SL	0.3
	Yakubu DE	Dr	1	SL	0.4
			11	11	
Pharmaceutical Sciences	Ashton M	Dr	1	SL	1.0
	Carter PA	Dr R	1	SL	1.0
	Chaw CS	Dr R	1	SL	1.0
	Dodou K	Dr R	1	SL	1.0
	Elkordy AA	Dr P	1	SL	1.0
	Gray M	Dr	1	SL	1.0
	Hambleton PA	Mr P	1	SL	1.0
	Carlisle M	Dr	1	SL	1.0
	Lough WJ	Dr	1	Reader	0.4
	McGarry K	Dr	1	SL	1.0
	Moore AJ	Dr	1	PL [TL]	1.0
	Paget T	Dr	1	PL [TL]	1.0
	Reeve RN	Dr	1	SL	0.6
Williams L	Dr	1	SL	1.0	
		14	14		12.4
Pharmacy Practice and Clinical Therapeutics	Moffitt K	Ms R	0.4	AP	0.4
	Bhugra P	Dr	1	SL	1.0
	Boachie-Ansah G	Dr P	1	SL	1.0
	Hardisty J	Ms R	1	PL	1.0
	Whitehouse K	Ms R	0.4	TP	0.4
	Ennaceur A	Dr	1	SL	1.0
	Jones T	Ms	1	SL	1.0
	Marshall D	Ms R	1	SL	0.5
	Franklin P	Dr	1	L	0.8
	Heed J	Ms R	0.8	SL	0.8
	Davison K	Ms R	1	PL	1.0
	Parkin L	Ms R	1	SL	1.0
	Orlandi T	Ms R	0.6	TP	0.6
	Maguire L	Ms	1	SL	1.0
	Green A	Mr R	1	SL	1.0
	Rokib T	Ms R	1	SL	1.0
	Donovan G	Ms R	1	SL	1.0
	Sherwood J	Mr R	0.6	SL	0.6
	Holden K	Dr P	1	PL	0.6
	Earl-Sinha C	Ms R	1	SL	1.0
Sturrock A	Mr R	1	SL	1.0	
Hall S	Ms R	0.2	AP	0.2	
Brookes A	Ms P	0.4	AP	0.4	
		23	18.8		19.3
Health	Atkin, S	Ms.	1	PL [TL]	0.4
	Brizzolara C	Mrs	1	SL	0.1
	Carling K	Ms	1	SL	0.2
	Graham Y	Ms.	1	L	0.2
	Collins M	Mr	1	SL	0.6
	Dent, J	Ms.	1	SL	0.1
	Brown K	Ms	0.6	SL	0.6
	Fulton, J	Dr.	1	PL	0
Hayes, C	Dr.	1	SL	0	

	King, K	Ms.	1	PL	0
	Walker, C	Ms	1	SL	0.2
			12	10.7	1.9
	Total Count		66	60.5	40.3

The table above is a list of current staff in the Department of Pharmacy, Health and Well-being each with the fraction of their FTE (based on workload data provided by Team Leaders) that contributes to delivery of pharmacy postgraduate and undergraduate programmes. When considering our student numbers this staff compliment results in a staff student ratio (SSR) of around 1:20. This falls lower still when considering visiting lecturing staff and Academic Practitioners. It is noteworthy that we have consistently improved the number of registered pharmacists within our staff compliment over the course of the last few years. This will continue as we recruit staff to improve teaching on campus at UoS. In addition recent years has brought a much closer relationship with the Health Team with significant input into the new programme with the teaching of clinical skills; this will only increase as our programme progresses and all students have sessions in clinical skills.

We make use of expertise not only from our range of staff but by using local expert practitioners to deliver various parts of the programme when necessary including senior NHS staff. This will continue into the new programme and will very likely increase as we expand our relationships with local stakeholders.

## 10.2 Learning Environment

The Sciences Complex has recently been the subject of a £7.5 million refurbishment programme which forms Phase 1 of the project. Phase 2 will be the refurbishment of the remaining floors of Fleming Building and the upper floor of Pasteur Building and is to be completed by 2016. The teaching environment has changed significantly with more open space, light and break out provision for students to work in as well as investment in high quality AV equipment. The laboratories have been refurbished to the very highest standard and include all modern facilities necessary to run a pharmacy programme. This will be reflected in Phase 2 as we continue to develop the campus. In addition to the investment in the buildings we have spent £2.2 million, in the last year, on upgrading our equipment including state of the art chemical analysis and patient simulation equipment. The equipment will not be the province of research only; our undergraduate students will have direct access to use all of the facilities within the new programme. We feel this is a particularly strong aspect of our provision.

