

Template C4



Programme Specification

Title of Course: *MPharmSci Pharmaceutical Science*

Date first produced	09/04/2019
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Version number	7
Faculty	Faculty of Health, Science, Social Care & Education
School	School of Life Sciences, Pharmacy and Chemistry
Department	Department of Chemical & Pharmaceutical Sciences
Delivery Institution	Kingston University

This Programme Specification is designed for prospective students, current students, academic staff and employers. It provides a concise summary of the main features of the programme and the intended learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if they take full advantage of the learning opportunities that are provided. More detailed information on the learning outcomes and content of each modules can be found in the course VLE site and in individual Module Descriptors.

SECTION 1: GENERAL INFORMATION

Award(s) and Title(s): <i>Up to 10 pathways</i>	MPharmSci Pharmaceutical Science
Intermediate Awards(s) and Title(s): <i>There are 4 Intermediate awards for each pathway</i>	CertHE Pharmaceutical Science DipHE Pharmaceutical Science
Course Code <i>For each pathway and mode of delivery</i>	UPAMG1AMG21 UFAMG1AMG21
UCAS code <i>For each pathway</i>	TBC

RQF Level for the Final Award:	6
Awarding Institution:	Kingston University
Teaching Institution:	Kingston University
Location:	Penrhyn Road
Language of Delivery:	English
Modes of Delivery:	Full-time
Available as:	
Minimum period of registration:	Full-time - 4
Maximum period of registration:	Full-time - 12
Entry Requirements:	<p>Kingston University typically uses a range of entry requirements to assess an applicant's suitability for our courses. Most course requirements are based on UCAS Tariff points, usually stipulated as a range, and are sometimes coupled with minimum grades in specific relevant subjects. We may also use interview, portfolio and performance pieces to assess an applicant's suitability for the course. We recognise that every person's journey to Higher Education is different and unique and in some cases we may take into account work experience and other non-standard pathways onto University level study.</p> <p>Additionally, all non-UK applicants must meet our English language requirements.</p> <p>Please see our course pages on the Kingston University website for the most up to date entry requirements.</p>
Programme Accredited by:	N/A

QAA Subject Benchmark Statements:	Masters (MPharm Sci)
Approved Variants:	None
Is this Higher or Degree Apprenticeship course?	

For Higher or Degree Apprenticeship proposals only

Higher or Degree Apprenticeship standard:	N/a
Recruitment, Selection and Admission process:	n/a
End Point Assessment Organisation(s):	n/a

SECTION 2: THE COURSE

A. Aims of the Course

The Pharmaceutical Science degree is aimed at preparing students to work in the pharmaceutical industry and public sector. The course covers synthetic chemistry, drug discovery and development, formulation, clinical trials, quality control and analysis, toxicity and safety testing, pharmacovigilance and regulatory affairs

This broad-based scientific programme has a reputation for academic excellence and intellectual rigour and is designed so that students gain a solid grounding in both core and applied areas of pharmaceutical science. In particular there is an emphasis on the acquisition of practical skills and to this end students have frequent opportunities to gain hands-on experience of a variety of cutting edge technologies.

Knowledge and understanding of the field will be developed from level to level. Level 4 provides a solid foundation in chemistry, bioscience, mathematics, computing and experimental techniques to prepare students for more specialized pharmaceutical science curricula. A centrepiece of the level 4 activities is the Academic Skills for Molecular Sciences module that exposes the students to a wide variety of transferable, key and employability skills.

Level 5 develops the students' knowledge of organic and medicinal chemistry, which is particularly important in the design and synthesis of drugs and analytical science, which is important in the analysis and characterisation of drug issues, sustainability (Green Chemistry) and the international nature of the pharmaceutical industry. Depending on their future career aspirations students have an option of specializing further in the area of drug discovery and synthesis by taking a module in organic and natural and associated quality control and assurance procedures. Additionally, in Level 5, the effects of drugs on living systems along with drug delivery and the formulation of pharmaceutical products are covered. The Practical and Research Skills in Pharmaceutical Science module prepares students for future independent research and engages students in considering future careers and employability skills. A key feature of this programme is the large amount of time students spend doing practical work in variety of different well-equipped laboratories. The course is particularly strong on synthetic chemistry and analytical science laboratory work.

