Merger with City, University of London

City, University of London and St George's, University of London have signed an agreement to merge. Subject to the necessary regulatory approvals, the merged institution will be called City St George's, University of London and will begin operating from 1 August 2024.

For students joining in 2024, there will be no change to the delivery, content and structure of the course. St George's will be going through the process to enable it to offer students the choice to still graduate with a St George's Hospital Medical School degree certificate or choose to graduate with a degree certificate from City St George's.

Further information, including frequently asked questions and contact details to submit further questions, are available on our website: https://www.sgul.ac.uk/study/prospective-students/merger

BSc Clinical Pharmacology programme specification

Section A – the nature of the award

1	Programme Title	Clinical Pharmacology
2	Final award	BSc Hons
3	Intermediate awards	Certificate of Clinical Pharmacology, Diploma of Clinical Pharmacology.
4	Awarding institution/body	This will be St George's Hospital Medical School, a constituent College of the University of London.
5	Teaching institution	St George's, University of London
6	Programme accredited by	None
7	UCAS/JACS code	B210
8	QAA benchmark statements	'not applicable'
8	Level	FHEQ level 6 qualification.
9	Date specification produced	Updated 10-03-23
10	Student cohorts covered by the specification	September 2024

Section B – features of the programme

1	Mode of study	Full time
2	Usual length of programme	Three years with an optional industrial placement year between years 2 and 3.
3	Other features of the programme	6 week industrial placement for all students in year 2

Section C – brief description of the programme and programme aims

1	Brief description	Clinical Pharmacology is the study of all aspects of drugs in relation to humans. It covers how drugs work, how the body affects drugs, the development of effective and safe medicines and how they are used in healthcare. Clinical pharmacology is a subject where there is a recognised skills gap in the employment market. The St George's course is the first undergraduate Clinical Pharmacology course that will provide students with state of the art understanding of the topic, blended with the development of skills that are readily transferable to the employment sector.
2	Programme aims	The purpose of the Clinical Pharmacology Degree is to produce graduates who are competitive in the broad employment market associated with pharmacology. Our students will have sound knowledge of all facets of the contemporary clinical pharmacology landscape including fundamental cell biology and physiology, pharmacodynamics, pharmacokinetics, drug development, drugs in healthcare and statistical evaluations. Our students will have developed a number of transferable skills considered important by the drug development industry through frequent delivery of oral and poster presentations, data analysis, clinical trials skills practicals and laboratory-based research methodologies. Our students will also benefit from regular seminars by representatives of the drug development industry, work experience at different companies (pharmaceutical company, small-medium enterprise, contract research organization) as well as interactive sessions on the use of animals in drug development including ethics, handling and appropriate techniques.

Section D – Intended learning outcomes of the programme

1	Intended Learning outcomes	The major learning outcomes are that by the end of the programme students should be able to: • Describe how the body handles drugs (pharmacokinetics) and how these processes change in different circumstances. • Describe how drugs interact with a target to affect the body (pharmacodynamics), both in terms of intended benefits (efficacy) and unintended harms (safety).

		• Explain how the relationship between PK-PD can be interpreted to select an appropriate dose for drug development. • Identify new avenues for therapeutic targeting. • Describe the multidisciplinary nature of drug development. • Explain how drugs are licensed and how the drug development process continues after licensing. • Explain how drugs are used to prevent and treat disease and are prescribed in the NHS. • Demonstrate a good knowledge of statistics and select appropriate tests to use when analysing data or interpreting scientific papers. • Discuss the ethical principles of drug development including clinical trials and use of animals in research.