The new facilities are listed below:

- State of the art laboratories with capacity for up to 60 students;
- Industry standard analytical unit;
- Organic chemistry research laboratory with full extraction facilities;
- Teaching laboratory with full extraction facilities, capacity 25 students;
- Dedicated dispensary with consultation space and information unit;
- Custom designed PBL suite;
- Human performance and physiology suite;
- Seminar suites with attached simulation units and video, fully equipped with simulation mannequins and examination equipment;
- Computer laboratory with capacity for up to 90 students;
- Open access computer facilities;
- Break out space with AV support for group work;
- A learning lounge with audio/video database;
- Staff hubs with breakout learning spaces and teaching walls

In addition to this we also have our longer standing facilities including:

- A mock pharmacy;
- A mock ward;
- A Class 1 clean room;
- Pharmaceutics laboratories
- Microbiology laboratories;
- Pharmacology laboratories.

Our facilities are outstanding and will continue to develop as we move into Phase 2 of the rebuild. What we have at present is more than sufficient to give our students a first class experience; Phase 2 will ensure that the facilities will give our students the best possible education from their time at UoS. The development of the Sciences Complex has been carried out on the background of a significant investment in the University as a whole. The new facilities in the complex sit proudly within the City Campus which has recently seen the completion of a refurbishment of the Edinburgh Building, the building of Gateway, our student interface, and the award winning CitySpace which is our sporting and social space. The new facilities give the University a 21<sup>st</sup> century estate which will enhance the experience of staff and students.

### 10.3 Research / consultancy / outreach / scholarship which inform the programme.

The Department has a very strong ethos of research. The University has chosen to work through “research beacons” in order to maximise outputs from our work. In PHW the beacons are divided into two areas which can be described as being health-related research and drug discovery and development. These strands are gradually becoming more closely associated as our research becomes more overarching. In line with the new pharmacy programme we are progressing research which is integrated and investigates clinical problems using our expertise in pharmaceutical and biological sciences and in pharmacy practice.

Some examples of our research are given below; this list is not exhaustive but has been formulated to demonstrate the type of work we are engaging in.

Lindsay Parkin and Gemma Donovan have recently secured funding to research use of unlicensed medicines in primary and secondary care.

Kathryn Davison and Kathryn Moffitt have recently secured funding to research the effectiveness of experiential placements in preparing students for clinical practice provision.

A team led by Dr Jessica Clemerson are working on the development of guidelines for assessing risk with regard to medication and falls. Elderly patients in care facilities are at risk of falling at any time but this risk is multiplied when sedating medication is added to their therapy. This team is looking to develop a tool to stratify this risk in light of the combination of drug and non-drug factors.

A team led by Dr Jessica Clemerson is designing and providing education for nurse prescribers to ensure that their practice is up to date. This is providing interaction with other professional groups and satisfying the need of the Primary Care Trusts who employ the nurses.

A team led by Prof. Ann Crosland has a significant number of projects in train all of which are linked to FUSE; a UKCRC funded Centre of Excellence in Public Health Research. This team is now working with the pharmacy staff to examine the role of pharmacists in public health and to explore patient decision making with regard to medication. The team generates significant research income from a wide variety of sources including the National Institute for Health Research and will continue to build strong links with pharmacy.

A team led by Prof Roz Anderson is examining numerous projects around medicinal chemistry including one project which is attempting to improve the palatability of a treatment for cystinosis. The drug in question works well but has a very unpleasant smell and taste which manifests itself when taken but also causes the patient to emit an odour. This is a typical example of applied science improving the lives of patients.

A wide-ranging collaborative project, led by Dr Adrian Moore, exists between the University of Sunderland and Institut de Recherches Servier (Croissy-sur-Seine, Paris). This research programme began in 1996, and has since been continuously funded at postdoctoral level, with the primary aim of developing heterocyclic derivatives as potential agents for treatment of neurodegenerative diseases. Of the many compounds investigated pharmacologically, a number have been shown to be negative allosteric modulators at nicotinic receptors with wide-spectrum pro-cognitive and pro-psychobehavioural activity in pre-clinical and phase I clinical trials. As part of the collaboration, additional areas of interest include the development of agents for treatment of pain, opiate addiction, depression and smoking cessation.

Various staff within the Department are working on projects linked with non-medical prescribing. Dr Jessica Clemerson was given funding from the SHA to look at the quantity and quality of pharmacist prescribing around the region. The work the team did on this was linked with most regional hospital trusts and some independent pharmacists.

In terms of consultancy the staff have input into a number of areas including, local pharmaceutical industry, regulatory work, medicines management in general practice and clinical work in local hospitals. The Department feel it is vital that our staff maintain their links with external stakeholders. This benefits the provision in terms of having expert contacts to provide specialist information or support and also ensures that staff have current practice-based knowledge on which to base their own teaching. A number of the pharmacists within the team continue to practice in their own field and are given time by the University to do this.