Level 6 allows students to extend their studies in topics in pharmaceutical science and drug development. Both of these modules have some synoptic and capstone characteristics as they synthesise multiple aspects of the taking of a drug from the laboratory to the market place. Both of the modules draw on knowledge and skills developed in many previous level 4 and 5 modules. These modules also broaden the student's horizons in ethical product chemistry or if they plan to pursue a career in drug analysis they have the option of a module in advanced analytical science. In the final year project module students will produce their most substantial piece of work during their degree programme. The module provides students an opportunity to undertake scientific research, employing a variety of skills and knowledge they have accumulated during the course. This module is a key instrument in aiding the students to become

independent learners and inspiring them to become life-long learners with an enthusiasm for their subject.

Students are actively encouraged to undertake placement work between years 2 and 3. Recent placement activity includes work at St George's Hospital, the Olympics drug testing laboratories and in commercial pharmaceutical companies (eg. Proctor and Gamble, Abbott Laboratories and Martindale Pharma). The course is made up of core modules in the first year which provide students with a solid platform that prepares them for broader and deeper study in years two and three. MPharmSci students will additionally undertake a further year of study involving more advanced material at Master's level. A centrepiece of the year 1 activities is the Academic Skills for Molecular Sciences module that exposes the students to a wide variety of transferable, key and employability skills. In the second year a module devoted to the attainment of practical laboratory skills will enhance the employability of our students whilst a sustained piece of research work is a core element of the final year for MPharm Sci students. In this case the project involves a 60 credit double module at Level 7 which is explicitly designed to showcase knowledge and techniques acquired by the students throughout their Kingston career. Other modules at Level 7 are of an equally advanced nature, designed to stretch these able students to reach their full potential.

As a result of this rigorous training our graduates are widely recognised as being thoroughly prepared for employment by acquiring many of the broader skills that employers recognise as important, such as communication, time and task management, computer literacy, statistical analysis of data etc. More importantly they take from the university a wide range of contemporary techniques and theoretical knowledge that should stand them in very good stead in the labour market. Graduates from our previous programme arrangements have gone on to very successful careers, acquiring jobs which they have been qualified to undertake through the up-to-date and relevant theoretical and practical knowledge they have gained at Kingston University.

1. Aims of the Programme

The main aims of the field taken in the first three years are

- to provide all students who take the pharmaceutical science field with an in-depth knowledge and understanding of the core areas of pharmaceutical science;
- to introduce students to the design, synthesis and development of drugs through the study of appropriate examples;
- to enable students to develop their independent learning skills using primary and secondary literature sources;
- to enable students to develop subject related practical skills;
- to provide students with the opportunity to develop their written and oral communication skills;

- to prepare students for graduate employment, both scientific and otherwise, and study for a higher degree, whether taught or by research, by developing their intellectual, problem-solving, teamwork and analytical skills.

At Level 7 additional opportunities will arise

- to enable students to acquire the skills and methodologies for undertaking an original research programme including modern literature searching techniques, critical analysis, data analysis and report presentation;
- to provide students with the expertise to plan, execute and report on a scientific research project in the area of pharmaceutical science;
- to study a broader area and at a more advanced level elements of pharmaceutical science than would be available to students in the BSc programme.

Additionally, for those MPharmSci students following the sandwich programme:

- to enable students to complete a period of work experience in an area of pharmaceutical science which is related to their studies and to enhance, using this experience, their knowledge of career opportunities in the academic, pharmaceutical and related areas.

B. Intended Learning Outcomes

The course provides opportunities for students to develop and demonstrate knowledge and understanding specific to the subject, key skills and graduate attributes in the following areas. The course outcomes are referenced to the QAA subject benchmarks for Agriculture, horticulture, forestry, food, nutrition and consumer sciences (2016) and the Framework for Higher Education Qualifications of UK Degree Awarding Bodies in England, Wales and Northern Ireland (2014), and relate to the typical student.

