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

St George's University of London

Programme Specification

A	NATURE OF THE AWARD	
1	Programme Title	Biomedical Science
2	Final award	BSc (Hons)
3	Intermediate awards	Undergraduate Certificate in Biomedical Science Undergraduate Diploma in Biomedical Science
4	Awarding institution/body	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	N/A
7	UCAS/JACS code	B940
8	QAA benchmark statements	Biomedical Science and Biosciences 2015
9	Date specification produced	March 2024

B	FEATURES OF THE PROGRAMME	
1	Mode of study	Full-time
2	Usual length of programme	3 years
3	Other features of the programme	The standard degree award title is BSc (Hons) Biomedical Science. Where a student successfully completes a minimum of 75 credits at Level 6 in a defined subject area, the following award titles will be conferred: BSc (Hons) Biomedical Science with Anatomy BSc (Hons) Biomedical Science with Cell & Molecular Biology BSc (Hons) Biomedical Science with Genomics BSc (Hons) Biomedical Science with Global Health BSc (Hons) Biomedical Science with Immunity & Infection BSc (Hons) Biomedical Science with Medical Ethics & Humanities BSc (Hons) Biomedical Science with Physiology & Pharmacology BSc (Hons) Biomedical Science with Psychology, Psychiatry & Neuroscience BSc (Hons) Clinical Bioscience

C	EDUCATIONAL AIMS OF THE PROGRAMME

The aims of Year 1 and 2 are:

- To provide an introduction to a broad range of topics common to the education of students studying in a variety of health-related degree programmes.
- To provide students with a basic knowledge and understanding of cellular, molecular and medical sciences, including normal functioning of the human body as well as disease processes and therapies used to treat diseases.
- To gain insight into the scientific method and to provide an understanding of various methods used in biomedical research and diagnostic laboratories and how these techniques have advanced scientific knowledge and understanding as well as improving diagnoses underpinning detection and treatment of diseases.
- To allow students to develop independent study skills, including undertaking a literature review, critically appraising published work, and presenting a written project in which these skills are brought together.

The aims of the Year 3 taught modules are:

- To impart knowledge on specialist topics in depth.
- To develop students' critical skills, training in the analysis of published data and the conclusions drawn from it, and presentation of sufficient information to enable students to see the directions in which fields are developing.
  To introduce and develop clinical and communication skills *(Clinical Bioscience pathway only)*

The aims of the Year 3 Research Project are:

- To provide a practical opportunity for students to further develop their research skills
- To enable students to undertake a piece of original research under supervision.
- To impart the ability to plan experiments and to interpret the data obtained from them.
- To give students training in the analysis of their results in relation to recent research developments in their chosen area of research.
- To provide experience in traditional research communication formats.

D	LEARNING OUTCOMES OF THE PROGRAMME	
Advanced knowledge and understanding of:		***Indicative teaching and learning methods*** - Lectures - Small group tutorials - Scenario based learning - Dissecting Room teaching - Laboratory practicals - IT based learning - Peer presentations - Self-directed learning (facilitated by worksheets, textbooks and on-line resources) - Literature review - Independent study - Research project ***Indicative assessment methods*** - Essays - Posters - Literature review - Student presentations - Written examinations which may incorporate essays, SBAs, LAQs and SAQs - Research Project dissertation - Research Project viva - OSPE - Laboratory notebook/journal keeping - Reflective writing
1	Normal functioning of the human body	
2	Abnormal process causing disease	
3	Therapies used to treat diseases	
4	Skills required for critical evaluation of scientific/clinical research	
5	Application of scientific principles to medicine, medical research and diagnosis	
6	In depth appreciation and analysis of specific fields of research	

Cognitive skills: the ability to	***Indicative teaching and learning methods***

1	Understand the different approaches to research methods	- Lectures - Small group tutorials - Scenario based learning - Dissecting Room teaching - Laboratory practicals - IT based learning - Peer presentations - Self-directed learning (facilitated by worksheets, textbooks and on-line resources) - Literature review - Independent study - Research project *Indicative assessment methods* - Essays - Posters - Literature review - Student presentations - Written examinations which may incorporate essays, SBAs, LAQs and SAQs - OSPE - Research Project dissertation - Research Project viva - Laboratory notebook/journal keeping - Reflective writing
2	Evaluate scientific methodology and data and formulate hypotheses based on existing evidence	
3	Analyse and interpret data	
4	Review scientific and clinical data	