In addition to publication of high quality peer reviewed papers, the Department is cognisant of the need to create a presence for the University within the pharmacy profession and thus supports staff working on review/educational articles for the professional press. Whilst this does not always generate outputs for the Research Excellence Framework exercise it does ensure that our students and stakeholders are aware of the expertise within the Department and possibly creates links on which formal research can be based.

#### 10.4 Library

University Library Services support both staff and students through the provision of a high quality learning environment and information skills sessions.

All students have the full use of the University's three libraries and two learning resource centres. The libraries are open extended hours and are staffed for 59 hours a week, including weekends and evenings. Both The Murray and St Peter's libraries are open 24x7 during term time.

The principal stock and services for Pharmacy are housed at The Murray Library. The Murray Library offers comprehensive print collections, extensive E-resources, 900 study places, 200+ PCs and information skills training facilities and study skills support.

#### **Liaison**

Excellent communication has been achieved with the Faculty of Applied Sciences, key examples of which are:

- The Director or Assistant Director of SLS sit on the following university boards:
  - Academic Board
  - Academic Development
  - Academic Experience
  - Academic Futures
- The Murray Library Site Librarian has explicit responsibility for liaison with the Faculty of Applied Sciences and for managing the library to meet the needs of users
- The Murray Library Site Librarian or Deputy Site Librarian sits on the following Faculty of Applied Sciences boards:
  - Faculty Experience
  - Faculty Futures
  - Quality Management sub-committee
  - Research sub-committee
- The Deputy Site Librarian has direct liaison responsibility with Pharmacy staff and students.

## **Communication with students**

This is achieved in various ways:

- A professional member of staff is available in all libraries during open hours.
- Students' fora are held once a term where students have the opportunity to raise problems and discuss the service development with site staff.
- Students may complete "Comments, compliments and complaints" forms. If they wish a reply, one will be received from the appropriate staff member.
- There is a Customer Notice board in each site library, and in faculty buildings.
- Questions about library services are included in the University's student questionnaire
- Library staff attend staff student consultative committees as appropriate

## **Evaluation and feedback**

Evaluation and feedback are provided by the University's systems for course evaluation and monitoring. Evaluation and monitoring reports are considered by the Faculty Academic Experience Committee, which is attended by the appropriate Site Librarian.

## **Book fund**

The University Library Services book fund for 2009/10 was £265,800. The allocation to the Faculty of Sciences 2009/10 was £75,129, of which the breakdown for areas of interest to Pharmacy is as follows:

Pharmacy, Health and Wellbeing: £23,178

The interdisciplinary nature of the subject is such that resources bought for other courses are also of benefit to students of Pharmacy.

## **Book stock, Services and Facilities**

Selection of appropriate library materials is carried out largely by academic staff. University Library Services has the responsibility to ensure that at least one copy of an item recommended in a module guide is in the stock of the library. In practice this extends to other items in reading lists as well. The book fund has been used in recent years to extend the range of the book stock, to improve undergraduate provision by purchasing multiple copies of key texts, and increase provision of new up-to-date materials. Subject Liaison Librarians ensure materials on module reading lists are available in the library in appropriate numbers.

The availability of books for teaching and learning is enhanced in a variety of ways:

- Short Loan: a collection of books and videos in heavy demand, that are available for one day loan, making them more accessible for students, with the facility to reserve items
- The provision of weekly loan items, particularly duplicate copies of key texts, to improve availability for part-time students
- E-Book collection: the library will purchase an E-Book version of titles on recommended reading lists if available
- Production of online reading lists which may include digitised book chapters and journal articles, (copyright permitting).

## **Periodicals**

University Library Services subscribes to over 2,000 print and electronic titles. Usage is monitored and the portfolio of titles is continually reviewed.

## **Electronic Information**

Staff and students can access library resources either on campus or off campus via the web. University Library Services maintains a web site [www.library.sunderland.ac.uk](http://www.library.sunderland.ac.uk) which provides a gateway to information resources and services (internal and external provision). Athens authentication is used to allow staff and student access to extensive subscribed electronic resources regardless of location.

All students have access to the interlibrary loans service, which will normally obtain required documents that the service does not hold, well within ten working days.

## **Information Skills**

As part of induction, students are registered with University Library Services and automatically receive their Athens password at the beginning of the academic year. In addition University Library Services provides specialist information skills sessions to develop their knowledge of electronic resources appropriate to their subject area. Information skills sessions include the skills necessary for searching for quality academic information on the Internet.