Section E – Programme structure and features

1	The BSc (Hons) in Clinical Pharmacology is a 3-year undergraduate programme. Each academic year will be separated into two semesters lasting ~15 weeks. The degree is constructed around 7 main modules that run at the same time throughout the course. • Fundamentals of science (FS) – the human biology needed to understand and learn pharmacology • Pharmacokinetics (PK) –how the body handles drugs • Pharmacodynamics (PD) –how drugs exert their effects on the body • Drug development and clinical trials (DD) – how drugs are discovered and developed as medicines • Drugs in healthcare (DH)–how information from clinical trials and drug development is used to guide the use of medicines for patients in clinical practice • Data and statistics (DS) – how to generate, handle, analyse and interpret research data relating to drugs • Skills – including clinical trials and laboratory skills, written and verbal communication, teamworking and personal skills, information governance and data management Year 1 has integrated learning involving all modules across both semesters. Year 2 has integrated learning throughout the first semester (semester 3). This will be followed by study weeks and then exams. After this, students will do a 6 week research project and 6 weeks work experience. In the final year of the course students will do a compulsory 'hot topics in clinical pharmacology' module and a literature-based research project as well selecting 3 x 20 credit advanced modules to a total of 120 credits based on the interests and career aspirations they have developed in years 1 and 2. Advanced modules are: • Disease and drug targets A • Disease and drug targets B • Advanced drugs in healthcare • Advanced pharmacokinetics • Advanced drug development • Advanced data and statistics Progression from year 1 and year 2 is dependent upon passing exams and in course assessments as well as sign off of a skills portfolio. Exit awards are available after successful completion of year 1 (Certificate in Clinical Pharmacology) and year 2 (Diploma in Clinical Pharmacology). The course is not overseen by a professional body although the British Pharmacological Society has an indicative undergraduate curriculum for pharmacology that has been incorporated. There are no QAA benchmarks for pharmacology.

Section F - General teaching and learning strategies

1	The curriculum and the teaching and learning strategy are designed to allow students to gain a broad understanding of pharmacological principles whilst developing skills that will be imminently transferable to future employment. We want students to learn synoptically blending material as they move through the course rather than acquire knowledge in compartments. Knowledge and understanding are progressively developed as students move from a broad overview of their subjects to a much more specialised and detailed understanding, always with the focus on the drug and its environment. The course uses different teaching and learning methods, designed around Diana Laurilliard's '6 learning types' to ensure that students learn through acquisition, inquiry, collaboration, discussion, practice and production (https://ki.instructure.com/courses/115/pages/diana-laurilliards-six-learning-types). Around one third of the average learning week comprises interactive lectures, with the remainder being made up of small group sessions (Hubs and Drug Based Learning), practical classes, workshops and computer data analysis sessions, delivered as a blend of face-to-face or online sessions as circumstances allow. The goal is to promote a culture where students 'own' their learning and are inquisitive, rather than learning by rote. We aim to inculcate the students in a life -long learning ethic and central to that is the setting of quizzes that will be attempted in the weekly HUB session – a small group environment where students get used to operating in teams and challenging each other. These sessions allow students to build upon their confidence and resilience along with consolidating their knowledge base. By the end of the course students will be confident giving verbal presentations, will be able to write clearly in a scientific style, will be able to explain complicated ideas simply to non-specialist audiences and be able to make a persuasive argument supported by evidence. Students will be able to write a wide range of scientific documents and will have practical skills gained from diverse exercises. They will be able to collect data from human and laboratory experiments and enter it into a spreadsheet accurately and perform and report statistical analysis of that data. They will be able to do a critical review of different examples of scientific papers and understand the statistics reported in these papers. Throughout the course, students will collect evidence of competence in all these areas in a portfolio that they will be able to show to future employers. Our assumption is that the incoming students will have had a relatively prescriptive education and learning experientially will be alien. Our course contains much reflective practice and plenty of time for student direct study and contemplation.