The programme learning outcomes are the high-level learning outcomes that will have been achieved by all students receiving this award. They must align to the levels set out in the [‘Sector Recognised Standards in England’](#) (OFS 2022).

Programme Learning Outcomes					
	Knowledge and Understanding		Intellectual Skills		Subject Practical Skills
	On completion of the course students will be able to:		On completion of the course students will be able to		On completion of the course students will be able to
A1	Demonstrate a good knowledge and understanding of the core areas of pharmaceutical science including organic chemistry, bioanalysis, pharmaceutical chemistry, introductory biology, pharmacology, toxicology and immunology, pharmaceuticals and drug delivery.	B1	Critically analyse and appraise both primary and secondary sources	C1	Carry out laboratory work in chemistry, life science and related subjects in a safe, competent and professional manner
A2	Possess the mathematical, statistical and computational skills necessary for working in a scientific capacity in an academic, commercial or industrial context.	B2	Solve complex problems	C2	Carry out COSHH safety assessments for any experiment
A3	Competently and safely use a variety of modern scientific instruments and computers with dedicated software to areas of pharmaceutical science	B3	Demonstrate the ability to be independent, autonomous learners	C3	Plan, conduct and report on complex experiments
A4	Demonstrate a good knowledge and understanding of the regulations applicable to the development, testing and marketing of pharmaceutical products	B4	Assemble data from a variety of sources and discern and establish connections and contradictions.	C4	Use a range of scientific instruments, understand the principles of their operation and obtain reproducible experimental results
A5	The skills and methodologies for undertaking an original research programme	B5	Plan, execute and report on an individual research project and review and evaluate others' work in the subject area	C5	Demonstrate a wider range of practical skills and knowledge acquired from industrial experience or from a broader choice of option modules.

A6	More advanced material relating to the field of pharmaceutical science				
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In addition to the programme learning outcomes, the programme of study defined in this programme specification will allow students to develop the following range of Graduate Attributes:

1. Creative Problem Solving
2. Digital Competency
3. Enterprise
4. Questioning Mindset
5. Adaptability
6. Empathy
7. Collaboration
8. Resilience
9. Self-Awareness

C. Outline Programme Structure

Each level comprises four modules each worth 30 credit points. Typically a student must complete 120 credits at each level. All students will be provided with the University regulations and specific additions that are sometimes required for accreditation by outside bodies (e.g. professional or statutory bodies that confer professional accreditation). Full details of each module will be provided in module descriptors and student module guides.

MPharmSci Pharmaceutical Science

Level 4							
MPharmSci Pharmaceutical Science							
Core modules	Module code	Credit Value	Level	Teaching Block	Pre-requisites	Full Time	Part Time
Academic Skills for Molecular Sciences	CH4004	30	4	1 and 2		1	1
BIOSCIENCES I	CH4006	30	4	1 and 2		1	1
Foundation Chemistry	CH4005	30	4	1 and 2		1	1
Introduction to Spectroscopy and Experimental Techniques	CH4003	30	4	1 and 2		1	1
Optional Modules							

Progression to Level 5

Progression to level 5 normally requires successful completion of all modules. However, this course also permits progression from level 4 to level 5 with 90 credits at level 4 or above. The outstanding 30 credits from level 4 can be trailed into level 5 and must be passed before progression to level 6.

Students exiting the programme at this point who have successfully completed 120 credits are eligible for the award of Certificate of Higher Education.

Level 5							
MPharmSci Pharmaceutical Science							
Core modules	Module code	Credit Value	Level	Teaching Block	Pre-requisites	Full Time	Part Time
Analytical Science	CH5006	30	5	1 and 2		2	2
ORGANIC AND MEDICINAL CHEMISTRY	CH5002	30	5	1 and 2		2	2
Pharmacology and Pharmaceutics	CH5005	30	5	1 and 2		2	2
Practical and Research Skills in Pharmaceutical Science	CH5007	30	5	1 and 2		2	2
Sandwich Year Placement	LS5000	120	5	1 and 2		2	2
Optional Modules							

Progression to Level 6

Progression to level 6 normally requires successful completion of all modules. However, this course also permits progression from level 5 to level 6 with 90 credits at level 5 or above.