## **Help and support**

The library provides support to users in a number of ways:

- Face-to-face in the libraries via staffed helpdesks, roving support from library staff and group or one-to-one information surgeries
- FAQ – An online database containing answers to frequently asked questions
- The “Ask a Librarian” email service where users may contact the library with any queries and will receive a reply with 24 hours
- “Live Chat”- Synchronous online help available at various periods throughout the day, enabling users to chat with library staff and receive instant support

**QUICK REFERENCE**

Panel: External  Internal   
 Programme: New  Review  Title Change   
 Replacement for existing

**SITS SUMMARY PROGRAMME/SHORT COURSE DETAILS**

(Form to be completed electronically by the Faculty and forwarded to the QAE Quality Officer supporting the Approval event, or sent to MISD for faculty devolved processes before sending to QAE)

<b>PROGRAMME/SUBJECT/SHORT COURSE DETAILS</b>	
Exit Award: Title of programme/award	Master of Pharmacy (MPharm)
<i>If replacement for existing, specify title of old</i>	N/A
Faculty:	Faculty of Applied Sciences
Department:	Pharmacy, Health & Wellbeing
SITS Programme/Short Course code	UMSBPHRMCY
Programme Studies Board	Pharmacy
UCAS code (if applicable). If other please state method.	B230
JACS code	B230N
Qualification Level / Qualification Aim	Level 7
Modes of delivery and duration:	(delete yes/no as necessary) Full time    yes    4 ..... years Sandwich    no    ..... years Part time    no    ..... years Work Based Learning    yes On-campus    yes Off-campus    yes
CSP Only. Other subject combinations not allowed with this subject:	N/A
Programme/Subject/Short Course Leader:	Kathryn Davison
Date of Approval /Modification/Review	March 18 <sup>th</sup> 2011
Date of next review ( <i>QAE to complete</i> )	
Start date of programme/Short Course	26 <sup>th</sup> September 2011
Number of intakes per annum and likely month(s) intake(s) starts.	One intake each year in September

<b>FUNDING DETAILS</b>	
Confirm funding arrangements for programme e.g. HEFCE/TDA/NHS/Other	HEFCE
If it is TDA, is it primary/secondary/F.E./Other (please state)	N/A
Is the programme Open or Closed:	Open

<b>ACCREDITING BODY</b>	Yes If yes please attach completed form AQH-Ciii2
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<b>PROGRAMME SPECIFIC REGULATIONS</b>	Are there to be programme specific regulations? Yes If yes, please attach completed form AQH-B3 Appendix 2 or AQH-B8.
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<b>COLLABORATIVE:</b> Please complete details	<b>UK</b> no	<b>Overseas</b> yes
<b>Institution</b>	<b>Collaborative model</b>	<b>Funding arrangements</b>
SEGi University College	Model B	TNE for years 1 & 2.
.....	.....	.....
.....	.....	.....

### INTERIM AWARD SCHEDULE

Interim award title	Credits required	Interim structure Please show mandatory requirements if applicable e.g. core module codes
<b>Certificate in Higher Education</b>	<b>120</b>	<b>MPH116 and MPH117</b>
<b>Diploma in Higher Education</b>	<b>240</b>	<b>MPH209 and MPH210</b>
<b>B.Sc Studies in Pharmaceutical Sciences</b>	<b>300</b>	<b>MPH322</b>
<b>B.Sc (Hons) Studies in Pharmaceutical Sciences</b>	<b>360</b>	<b>MPH322, MPH327 and MPH328</b>

DETAILS SUPPLIED BY: AK Husband

DATE: 7<sup>th</sup> February 2011

**For QAE use only:** Circulation list: Quality Assurance & Enhancement (files), MISD (J Ruffell, L Warner), Admissions (E Wilson), Recruitment (Les Brown, Catryn Davies), Student Office (L Dixon), Examinations (A. Brownbridge), Planning (Amanda Watson), Learning Development Services (Malcolm Green) Central Timetabling (Lesley Scott) + for collaborative programmes: SRBP Carole Green/Peter Elliott, Marketing (Judith Green)