Section G Assessment

1	The key principles underpinning the assessment strategy are: • To encourage continuous and lifelong learning, rather than strategic learning to pass exams • To use a variety of assessment methods to enable students with different learning styles to demonstrate their capabilities

	• To assess both scholarship and employability and allow students to demonstrate acquisition of both to future employers • To use feedback following assessments to allow students to gauge progression and cement understanding All modules, apart from the skills module and research projects, will be assessed 50% by in-course assessment and 50% exams. In the first three semesters (years 1 and 2), in-course assessment will include weekly quizzes containing questions on the material delivered in the previous week across all 6 modules with instantaneous feedback so students can assess their own progress. These will initially be formative to allow students to become familiar with the nature of the quizzes. After year 1, week 5 they will be summative and will constitute a determinant of progression. In-course assessment will also comprise oral and poster presentations, critical appraisals, data worksheets, lab reports, essays and assignments throughout the course to build competence in transferable skills. In year 1, there will be two exam papers at the end of the year comprised of Single Best Answers and Short Answer questions. In year 2, there will be two exam papers at the end of Semester 3 comprised of Short Answer and extended Short Answer (synoptic) questions. In year 3, there will one exam paper on the hot topics module at the end of semester 5 and three exam papers on the advanced modules studied in semester 6 at the end of semester 6. There will also be two research projects. In year 2, students do a practical project which is concerned with data acquisition and presentation. This will be assessed by a 10 min oral presentation in an all year symposium and a short research paper in the format of a British Journal of Pharmacology paper. In year 3 there will be a literature-based research project that will be assessed by the production of a written report. All assessments have been planned so that feedback is both timely and relevant so that students benefit from the whole exam-feedback- learning cycle.

Section H Support for students and their learning

1	*Programme support mechanisms* <u>Course management team</u> The course directors (Professors Baker and Greenwood) have overall responsibility for supporting and monitoring students as they progress through the clinical pharmacology programme. Any issues affecting either specific cohorts or individual students will be identified by year or module leads or members of the course team and brought to the course directors for discussion. The course committee will be convened on an *ad hoc* basis if key matters have been identified. This ensures a rapid response to and efficient processing of educational and student matters. <u>Personal Tutors</u> The clinical pharmacology team will ensure that each student is assigned a personal tutor upon commencement of the programme who they will retain for the duration of the course, with a replacement found should the staff member leave SGUL. In Year 1, the personal tutor will usually be the Hub tutor so the students will get to know them

through weekly small group interactions. Students will have to arrange 3 meetings at least with their personal tutor in year 1 and 2 meetings in each of years 2 and 3 to ensure engagement and interaction. Personal tutors will be equipped with a guide on the responsibilities and limitations of their role plus effective operating mechanisms including key information that needs to be obtained. This will enable personal tutors to provide an equivalent service across the course. Personal Tutors provide students with:

- a point of contact over the course
- support for personal development through encouragement of reflective practice
- support for academic development by maintaining an overview of progress and by being a channel for feedback

HUB Session tutors.
A feature of the course is the weekly HUB sessions – a 3 hour activity comprising approximately 8-10 students and a tutor. As these sessions run weekly, HUB session tutors also offer a source of guidance and advice.

Personal tutors and HUB session coordinators will be overseen by a Pastoral care lead. Careers advice will be provided by all members of the management team but specific guidance and advice will be provided by the Industrial Liaison and Placements Lead.

Institutional Support.

Financial difficulties
Students who experience financial difficulties may contact the Student Finance and Support Officer who is able to provide financial information and advice and may be able to arrange deferment of fee payment where appropriate.

Counselling Service
An independent and confidential Student Counselling service is available to all students free of charge providing expert help and advice on a wide range of emotional and personal problems.

Chaplaincy
The Chaplaincy is a pastoral resource for all students and is available to students of all faiths as well as those who have no particular religious affiliation. All students have access to the SGUL contemplation and prayer room as well as the Hospital's Multi Faith room.

Occupational Health Service
All SGUL students are strongly advised to register with a local General Practitioner.

SGUL Equality and Diversity Manager
The Equality and Diversity Manager acts as a resource to the whole institution and provides information, practical support and advice on general equality and diversity issues.