Practical skills: the ability to		*Indicative teaching and learning methods* - Lectures - Small group tutorials - Scenario based learning - Dissecting Room teaching - Laboratory practicals - IT based learning - Peer presentations - Self-directed learning (facilitated by worksheets, textbooks and on-line resources) - Literature review - Independent study - Research project - Clinical placements *(Clinical Bioscience pathway only)* *Indicative assessment methods* - Essays - Posters - Literature review - Student presentations - Written examinations which may incorporate essays, SBAs, LAQs and SAQs - OSPE - Research Project dissertation - Research Project viva - Laboratory notebook/journal keeping - Reflective writing
1	Use IT for library searches and information retrieval	
2	Undertake computer analysis of data and data presentation	
3	Give oral presentations of scientific experiments/case reports or overviews of a detailed scientific topic	
4	Perform advanced technical laboratory skills	
5	Write clearly and concisely – e.g. scientific reports, reviews of scientific literature and examination essays	
6	Interpret data as a basis for scientific and clinical research	

Transferable skills: the ability to		*Indicative teaching and learning methods* - Lectures - Small group tutorials - Scenario based learning - Laboratory practicals - IT based learning - Peer presentations - Self-directed learning (facilitated by worksheets, textbooks and on-line resources) - Literature review
1	Structure and communicate ideas both orally and in writing	
2	Assess evidence critically	
3	Find and use information technology	

		- Independent study - Research project - Personal tutor-tutee meetings / Academic & Professional portfolio
4	Initiate independent laboratory and library research and to evaluate such research	
5	The ability to set independent learning objectives beyond those established in the teaching room	***Indicative assessment methods*** - Essays - Posters - Literature review - Student presentations - Written examinations which may incorporate essays, SBAs, LAQs and SAQs - OSPE - Research Project dissertation - Research Project viva - Laboratory notebook/journal keeping - Reflective writing
6	Reflect on academic experience, in terms of both scientific progress and personal development	

E PROGRAMME STRUCTURES AND FEATURES

The BSc Biomedical Science degree is a three-year modular programme of study. The composition of the course is as follows:

Year 1 (compulsory Level 4 modules)

Semester 1
Fundamentals of the Living Cell (30 credits)
Fundamentals of Pathology (10 credits)
Fundamentals in Physiology & Pharmacology (15 credits)

Semester 2
Physiology 1 (40 credits)
Anatomy 1 (15 credits)

Semesters 1 & 2
Personal & Academic Skills 1&2 (10 credits)

Year 2 (compulsory Level 5 modules)

Semester 3
Genomics (10 credits)
Physiology 2 (20 credits)
Anatomy 2 (15 credits)

Semester 4
Microbiology and Immunology (25 credits)
Molecular Basis of Disease (25 credits)

Semesters 3 & 4
Personal & Academic Skills 3&4 (25 credits)

Year 3 (Level 6 modules): BSc Biomedical Science

Year 3 comprises two 12-week semesters. All research projects commence in Semester 5, but taught modules may run in either Semester 5 or 6.

Year 3 provides advanced coverage of a variety of topics at Honours Degree level. Students select a taught module pathway to a total of 75 credits and undertake a compulsory research project (45 credits) which is supervised by a member of academic staff, within a laboratory or other research setting. The research project, which is written up in the form of a mini-thesis, provides students with an invaluable insight into clinical/scientific research methodology, analysis and data interpretation. The Year 3 taught modules and project modules are also available to intercalating medical students. (*N.B. Available modules and pathways are subject to change each year*).

30-credit modules:
Biology of Cancer

Cardiovascular & Respiratory Diseases
*Cell & Molecular Biology
Clinical Applications of Genomics in Rare Disease and Cancer
*Clinical Neuroscience
*Conflict and Catastrophe Medicine
Development and Disease
Global Health Diseases
Human Medical Genetics
Images of Anatomy
*Immunity and Infection
Medical Microbiology
Future of Medicine Ethics and Neuroethics
Psychology, Psychiatry & the Mind
Research Ethics and Clinical Ethics
*Science of Reproduction

15-credit modules:

*Behavioural Medicine
*Biomedical Research Techniques for Drug Development
Clinically Applied Musculoskeletal Anatomy
Experimental Design and Data Analysis
Genes and Gene Expression in Eukaryotic Cells
*Global Governance for Health
Global Health & Comparative Health Systems
*Learning and Teaching: Student and Professional
Medical Ethics and Law
Neglected Tropical Diseases
Neuroscience of Sensation & Perception
Personalised Medicine
Pharmacology and Physiology of Drugs of Abuse
*Primary Care: Complexity and Diversity

45 credit Research Project modules:

Research Project in Anatomy, Development and Cell Biology
Research Project in Behavioural Medicine
Research Project in Biochemistry and Molecular Biology
Research Project in Cardiovascular Sciences
Research Project in Clinical Neuroscience
Research Project in Clinical Sciences
Research Project in Community Health and Social Medicine
Research Project in Global Health
Research Project in Human Genetics
Research Project in Immunity & Infection
Research Project in Medical Ethics, Law & Humanities
Research Project in Medical Microbiology
Research Project in Pharmacology
Research Project in Physiological Sciences
Research Project in Psychiatry
Research Project in Public Engagement/Science Communication
Structured Research Project

Year 3 (Level 6 modules): Clinical Bioscience Pathway

Students on the Clinical Bioscience pathway undertake compulsory modules to the value of 75 credits and select 45 credits from available (starred) module options listed above.