## Module List

Award, Route and Level	New/Existing/Modified Module (N/E/MM)	Module Title	Module Code	Module Credit Value	Whether core or option	Must choose (ie designated option):	Assessment weighting – give % weight for each assessment item	Pre-/co-requisites	Module leader	Other comment (if required)	Date of Entry on SITS. N/MM only ( After event)	JACS Code
1	N	<b>Health Systems: from patient to gene</b>	<b>MPH116</b>	<b>60</b>	<b>C</b>	<b>N/A</b>	<b>60% CW 40% Ex.</b>	<b>Admission profile</b>	<b>Dr.Paul Carter</b>			<b>B230</b>
1	N	<b>Healthy Systems: from atom to gene</b>	<b>MPH117</b>	<b>60</b>	<b>C</b>	<b>N/A</b>	<b>60% CW 40% Ex.</b>	<b>Admission profile</b>	<b>Dr.Mark Ashton</b>			<b>B230</b>
2	N	<b>Diseased Systems: cardiovascular system</b>	<b>MPH209</b>	<b>60</b>	<b>C</b>	<b>N/A</b>	<b>60% CW 40% Ex.</b>	<b>MPH116 &amp; MPH117</b>	<b>Dr.Gabriel Boachie-ansah</b>			<b>B230</b>
2	N	<b>Diseased Systems: respiratory and gastro-intestinal systems</b>	<b>MPH210</b>	<b>60</b>	<b>C</b>	<b>N/A</b>	<b>60% CW 40% Ex.</b>	<b>MPH116 MPH117 &amp; MPH209</b>	<b>Dr.Mark Gray</b>			<b>B230</b>
3	N	<b>Diseased Systems: central nervous and musculo-skeletal systems</b>	<b>MPH322</b>	<b>60</b>	<b>C</b>	<b>N/A</b>	<b>60% CW 40% Ex.</b>	<b>MPH209 &amp; MPH210</b>	<b>Dr.Praveen Bughra</b>			<b>B230</b>
3	N	<b>Diseased systems: endocrine and genito-urinary systems</b>	<b>MPH327</b>	<b>40</b>	<b>C</b>	<b>N/A</b>	<b>60% CW 40% Ex</b>	<b>MPH209, MPH210 &amp; MPH322</b>	<b>Mr Paul Hambleton</b>			<b>B230</b>
3	N	<b>Research Option</b>	<b>MPH328</b>	<b>20</b>	<b>C</b>	<b>N/A</b>	<b>100% CW</b>	<b>MPH209 MPH210</b>	<b>Ms Gemma Donovan</b>			<b>B230</b>
<b>M</b>	N	<b>Diseased Systems- Oncology, Infection and Immunology</b>	<b>MPHM07</b>	<b>60</b>	<b>C</b>	<b>N/A</b>	<b>60% CW 40% Ex</b>	<b>MPH 209, MPH210 &amp; MPH 328</b>	<b>Ms Judith Heed</b>			<b>B230</b>
<b>M</b>	N	<b>Applied Practice</b>	<b>MPHM13</b>	<b>60</b>	<b>C</b>	<b>N/A</b>	<b>60% CW 40% Ex</b>	<b>MPH 209, MPH210, MPH 328 &amp; MPHM07</b>	<b>Ms Lindsay Parkin</b>			<b>B230</b>

**TEMPLATE FOR PROGRAMME REGULATIONS**

**Name of programme:** Master of Pharmacy  
**Title of final award:** MPharm (Hons)  
**Interim awards<sup>1</sup>:** Certificate of Higher Education  
 Diploma of Higher Education  
 B.Sc Studies in Pharmaceutical Sciences  
 B.Sc Studies in Pharmaceutical Sciences (Hons)

**Accreditation:** MPharm is currently accredited by GPhC. This programme will be accredited on June 8<sup>th</sup> 2011.

**Stage 1****Core modules:**

Code	Title	Credits
MPH116	<b>Health Systems: from patient to gene</b>	60
MPH117	<b>Healthy Systems: from atom to gene</b>	60

**Optional Modules**

There is no provision for optional modules

**Elective Modules**

There is no provision for elective modules

**Progression Regulations**

To meet the standards of the General Pharmaceutical Council there are a significant number of Programme specific Regulations included within the MPharm. Not all are specific to progression but do in some way have the potential to affect progression and thus have been specified here.

- *Maximum period of registration*

The normal maximum period of registration on the MPharm programme will be 7 years from the date of first registration.

- *Exemption from modules*

Exemption will not normally be awarded for learning that has been used to gain admission to the programme.

- *Accreditation for Prior Learning (APL)*

Accreditation for prior learning or prior achievement will not normally be awarded.

- *Assessment Board Structure*

The Module and Programme Assessment Boards will be held as a combined Board to facilitate the operation of the programme specific regulations. Results will be considered in terms of each student alphabetically rather than in terms of individual modules. This lends the opportunity to view the students' performance across each level.

The Pharmacy Module Board operates a shared model as such the module results of non-Pharmacy students will be considered and decided in the usual manner of a Module Assessment Board; these results will be communicated to the relevant Programme Assessment Boards.

- *Progression*

All modules at each Level must be passed before progression to the next Level is allowed.

- *Compensation*

Compensation between elements of assessment within a module will not be allowed in any module at any level of the MPharm; there is no compensation at programme level within the MPharm.

An element of assessment is accepted to represent a mark or set of marks from a module and is listed on SITS, along with its relevant weighting, as one of the elements that contribute to the overall module mark. It is possible, therefore, for more than one assessment in a particular module to be failed, providing an overall pass mark is achieved for the assessments that make up one element

*Reassessment*

Students may sit referred assessments at the discretion of the Board. The pass mark for all modules must be achieved on referred elements of assessment;

At Level 1 and at the discretion of the Board, students may repeat with attendance any number of modules.