The outstanding 30 credits from level 5 can be trailed into level 6 and must be passed before consideration for an award or progression to level 7 (if appropriate). Students exiting the programme at this point who have successfully completed 120 credits are eligible for the award of Diploma of Higher Education.

Level 6							
MPharmSci Pharmaceutical Science							
Core modules	Module code	Credit Value	Level	Teaching Block	Pre-requisites	Full Time	Part Time
Advanced Analytical Science	CH6007	30	6	1 and 2		3	3
Drug Development	CH6008	30	6	1 and 2		3	3
Organic and Natural Product Chemistry	CH6001	30	6	1 and 2		3	3
Topics in Pharmaceutical Science	CH6009	30	6	1 and 2		3	3
Optional Modules							

Level 6 requires the completion of

Progression to level 7 requires successful completion of all modules.

Progression to level 7 requires passes in all four modules to give 120 credits at level 6.

Students exiting the programme at this point who have successfully completed 60 credits at level 6 under the University's Undergraduate Regulations (UR) are eligible for the award of Bachelor of Science (Ordinary Degree) in Pharmaceutical Science.

Student exiting the programme at this point who have successfully completed 120 credits under the University's Undergraduate Regulations (UR) are eligible for the award of a Bachelor of Science (Hons) in Pharmaceutical Science.

Level 7							
MPharmSci Pharmaceutical Science							
Core modules	Module code	Credit Value	Level	Teaching Block	Pre-requisites	Full Time	Part Time
Design, Discovery and Development of Pharmaceuticals	CH7070	30	7	1 and 2		4	4
Manufacture and Clinical Trials of Medicines	CH7060	30	7	1 and 2		4	4
Project	CH7001	60	7	1 and 2		4	4
Optional Modules							

D. Principles of Teaching, Learning and Assessment

This field has been designed to take account of the KU Curriculum Design Principles. The course utilises a wide range of teaching and learning methods that will enable all students to be actively engaged throughout the course. The course has traditionally had a diverse cohort of students, attracting students of different educational background, age, gender, race, religion, sexual orientation and disability. As a result the curriculum has been designed to be as inclusive as possible. Teaching and learning methods are carefully crafted to suit the content and the learning outcomes of each specific module but also for the overall programme. Typically this involves using lectures to ensure that students have the key theoretical knowledge relating to the module before using strategies that allow the students to apply this knowledge in a variety of ways. Through group and seminar work, practical and laboratory sessions students are then able to develop more individual interests and personal and key skills. A blended learning approach will be adopted to cater for the learning needs of each individual student wherever possible.

A range of assessment methods will be used that enable students to, in the initial stages of the programme, demonstrate the acquisition of knowledge and, later on in the programme, higher skills such as problem-solving, synthesis and critical analysis. Methods include oral presentations, in-class tests, MCQs, examinations, laboratory reports and poster presentations, peer marking as well as informal Q and A in each learning setting. This variety in assessment methods will ensure that no students will be disadvantaged despite the disparate academic backgrounds of the student body. The assessment regime

for each module has been designed to provide formative opportunities that allow students to practice and to receive feed forward on their performance in preparation for the summative assessment. Care will be taken to avoid assessment bunching.

In line with university policy, feedback is provided to students within 20 university days on all forms of assessment including formal examinations. The return dates of marked coursework are published in all module guides. Many modules in the course have an assessment component comprised of a collection of small coursework elements, such as practical forms, laboratory forms or data collected in class and small problem assignments. Continual review of these assessment elements is performed to ensure that students get feedback on one piece before doing the next and that the summative assessment burden is not so great to prevent students being engaged with the formative assessment opportunities offered in modules.