Students with disabilities

	The SGUL Disability Service provides advice and guidance for prospective and current disabled students to enable them to access a wide range of services to ensure equal opportunity, access, and attainment. The Disability Service includes a full-time Disability Adviser whose job it is to make sure that disabled students are properly supported. Students who think they could be dyslexic may wish to make an appointment to meet with the Disability Adviser to discuss the short computer-based screening test available which can identify indications of dyslexia. If dyslexia is indicated, the student will be advised about how to secure the full educational psychologist report that is required to confirm diagnosis. Essential Skills Programme The optional Essential Skills Programme which runs throughout Semester 1 offers A-Level 'catch up' teaching in Biology, Chemistry, Physics and Mathematics and is available to all students who feel additional revision of these topic areas would be useful. Literary Fund Fellow A Fellow of the Royal Literary Fund is available to offer writing support for all students, from first years to finalists. English Language Support The English Language Support Tutor is available to assist non-native speakers of English enrolled on SGUL programmes. The Student's Union The Student Union plays a key role in offering support and advice to students and a sabbatical officer is elected to take responsibility for student support and welfare. The Union runs a highly successful 'mothers and fathers' system, in which new students are allocated a 'parent' of the opposite sex in the year above, and this student acts as an informal mentor for the early months. In many cases this leads to the growth of several generations of 'families' of supportive friends.

Section I – Criteria of admissions

1	GCSE At least **5 subjects,** which must include: English Language, Maths and Science (Double or Triple award) grade 6 (B) or above And one of: • A levels. BBB to include Biology or Chemistry. Applicants attending a non-selective state school or college may be eligible to receive an offer with an adjusted A level requirement two grades lower than the standard. • Highers. Advanced Highers at BB, including Chemistry or Biology • International baccalaureate. Full award with a minimum of 32 points of which **15 points** must be at Higher level including **either Biology or Chemistry**. At Standard Level, a minimum score of **5 must be in Maths** (or Maths Studies) and **English Language**, if at least a B (Grade 6) grade has not previously been attained in GCSE/IGCSE/O level Maths and English.

	• Access diploma. Full award with 60 credits at level 3 (45 graded and 15 ungraded). Overall 27 credits must be graded at distinction and 18 at merit. Credits must be in pure science subjects, excluding sociology Other qualifications that will be accepted: **Pearson BTEC Level 3 Extended Diploma** DDM Must be in Applied Science. Five GCSEs at grade 6 (B) or above. Subjects must include English Language, Maths and Science (Double or Triple Award). **Cambridge Pre-U Diploma** M2, M2, M2 Three principal subjects to include Biology or Chemistry. Five GCSEs at grade 6 (B) or above. Subjects must include English Language, Maths and Science (Double or Triple Award). **Scottish Highers** Highers: BBB including Biology or Chemistry Advanced Highers: BB including Biology or Chemistry English Language and Maths National 5 at grade B **EU and International qualifications** Please contact study@sgul.ac.uk for details

Section J – Employability and employment

1	The BSc in Clinical Pharmacology has been designed with the specific aim of creating graduates who are ready for work or more advanced study in the life sciences, particularly in areas relating to the development and/or use of medicines. Industry*:* Potential employers include the pharmaceutical industry, biotechnology companies or contract research organizations. Clinical pharmacologists work on projects such as taking drugs that are proven to work in the laboratory and testing them in humans for the first time. They work on trials in volunteers and patients to find the right dose for new medicines and to test whether they work and are safe. Healthcare: Clinical pharmacologists may work as research assistants or coordinators in clinical trials units or more generally in hospitals and GP practices, testing new medicines in patients.