Students may repeat with attendance a maximum of 60 credits at all other Levels, subject to registration restrictions, but will be restricted to remaining at the same stage whilst they complete that Level.

- *Deferrals*

Assessments may be deferred under extenuating circumstances after the appropriate forms have been submitted and accepted; the student will normally take the deferred assessment at the next opportunity;

Normally, each assessment may be deferred on a maximum number of two occasions; if deferred on a third occasion, the student will be required to resit the whole module, with attendance, to maintain currency of learning.

- *Degree Classification*

The degree of MPharm may only be awarded with Honours. Students must have passed **ALL** of the modules that constitute the MPharm programme.

The Honours classification for the MPharm will be decided on the basis of the student's performance at Level 3 and the M Level of the MPharm programme, which will normally include a contribution from Level 2, using the system described below.

**60% M Level mean : 30% Level 3 weighted mean : 10% Level 2 mean**

The mean mark from the M Level modules, the Level 3 modules, and normally the Level 2 modules, will be averaged in a ratio of 60:30:10 to give a final percentage, from which the degree classification will be derived as indicated below:

Overall %	Class
≥ 70%	1 <sup>st</sup>
≥ 60%	2.1
≥ 50%	2.2
≥ 40%	3 <sup>rd</sup>

Students who fail any module in Levels 3 and 4 of the programme may not be awarded a first class degree irrespective of the calculation outlined above. Students will be awarded a 2.1 if they have a mark over 70% but have repeated a module in either level.

Students who do not achieve the criteria for the award of Third Class Honours in the MPharm will be awarded the B.Sc. (Hons.) Studies in Pharmaceutical Sciences, the classification of which is calculated under MCS regulations, but which may include M Level modules.

*Viva voce* examinations may be conducted after the M Level examinations, usually in the presence of one or more external examiners, to provide a failed student, who has a fail mark in **one** element of assessment at M Level within 5% of the pass mark in that one module only, the opportunity to display satisfactory knowledge in that element of assessment, and in general across the programme, such that a pass mark may be awarded for the oral defence resulting in an overall pass mark for that module.

Students who fail and subsequently pass an element of assessment may not be examined by *viva voce* for the purpose of realigning the classification borderline.

- *Aegrotat degree*

An aegrotat degree of MPharm may not be awarded.

- *Extenuating circumstances*

With respect to extenuating circumstances, a different system will operate dependent upon whether it relates to an exam or piece of coursework.

For exams:

- Students must notify the Faculty Extenuating Circumstances Panel (FECP) of on-going extenuating circumstances before the exams commence, giving details of their situation and evidence to support their claims;
- Highly personal details or sensitive issues may be submitted for the attention of FECP Chair and will not be made public;
- If the claims are accepted FECP will notify the assessment board who will then consider a deferral in the relevant assessment. Students may then receive a deferral in the relevant exams, to sit them on the next occasion (which may necessitate remaining at the same stage — on-going problems should be resolved for effective study);
- If a claim relating to on-going circumstances is not submitted before the exams, it may not be submitted subsequently;
- If a student suffers an event during the exams that stops them from attending, they must submit a letter explaining their absence, supported by evidence, to the Pharmacy Programme Assessment Board, before it meets to discuss the assessments to which the evidence relates;
- Students who turn up and sit an exam will be deemed to have declared themselves fit; subsequent claims for mitigation will not be accepted.

For coursework:

- Students who cannot attend a timetabled piece of assessed coursework must notify the Year Leader or Programme Leader with appropriate evidence; if it is accepted, they will be issued with a letter allowing a group swap for that particular week, if possible;
- Students, who are unable to complete an assessed piece of coursework through illness or other circumstances outside their control, must see the appropriate module leader. If their evidence is accepted, they may negotiate a new deadline for submission of the coursework; the negotiations are recorded on a triplicate form, one copy of which is left with the Faculty office, one copy is affixed to the coursework when it is submitted on the revised deadline and the student retains the final copy for information;

There will be no amendment of marks due to extenuating circumstances.

## **Stage 2**

### **Core modules**

Code	Title	Credits
MPH209	<b>Diseased Systems: cardiovascular system</b>	60
MPH210	<b>Diseased Systems: respiratory and gastro- intestinal systems</b>	60

### **Optional modules**

There is no provision for optional modules

### **Elective modules**

There is no provision for elective modules

### **Progression Regulations**

As above

## **Stage 3**

### **Core modules**

Code	Title	Credits
MPH322	<b>Diseased Systems: central nervous and musculo-skeletal systems</b>	60
MPH327	<b>Diseased systems: endocrine and genito-urinary systems</b>	40
MPH328	<b>Research Option</b>	20

### **Optional modules**

There is no provision for optional modules

### **Elective modules**

There is no provision for elective modules

### **Progression Regulations**

## **Stage 4**

### **Core modules**

Code	Title	Credits
MPHM07	<b>Diseased Systems- Oncology, Infection and Immunology</b>	60
MPHM13	<b>Applied Practice</b>	60

### **Optional modules**

There is no provision for optional modules

### **Elective modules**

There is no provision for elective modules

### **Progression Regulations**

**Matrix of modes of teaching, learning and assessment**

The tables that follow give an outline of the teaching, learning and assessment strategy for the programme.