Such coursework assessment will complement the testing of knowledge and skills in examination settings. The examinations themselves will also be presented in a variety of modes, ranging from calculations, problem solving and data analysis to MCQs and essay-type long answers. MCQs will be designed to test the same knowledge, concepts and problem-solving abilities that will be assessed by short answer questions (SAQs) and long answers in examinations.

There are opportunities for synoptic assessment from the first year onwards (in the first year via an explicitly synoptic assignment in the Academic Skills for Molecular Sciences module for example). While Level 4 work concentrates on recall of fundamental concepts, work at higher levels applies this knowledge and understanding to problem-solving contexts. In the final year of their studies students are expected to be able to synthesise and critically analyse knowledge from various sources whilst in the project module especially the likelihood is that new information will be generated by the student themselves.

Additionally, at level 7 MPharm Sci students are required to complete a 'capstone' project which allows them to demonstrate and apply the knowledge and skills that they have acquired throughout the whole of their course. The topic of the project will be negotiated with the Project Module Co-ordinator in dialogue with the individual project supervisor and where appropriate a student's personal tutor who has a holistic overview of the students KU experience. The capstone project also allows students to develop and hone their research skills thus providing them with relevant practical experience for various employment opportunities and provide them with the foundations for further study if they wish to pursue this path. Modules at Level 7 are designed to stretch the more able students taking the undergraduate masters route.

Because of the importance of laboratory skills to the subject, there is also a requirement for a minimum of 80% attendance at practical sessions for progression to any next level of the course.

The development of academic skills is threaded throughout the course and explicitly taught in the Academic Skills for Molecular Sciences module in the first year. Students will be required to engage with the Academic Skills Centre in at least one piece of

coursework in the first year. These skills are assessed both formatively and summatively. Academic skills are further developed in the level 5 module Practical and Research Skills for Pharmaceutical Science. Diagnostic testing in the early weeks of the course and at intervals throughout the course will be utilised to test progress in the development of these skills but also to identify where students may need additional support which may come via the Academic Skills Centre or other tailored support.

E-Technology plays an important role in enhancing learning and teaching throughout the Pharmaceutical Science course. StudySpace, a virtual learning environment that allows students to access lecture notes, assessments, screencasts, practical videos and links to Open Educational Resources (OERs) outside of the classroom. Classroom technologies such as Starboard allow the electronic recording of work done “on the board” in the classroom. The use of Turnitin allows students to recognise the dangers of plagiarism and Grademark and other electronic marking systems are increasingly used by staff to give students quicker and clearer feedback. A large range of modules make use on on-line assessment tools to provide formative assessment with rapid feedback to enable students to prepare better for their subsequent summative assessments. E-technology is also used in the electronic marking of practical works coursework. Students will also be provided with the opportunity to undertake formative on-line quizzes to support knowledge gained during structured academic sessions. The Respondus lockdown browser will be used for summative tests, where appropriate, giving the ability to provide instant feedback on students’ performance.

Research Informed teaching is strongly embedded in the course. The level 5 module practical skills and research methods has a strong research-oriented teaching focus, enabling students to develop research and inquiry skills. This module contains lectures and assessment on research and inquiry skills as well as an introduction to experimental planning. These “real world” attributes to the module will greatly enhance the students’ generic academic skills as well as their employability. Final year modules such as drug development involve considerable research-led teaching where students learn about current research in the discipline. The final year project module is dominated by research-based teaching as students undertake research themselves under the expert guidance of project supervisors. This capstone module seeks to draw together and apply much of the knowledge and skills the students have acquired throughout their programme. Given the extended nature of the project, often involving many hours of laboratory-based research, students will acquire many of the skills necessary to succeed in the world of work especially as it pertains to scientifically orientated careers. Students are also encouraged to explore opportunities in summer research internships in the School and contribute to the Faculty’s Journal of Undergraduate Research.

In terms of assessment while Level 4 work concentrates on recall of fundamental concepts, work at higher levels applies this knowledge and understanding to problem-solving contexts. In the final year of their studies students are expected to be able to synthesise and critically analyse knowledge from various sources whilst in the project module at Level 7 especially the likelihood is that new information will be generated by the student themselves.