	Academia: Clinical pharmacologists may work in university research laboratories, researching disease mechanisms and identifying treatment targets for new medicines. They could also go on to teach pharmacology to undergraduates on BSc courses. Regulation: Potential employers include organisations such as the national institute for health and care excellence (NICE), the medicines and healthcare product regulatory agency (MHRA) and the NHS. Clinical pharmacologists play a key role in pulling together information about drugs, analysing data and writing reports to support healthcare professionals in making decisions to help patients. Additional careers: Graduates with a degree in Clinical Pharmacology degree will be able to seek employment in the fields of scientific publishing and journalism, marketing and sales and with further qualifications patent law. Further study: People with a BSc in Clinical Pharmacology will be well equipped to apply for graduate entry to healthcare programmes such as medicine or pharmacy. Alternatively, they will be eligible for further study either at Masters level (MSc, MRes) or PhD. Careers support and advice is be an important part of the course. Students gain experience of different careers options through listening to visiting lecturers and through work experience opportunities in healthcare and industry. They also have access to careers advice through a careers officer and are provided with support e.g. workshops on writing curriculum vitae and job applications and through mock interviews and interview advice. The Industrial Placement and Liaison Lead will remain available for students after graduation, which will also provide a mechanism to track graduate development and constructed an industrial network from alumni.

Section K - Methods for evaluating and improving the quality of teaching and learning

1	The Clinical Pharmacology team operates a policy of self-evaluation to ensure that the student experience is excellent and key concepts are delivered effectively. In the first two years the course management team will meet monthly during academic times to reflect upon taught activities and evaluate how successful they have been. Students will be provided with questionnaires to complete at regular intervals to assess the student's view of the course delivery. These will be managed within the HUB session so that any changes to the course as a response to student's issues can be highlighted. University module-specific surveys will be run at regular intervals. Module leads will also provide a report on the running of their content every term. The course committee with student representation will meet every term in the first few years. Once the course has been running for a few years the frequency that the course team meets will reduce to termly rather than monthly. At the end of the academic year the senior management team will implement a review of the course. A synopsis will be submitted to UPC, as an Annual Monitoring Report, in accordance with the guidelines of this committee. A large self-evaluation will be undertaken after 3 years of the course inception where the effectiveness of material will be judged following collated student feedback.

	Students from the Clinical Pharmacology degree will also contribute to the Staff-student consultative committee. All staff on the course will be peer reviewed to ensure the standard of teaching delivery is satisfactory.

Section L - Assessment regulations

1	The key principles underlying the regulations for the programme are as follows. **Pass marks** In year 1, the final mark for all modules, apart from the skills portfolio (which is pass fail), is calculated from the in course assessment (weighted 50%) and the exams (weighted 50%). Students must pass each element of assessment at 40% and the module overall at 40%. Individual elements of assessment do not need to be passed separately. The end of year 1 mark is the sum of all the module marks, weighted by their credit value. Year 2. In the first semester of year 2 students must pass six modules (fundamentals of science, pharmacodynamics, pharmacokinetics, drug development, drugs in healthcare and data and statistics). The final mark for these modules is calculated from the in course assessment (weighted 50%) and the exams (weighted 50%). Students must pass each element of assessment at 40% and the module overall at 40%. Individual elements of assessment do not need to be passed separately. In the second semester of year 2, students must pass the practical research project with a mark of 40% or more. They must also pass the employability and skills portfolio, which is pass/fail. The end of year 2 mark is the sum of all the module marks and research project marks, weighted by their credit value. Year 3. To pass year 3, students need to pass the hot topics module, written research project and three advanced modules. Modules are assessed 50% by in-course assessment and 50% by exams. Students must pass each element of assessment at 40% and the module overall at 40%. Students must complete the requirements of the skills portfolio, which is pass/fail. The end of year 3 mark is the sum of all module marks and the written research project, weighted by their credit value. **Progression** Year 1 to Year 2. All modules must be passed, including completion of all year 1 requirements for the skills portfolio Year 2 to Year 3. All modules must be passed, including completion of all year 2 requirements for the skills portfolio and the practical research project Year 3. All modules have to be passed to gain a full BSc with honours **Final degree classification** Year 1 does not contribute any marks, Year 2 contributes 30% marks and Year 3 contributes 70% marks to the final degree classification

	A student is allowed to attempt an assessment twice in years one and two. This constitutes a first attempt and then a resist. A discretionary third attempt is allowed upon application. Every attempt will be made to clear all assessments by the end of the academic year. However, it may be in the interests of the student to retake the whole of a year. This will be decided by the board of examiners.