Taught=T

Developed=D

Assessed-A

**Level 1**

Module	Code	Core / optional	Modes of T&L	Modes of Assessment	LO K1	LO K2	LO K3	LO S1	LO S2	LO S3	LO S4	LO S5
<b>Health Systems: from patient to gene</b>	MPH116	Core	Lectures, seminars, integration sessions, MCQ sessions, laboratory sessions, clinical skills sessions, placements.  Private study	Coursework portfolio based assessment including: On-line testing, written laboratory report, written summary, OSCE 3 hr exam Professional Portfolio	T,D,A	T,D						
<b>Healthy Systems: from atom to gene</b>	MPH117	Core	Lectures, seminars, integration sessions, MCQ sessions, laboratory sessions, clinical skills sessions, placements  Private study	Coursework portfolio based assessment including: On-line testing, written laboratory report, oral summary, OSCE 3 hr exam Professional Portfolio	T,D,A	T,D,A	T,D,A	T,D,A	D,A	T,D,A	D,A	T,D,A

## Level 2

Module	Code	Core / optional	Modes of T&L	Modes of Assessment	LO K4	LO K5	LO K6	LO K7	LO K8	LO S6	LO S7	LO S8	LOS9	LOS10	LOS11
<b>Diseased Systems: cardiovascular system</b>	MPH209	Core	Lectures, seminars, integration sessions, MCQ sessions, laboratory sessions, clinical skills sessions, placements  Private study	Coursework portfolio based assessment including: On-line testing, literature review, cardiovascular case reviews, oral summary OSCE Written law examination 3 hr exam Professional Portfolio	T,D,A	D,A	D,A	T,D							
<b>Diseased Systems: respiratory and gastro-intestinal systems</b>	MPH210	Core	Lectures, seminars, integration sessions, MCQ sessions, laboratory sessions, clinical skills sessions, placements  Private study	Coursework portfolio based assessment including: On-line testing, dissertation, respiratory and gastro-intestinal case review, oral summary, OSCE.  OSCE dispensing examination  3 hr exam Professional Portfolio	T,D,A	T,D,A	D	T,D,A	T,D,A	T,D,A	T,D,A	T,D,A	D,A	D,A	T,D,A

### Level 3

Module	Code	Core / optional	Modes of T&L	Modes of Assessment	LO K9	LO K10	LO K11	LO S12	LO S13	LO S14	LO S15	LO S16
<b>Diseased Systems: central nervous and musculo-skeletal systems</b>	MPH322	Core	Lectures, seminars, problem-based learning sessions, laboratory sessions, clinical skills sessions, placements  Private study	Oral presentation for PBL, numeracy test, written laboratory report, oral and written presentation of ethical dilemma  OSCE 3hr exam Professional Portfolio	T,D,A	T,D,A	D	D,A	T,D,A	D,A	D,A	
<b>Diseased systems: endocrine and genito-urinary systems</b>	MPH327	Core	Lectures, seminars, problem-based learning sessions, laboratory sessions, clinical skills sessions, placements  Private study	Oral presentation for PBL, numeracy test, poster and oral defence of laboratory report, oral and written presentation of public health problem  OSCE 3hr exam Professional Portfolio	T,D,A	T,D,A	D	D,A	T,D,A	D,A	D,A	
<b>Research Option</b>	MPH328	Core	Academic supervision, lectures	Thesis submission Oral defence (viva-voce)			T,D,A			D	D	T,D,A

## Level 4

Module	Code	Core / optional	Modes of T&L	Modes of Assessment	LO K12	LO K13	LO K14	LO K15	LO S17	LO S18	LO S19	LO S20
<b>Diseased Systems-Oncology, Infection and Immunology</b>	MPHM07	Core	Lectures, seminars, problem-based learning sessions, work based simulation, laboratory sessions, clinical skills sessions, placements  Private study	Written PBL reports, poster presentation and oral defence, nanoparticle laboratory report OSCE 3hr exam  Professional Portfolio	T,D,A	T,D,A	T,D,A	D	D,A	D,A	D	T,D,A
<b>Applied Practice</b>	MPHM13	Core	Lectures, seminars, problem-based learning sessions, work based simulation, clinical skills sessions, placements  Private study	OSCE; time constrained test, 2 x oral presentation of problem based learning scenarios,  Written 3 hr examination pharmaceutical numeracy examination	D	D,A	A	T,D,A	D,A	D,A	D,A	D,A