E. Support for Students and their Learning

Students are supported by:

- A. A Module Leader for each module
- B. A Course Director to help students understand the programme structure
- C. Technical staff to give advice on the safe and effective use of laboratory/scientific equipment
- D. Personal Tutors to provide academic and personal support
- E. A placement tutor to give general advice on placements
- F. Technical support to advise students on IT and the use of software
- G. An induction week at the beginning of each new academic session
- H. Student Voice Committee
- I. StudySpace – a versatile on-line interactive intranet and learning environment
- J. An Academic Study Skills Centre
- K. Student support facilities that provide advice on issues such as finance, regulations, legal matters, accommodation, international student support etc.
- L. Disabled student support
- M. Union of Kingston Students
- N. Careers and Employability Service including a Faculty employability co-ordinator
- O. A designated programme administrator
- P. A Placements administrator
- R. Peers – students will be encouraged to set up study groups and other learning networks. The university also runs a very well established Peer Mentoring Scheme.

The use of personal tutors is well established in the School of Pharmacy and Chemistry. Students will be allocated a personal tutor at the beginning of induction week and should have their first meeting in that week. Students keep the same personal tutor throughout their course. The personal tutor provides academic guidance and advice and will play a key role in supporting students in making the transition from one year to the next.

To help develop the relationship at the beginning of their course students are expected to have at least three one-to-one meetings with their tutor in their first term. These initial meetings will focus on academic skills development and how to start to become an independent and self-reflective learner, who uses feedback in a constructive way. Some of these activities will be linked to assessments in the Academic Skills for Molecular Science module, in order to encourage engagement.

Later on in the course, meetings with personal tutors will focus on personal and career development. Students are encouraged to keep a record of their achievements and progress in skills development relevant to career and personal development. Level 5 is seen as a time for students to 'step up' and broaden their horizons whilst level 6 is about making the most of this year in terms of success and moving on. So for instance at Level 7 students will be expected to work with their personal tutors to prepare a good quality CV ready for sending out to potential employers. Additionally at this level the student tutee will be recording, reflecting on and reporting back to the personal tutor participation in extracurricular activities to enable the tutor to give a personal and

detailed reference for the student. The personal tutor scheme allows the student to foster a personal academic relationship with a member of the teaching staff in their school. This will enable the personal tutor to write an informed and well-rounded reference for the student when they seek work placements and careers after graduation.

F. Ensuring and Enhancing the Quality of the Course

The University has several methods for evaluating and improving the quality and standards of its provision. These include:

- External examiners
- Boards of study with student representation
- Annual review and development
- Periodic review undertaken at the subject level
- Student evaluation – at mid module and end of module points
- Moderation policies for assessment
- Module Review and Development Plans
- NSS returns
- Academic participation in peer observed teaching sessions
- Compulsory enrolment of new lecturers on a post graduate teaching course
- Effective deployment of a Staff development budget to enhance the skills and knowledge of academic staff
- Staff appraisal scheme
- An Industrial Advisory Board which acts as an employers forum

G. Employability and work-based learning

The Pharmaceutical Science course is specifically designed to equip students to work in one of the many roles that exist in the pharmaceutical industry and public sector. Recent graduates have entered employment as: analytical chemistry development scientist, research and development in formulation, quality control analyst, process development chemist, Research and development chemist (cosmetics), clinical trials administrator, a clinical research associate, Clinical Trial Project Manager, medical publishing, medical devices marketing, Drug safety associate, production operator, accounts manager, pharmacovigilance officer, registration compliance analyst, business development manager. Students interested in careers in research and development have pursued further study to PhD level.

The school has set up an Industrial Advisory Board to inform the development of the new programme outlined herein and to ensure that employers' views are well represented. Here, employer representatives are given a forum to express their views on the essential employability skills they would like to see developed in Kingston University undergraduates from the School of Pharmacy and Chemistry. Complementary to this invaluable repository of employer insight our students also undertake industrial placements. Academic staff undertake industrial visits to support and assess these placements. This means that academic staff have an extensive knowledge of developments in the industrial and commercial world and can tailor their academic provision and the learning programme to meet the prevailing needs so identified.