Compulsory 30 credit modules spanning Semesters 5 & 6:

Clinical, Communication & Professional Skills in Healthcare
Clinical Anatomy

Compulsory 15 credit project module:

Structured Research Project

Programme reference points
The following reference points were used in the preparation of this specification:
The QAA benchmark statements for Biomedical Science and Biosciences
The QAA qualifications framework for England, Wales and Northern Ireland

The description of the structure of the programme, including the lists of modules, is indicative and should not be regarded as full and definitive. For up-to-date information, please refer to the VLE course pages.

F GENERAL TEACHING AND LEARNING STRATEGIES

A variety of teaching methods are used throughout the three taught years of the BSc degree programme. In the first two years, there are lectures, laboratory practicals and small-group teaching (including tutorials, scenario-based learning, scientific problem-based learning, self-directed learning schemes, and computer-assisted learning programmes). The content of the small-group teaching varies from one module to another but, in general, involves structured discussion, problem-solving exercises and essay assignments. The Group Study Project (GSP) and Independent Study Project (ISP), both of which are in the Personal & Academic Skills modules in Year 2, introduce students to in-depth searching, analysis and presentation of research literature. The GSP is conducted in small groups (~8-10 students) while the ISP provides guided, self-directed learning with feedback from a designated supervisor.

In the third year, the teaching and learning strategies used in the course are varied according to the content of the subject matter, the course tutors and the number of students enrolled in any module. Student numbers on a module can range from more than 50 to less than 10. Most of the teaching is provided by academics (including outside speakers) who are experts in their respective fields. Emphasis is placed on self-directed learning along with strategies that maximise course participant involvement and provide opportunities for reflection and consolidation of prior and present learning. An important teaching strategy is to emphasise critical analytical skills. In addition, the course is enhanced by one-to-one teacher/learner interactions during the student Research Project.

Students are also permitted to undertake an optional Professional Training Year between Years 2 & 3.

G ASSESSMENT

A variety of methods of assessment are used throughout the course. Formal written examinations can contain Single Best Answer questions (SBAs), Short Answer Questions (SAQs), Long Answer Questions (LAQ), data analysis and handling, and essay questions. Students are also assessed by Objective Structured Practical Examinations (OSPEs). In Years 1 and 2, exams are held at the end of each semester for each module. In-course assessment (including essays, practical write-ups and special study reports) is also an important component of module marks in Years 1 and 2.

Year 3 taught modules are assessed by a combination of in-course assessment (essays, projects, practicals, oral and/or poster presentations) and written examination papers in May/June.

In-course assessments and examination papers are marked in detail by one internal examiner or assessor, with at least one other internal or external assessor having an overview of the work submitted for the assessment. Assessments are moderated by external examiners, who are also required to approve examination papers.

Research Projects are assessed by an in-course mark (from the supervisor) and a combined mark based on the written report and an oral defence of this report (from two assessors, independent of the project supervisor).

In addition to the external examiners reviewing Years 1 and 2, there are several external examiners for specific modules and pathways in Year 3.

The marks from each stage of assessment contribute towards the final degree mark.

H SUPPORT FOR STUDENTS AND THEIR LEARNING

In addition to its staff resources, St George's has a wealth of teaching and research laboratories, an extensive computer network, a large library and well-equipped computer classroom, specialized workshops and efficient academic service facilities.

The library holds a specialist medicine and health sciences collection of over 40,000 books, and audio-visual items, subscribes to over 10,000 print and electronic journals, and provides more than 250 reader seats (divided into quiet study, silent study and group study areas). Professional library staff liaise and work closely with academic staff involved in the Biomedical Science degree to ensure that students and staff are supported effectively.

The area has WiFi throughout as well as some desks with fixed data points (ethernet cables to connect laptop directly to the network rather than using WiFi). Power sockets are available at over 100 desks and a number of laptops are

available for loan on a 4-hourly basis. During term time the library is open 24 hours from 08.00 Monday to 21.00 Saturday, and 09.00 to 21.00 on Sundays.

Upon enrolment, students take part in an induction programme to help their orientation. This includes introductions to the use of the Dissecting Room and general study methods. There are also induction sessions concerning the Registry, the Student Union, the Personal Tutor system, Safety and Occupational Health and Sexual Health Awareness.

In February/March of Year 2, there is an open day to present Year 3 module options so that the students can make an informed choice. At the start of Year 3 students are given a short introductory talk by the Year 3 Lead, followed by an introduction to Health and Safety.