**Assessment Criteria at the level of the target award**

		Categories						
Grade	Relevance	Knowledge	Analysis	Argument and Structure	Critical Evaluation	Presentation	Reference to Literature	
Pass	86 – 100%	The work examined is exemplary and provides clear evidence of a complete grasp of the knowledge, understanding and skills appropriate to the Level of the qualification. There is also ample excellent evidence showing that all the learning outcomes and responsibilities appropriate to that Level are fully satisfied. At this level it is expected that the work will be exemplary in all the categories cited above. It will demonstrate a particularly compelling evaluation, originality, and elegance of argument, interpretation or discourse.						
	76-85%	The work examined is outstanding and demonstrates comprehensive knowledge, understanding and skills appropriate to the Level of the qualification. There is also excellent evidence showing that all the learning outcomes and responsibilities appropriate to that level are fully satisfied. At this level it is expected that the work will be outstanding in the majority of the categories cited above or by demonstrating particularly compelling evaluation and elegance of argument, interpretation or discourse.						
	70 – 75%	The work examined is excellent and is evidence of comprehensive knowledge, understanding and skills appropriate to the Level of the qualification. There is also excellent evidence showing that all the learning outcomes and responsibilities appropriate to that level are satisfied. At this level it is expected that the work will be excellent in the majority of the categories cited above or by demonstrating particularly compelling evaluation and elegance of argument, interpretation or discourse.						
	60 – 69%	Directly relevant to the requirements of the assessment	A substantial knowledge of relevant material, showing a clear grasp of themes, questions and issues therein	Good analysis, clear and orderly	Generally coherent and logically structured, using an appropriate mode of argument and/or theoretical mode(s)	May contain some distinctive or independent thinking; may begin to formulate an independent position in relation to theory and/or practice.	Well written, with standard spelling and grammar, in a readable style with acceptable format	Critical appraisal of up-to-date and/or appropriate literature. Recognition of different perspectives. Very good use of source material. Uses a range of sources
	50 – 59%	Some attempt to address the requirements of the assessment: may drift away from this in less focused passages	Adequate knowledge of a fair range of relevant material, with intermittent evidence of an appreciation of its significance	Some analytical treatment, but may be prone to description, or to narrative, which lacks clear analytical purpose	Some attempt to construct a coherent argument, but may suffer loss of focus and consistency, with issues at stake stated only vaguely, or theoretical mode(s) couched in simplistic terms	Sound work which expresses a coherent position only in broad terms and in uncritical conformity to one or more standard views of the topic	Competently written, with only minor lapses from standard grammar, with acceptable format	Uses a variety of literature which includes some recent texts and/or appropriate literature, though not necessarily including a substantive amount beyond library texts. Competent use of source material.
40 – 49%	Some correlation with the requirements of the assessment but there is a significant degree of irrelevance	Basic understanding of the subject but addressing a limited range of material	Largely descriptive or narrative, with little evidence of analysis	A basic argument is evident, but mainly supported by assertion and there may be a lack of clarity and coherence	Some evidence of a view starting to be formed but mainly derivative.	A simple basic style but with significant deficiencies in expression or format that may pose obstacles for the reader	Some up-to-date and/or appropriate literature used. Goes beyond the material tutor has provided. Limited use of sources to support a point. Weak use of source material.	

Fail	35 – 39%	Relevance to the requirements of the assessment may be very intermittent, and may be reduced to its vaguest and least challenging terms	A limited understanding of a narrow range of material	Heavy dependence on description, and/or on paraphrase, is common	Little evidence of coherent argument: lacks development and may be repetitive or thin	Almost wholly derivative: the writer's contribution rarely goes beyond simplifying paraphrase	Numerous deficiencies in expression and presentation; the writer may achieve clarity (if at all) only by using a simplistic or repetitious style	Barely adequate use of literature. Over reliance on material provided by the tutor.	
	The evidence provided shows that the majority of the learning outcomes and responsibilities appropriate to that Level are satisfied – for compensation consideration.								
	30 – 34%	The work examined provides insufficient evidence of the knowledge, understanding and skills appropriate to the Level of the qualification. The evidence provided shows that some of the learning outcomes and responsibilities appropriate to that Level are satisfied. The work will be weak in some of the indicators.							
	15-29%	The work examined is unacceptable and provides little evidence of the knowledge, understanding and skills appropriate to the Level of the qualification. The evidence shows that few of the learning outcomes and responsibilities appropriate to that Level are satisfied. The work will be weak in several of the indicators.							
	0-14%	The work examined is unacceptable and provides almost no evidence of the knowledge, understanding and skills appropriate to the Level of the qualification. The evidence fails to show that any of the learning outcomes and responsibilities appropriate to that Level are satisfied. The work will be weak in the majority or all of the indicators.							