In addition to developing discipline specific employability skills the course is designed with generic employability skills embedded. In the second year students are required, in the practical skills and research methods module, to explore possible career paths open to pharmaceutical science graduate. They have to prepare a group presentation on one path and attend presentations on a variety of career paths given by other groups of students. This level 5 module and the level 6 Project module builds on work done in the personal tutor system, and the academic skills module, to make students reflect on and develop the attributes that employers seek in graduates. These include independent learning, the ability to work in teams, time management skills, verbal and written communication skills. A number of these skills are also developed through group work and presentations in other modules. One role of the personal Tutor system is to encourage students to develop such skills through volunteering, sports activities, positions of responsibility in clubs and societies, student ambassador schemes and study abroad.

Studying abroad is actively encouraged via the promotion of the four degree with international exchange. This allows students to spend an entire year abroad after their second year. It counts as only one 60 credit module ("international exchange") which is pass or fail. The modules studied abroad do not replace any Kingston modules. The European and Study Abroad office in the international office helps students find a suitable institution abroad. This route gives students the chance to study a broader curriculum and obtain a deeper understanding of their discipline. International exchange provides a valuable opportunity for students to broaden their experience and develop transferable skills. The international perspective they gain from their year abroad should be highly valued by global employers in the pharmaceutical Industry.

An industrial placement is a valuable opportunity to improve employability. At the beginning of the second year students are encouraged to attend sessions convened by the Employability and Careers team to help them with applications for placements. Students are offered individually tailored support from the placements team to enable them to enhance their chances of obtaining an industrial placement and the skills acquired here are directly transferable to the full time, permanent employment setting.

Graduates who have successfully completed this degree have gone on to do well in many careers including, further academic study at Master's and PhD levels. Recent graduates have obtained jobs with CRF Health, IGMA Ltd, Nemaura Pharma Ltd, MHRA, Ipsen, Johnson and Johnson, Aesica Pharmaceuticals, Eli Lilly, Novartis, Parexel, the NHS, GlaxoSmithKline, Sandoz, Henry Schein Medical, Syngenta, Proctor and Gamble, LGC, B. Braun Medical, Martinadale Pharma, DDD Ltd, Medtrack.

Work-based learning, including sandwich courses and higher or degree apprenticeships

Work placements are actively encouraged – although it is the responsibility of individual students to source and secure such placements. Students are supported through this process by an industrial placements tutor in the School and a university placements administrator. This allows students to reflect upon their own personal experience of working in an applied setting, to focus on aspects of this experience that they can clearly relate to theoretical concepts and to evaluate the relationship between theory and practice.

Students who are registered on the sandwich route must successfully complete Levels 4 and 5, before undertaking a period of at least 36 weeks of supervised work

experience. This is equivalent to 60 credits. Students will be visited at least once during their placement by a member of staff from the School of Life Sciences, Pharmacy and Chemistry. The placement will be assessed and successful completion will be required for the award. The credits are not graded and will not contribute to the overall degree classification. If a student does not obtain a suitable placement, they will have to transfer to the non-sandwich degree route.

The Pharmaceutical Science course is specifically designed to equip students to work in one of the many roles that exist in the pharmaceutical industry and public sector. Recent graduates have entered employment as: analytical chemistry development scientist, research and development in formulation, quality control analyst, process development chemist, Research and development chemist (cosmetics), **clinical trials administrator, a clinical research associate**, Clinical Trial Project Manager, **medical publishing, medical devices marketing, Drug safety associate, production operator, accounts manager, pharmacovigilance officer**, registration compliance analyst, business development manager. Students interested in careers in research and development have pursued further study to PhD level.