Guides and related session resources are made available to students via the VLE (virtual learning environment).

The Vice-President of the Students' Union and the Deputy Vice-Chancellor (Education) have overall responsibility for non-academic student welfare. In addition, all students have personal tutors who provide pastoral care as well as academic advice. There is also a Counsellor service which provides completely confidential help for students with problems. In addition, St George's subscribes to the 'Nightline' service, which provides 24-hour telephone advice to students. The Staff/Student Health Service, headed by a Consultant, provides a full healthcare service for students, administers health questionnaires which are sent to students before arrival at St George's, and ensures that all students are given appropriate immunisations and health checks.

I CRITERIA FOR ADMISSIONS

A level
The Biomedical Science degree has a requirement of BBB. A2 level Biology and Chemistry must be included; the third A2 can be in any subject but General Studies is excluded.

Irish Leaving Certificate
Five Highers at grades A2, A2, B2, B2, B2 to include Maths, English, Chemistry and Biology (achieved in one sitting).

Scottish Qualifications
Candidates must offer three Advanced Highers including Chemistry and Biology with grades BB. English Language and Maths National 5 at grade B.

International Baccalaureate
Overall score of 32 which must include: 15 points at higher level, with a minimum score of 5 in either Biology or Chemistry and 5 in the other. At standard level, a minimum score of 5 must be attained in Mathematics (or Maths Studies) and English, if at least a 6/B grade has not previously been attained in GCSE/IGCSE/O level Maths and English.

European Baccalaureate
We would expect an overall grade of 75%/7.5 with similar grades in Biology and Chemistry.

GCSEs (or equivalent)
Grade 6/B in minimum of 5 subjects including Maths, English Language, and Double Science Award (or Biology AND Chemistry as single subjects).

English Language Qualifications
Applicants who do not hold GCSE/iGCSE English Language at Grade 6/B and whose first language is not English must provide evidence of proficiency via the International English language Testing System (IELTS) or Pearson's English Language test. SGUL will accept test scores as valid for two years. The required overall score for IELTS is 6.5 (with at least 6.5 in writing and 6.0 in other 3 components). The required overall score for Pearson's is 59 (with at least 59 in writing and at least 51 in other 3 components).

J CAREER OPPORTUNITIES

Past graduates have found career opportunities within a great variety of science disciplines and healthcare environments. In addition to careers in academic or applied research, or in hospital clinical laboratories, possibilities exist for employment in forensic medicine, in the pharmaceutical industry, in technology transfer and product licensing, as clinical trials coordinators, or in biomedical product marketing. Furthermore, it is likely that recruitment into healthcare management will increasingly require a new type of graduate with strong biomedical training.

Some graduates in Biomedical Science choose a career in medicine, by entering a standard 5-year course or a shorter graduate-entry course, either at St George's or elsewhere in the UK. A unique feature of the St George's Biomedical Science course is the opportunity to obtain entry into the second year (T-Year) of the 4-year MBBS course, on completion of the BSc Biomedical Science degree. The number of places is limited and is subject to strict academic criteria and to

interview. The Clinical Science pathway provides enhanced preparation for those students planning to progress to medical training following graduation from the BSc programme.

K METHODS FOR EVALUATING AND IMPROVING THE QUALITY AND STANDARDS OF TEACHING AND LEARNING

A range of methods are employed:

- The Course Committee meetings (3 per year) have standing agenda items on course progress where student representatives can raise any issues.
- Reports of Student Evaluation Questionnaires are reviewed by the Course Committee.
- External Examiners' reports are reviewed by the Chair of Examiners and by the Exam Boards, as well as the Course Committee. Points requiring action are sent to the relevant members of academic or administrative or the Course Committee.
- The Chair of Examiners analyses the final degree marks annually, to monitor consistency between course units and years.

Other methods

- Staff appraisal against St George's criteria
- Teaching skills courses for staff
- Review of research activities of teaching staff

L REGULATION OF ASSESSMENT

The course complies with the General Regulations for Students and Programmes of Study as devised by St George's. Examinations are conducted according to the Schemes of Assessment for the programme.

M INDICATORS OF QUALITY AND STANDARDS

External review

- QAA Institutional Audit Report
- External Examiner reports
- Research Assessment Exercise

Internal review

- Monitoring and responding to student feedback
- Monitoring of course content
- Regular analysis of student performance in assessments
- Annual analysis of student progression and final degree outcomes
- Periodic review (last reviewed 2018)

Please note: This specification provides a concise summary of the main features of the programme and the 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, course content, and the teaching, learning and assessment methods of each module can be found in the course handbooks and individual module guides.

Key sources of information are:
Course documents available on the VLE
SGUL prospectus
SGUL website (www.sgul.ac.uk)
SGUL General Regulations for Students and Programmes of Study
QAA subject review reports