The school has set up an Industrial Advisory Board to inform the development of the new programme outlined herein and to ensure that employers' views are well represented. Here, employer representatives are given a forum to express their views on the essential employability skills they would like to see developed in Kingston University undergraduates from the School of Pharmacy and Chemistry. Complementary to this invaluable repository of employer insight our students also undertake industrial placements. Academic staff undertake industrial visits to support and assess these placements. This means that academic staff have an extensive knowledge of developments in the industrial and commercial world and can tailor their academic provision and the learning programme to meet the prevailing needs so identified.

In addition to developing discipline specific employability skills the course is designed with generic employability skills embedded. In the second year students are required, in the practical skills and research methods module, to explore possible career paths open to pharmaceutical science graduate. They have to prepare a group presentation on one path and attend presentations on a variety of career paths given by other groups of students. This level 5 module and the level 6 Project module builds on work done in the personal tutor system, and the academic skills module, to make students reflect on and develop the attributes that employers seek in graduates. These include independent learning, the ability to work in teams, time management skills, verbal and written communication skills. A number of these skills are also developed through group work and presentations in other modules. One role of the personal Tutor system is to encourage students to develop such skills through volunteering, sports activities, positions of responsibility in clubs and societies, student ambassador schemes and study abroad.

Studying abroad is actively encouraged via the promotion of the four degree with international exchange. This allows students to spend an entire year abroad after their second year. It counts as only one 60 credit module ("international exchange")

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An industrial placement is a valuable opportunity to improve employability. At the beginning of the second year students are encouraged to attend sessions convened by the Employability and Careers team to help them with applications for placements. Students are offered individually tailored support from the placements team to enable them to enhance their chances of obtaining an industrial placement and the skills acquired here are directly transferable to the full time, permanent employment setting.

Graduates who have successfully completed this degree have gone on to do well in many careers including, further academic study at Master's and PhD levels. Recent graduates have obtained jobs with CRF Health, IGMA Ltd, Nemaura Pharma Ltd, MHRA, Ipsen, Johnson and Johnson, Aesica Pharmaceuticals, Eli Lilly, Novartis, Parexel, the NHS, GlaxoSmithKline, Sandoz, Henry Schein Medical, Syngenta, Proctor and Gamble, LGC, B. Braun Medical, Martinadale Pharma, DDD Ltd, Medtrack.

H. Other sources of information that you may wish to consult

I. Development of Course Learning Outcomes in Modules

This table maps where course learning outcomes are **summatively** assessed across the modules for this course. It provides an aid to academic staff in understanding how individual modules contribute to the course aims, a means to help students monitor their own learning, personal and professional development as the course progresses and a checklist for quality assurance purposes.

Module Code	Level 4				Level 5				Level 6				Level 7			
	CH4003	CH4004	CH4005	CH4006	CH5007	CH5002	CH5005	LS5000	CH5006	CH6007	CH6008	CH6001	CH6009	CH7070	CH7060	CH7001
Knowledge & Skills	S			S	S	S	S		S	S	S	S	S	S	S	S

Understanding	A2			S	S	S		S		S	S	S	S	S	S	S	S
	A3	S			S	S	S	S		S	S	S	S	S			S
	A4		S		S	S	S					S		S	S	S	
	A5		S		S	S		S		S	S		S	S	S	S	S
	A6		S		S	S	S	S		S	S	S	S	S	S	S	S
Intellectual Skills	B1		S		S	S		S		S		S	S	S	S	S	S
	B2		S		S	S	S	S		S	S	S	S	S	S		S
	B3	S		S	S			S		S		S	S	S		S	S
	B4		S		S	S	S	S		S		S		S	S	S	S
	B5	S			S	S	S	S		S	S	S			S	S	S
Practical Skills	C1	S		S	S		S	S		S	S	S	S	S		S	S
	C2	S		S	S		S				S					S	
	C3	S			S	S	S	S		S	S			S			S
	C4	S			S	S	S	S		S		S		S	S	S	S
	C5	S			S					S	S			S	S	S	S

Students will be provided with formative assessment opportunities throughout the course to practise and develop their proficiency in the range of assessment methods utilised.