St George's, University of London

MSc Genomic Medicine/Healthcare

PROGRAMME REGULATIONS - For students entering the programme in 2020 and for students who entered the programme earlier than this but are yet to complete Approved by Senate (19th March 2021)

Degree Title

1. The programme of study shall lead to the award of MSc in Genomic Medicine

Awarding body

2. The awarding body is St George's Hospital Medical School, a constituent college of the University of London. The course will be jointly delivered by King's College London. St George's Hospital Medical School will produce the final degree certificate which will note 'jointly taught with King's College London'.

Intermediate awards

3. The following intermediate awards are available with the MSc Genomic Medicine programme:
   3.1. PGCert Genomic Medicine
   3.2. PGDip Genomic Medicine
   3.3. PGCert Genomic Healthcare

4. Applicants can apply for the PGCert and PGDip. In these Regulations, MSc Genomic Medicine is used to refer collectively to awards of PGCert, PGDip and MSc unless it is otherwise stated.

5. Some constituent modules available within the programme may be taken as stand-alone modules.

Responsible Committee

6. The Course Committee is responsible for the delivery of the MSc Genomic Medicine. The Course Committee is responsible to the Taught Postgraduate Courses Committee (TPCC) for quality monitoring.

Entrance Requirements

Academic

7. Applicants are required to have obtained a minimum 2:2 honours degree from a UK or Republic of Ireland university in a relevant subject area such as science, healthcare or genetics. . Applicants who do not have an undergraduate degree but are currently medical students who have successfully completed 360 credits (or equivalent) including at least 120 credits at Level 6 (or equivalent) of their medical degree and have passed all their assessments at first attempt are also eligible to apply. They must also have permission to apply for an intercalated MSc from the Course Director of their medical degree.

8. An Honours degree equivalent to a 2:2 or above from an approved institution of higher education outside the UK and Republic of Ireland will be accepted. Advice on equivalence of overseas awards will be obtained from the National Recognition and Information Centre for the UK (NARIC).

9. The procedure for application will also include:
   9.1. Submission of a brief online application form speaking to motivation for wishing to do the course and relevant educational background and experience
   9.2. Two satisfactory references. One of these must be a recent academic reference and the other should be either a second academic reference or a professional/employer reference.
   9.3. Possible attendance at interview.

Applications for stand-alone modules

10. Applications for stand-alone modules will be subject to entry requirements 7. and 8. as described above. Applicants with non-standard qualifications will normally be encouraged to consider taking a stand-alone module prior to registering for a longer degree. The deadline for application will be two months before the start date of the module and suitable applicants would be admitted on a first-come first served basis until the maximum capacity for that module was reached.

IELTS

11. If English is not the applicant's first language, he or she must sit and pass the International English Language Testing System (IELTS) with a score of 7 overall and no less than 7 in the written element and 6.5 in each of the remaining three sub-test components, or an equivalent test and scores as approved by SGUL.

12. Test certificates should be dated within the last two years to be considered valid. Applicants will only be permitted to submit two test attempts undertaken within a 12 month period.

Non-standard applicants

13. Applications will be considered from non-standard applicants who can demonstrate that they have the capacity to achieve the learning outcomes for the programme.

14. The admissions policy for the MSc Genomic Medicine will include a procedure for considering non-standard applicants. This procedure may include inter alia:
   14.1. Submission of a brief online application form speaking to motivation for wishing to do the course and relevant educational background and experience
   14.2. Two satisfactory references. One of these must be a recent academic reference and the other should be either a second academic reference or a professional/employer reference.
   14.3. Possible attendance at interview

15. Non-standard applicants may be permitted to register for a stand-alone module and will be eligible to be considered for transfer to the MSc Genomic Medicine if they complete a stand-alone module successfully and are able to demonstrate aptitude for the programme.

Admissions Policy

16. The Course Committee shall agree, and from time to time prescribe changes to, the admissions policy. The Course Admission Tutor is responsible for determining who is eligible for admission to the programme within this policy.

17. The admissions policy shall be made in accordance with St George's Equal Opportunities Policy and Statement on Students with Disabilities.

Recognition of Prior Learning

18. Recognition of Prior Learning is permitted for both core and option modules, but not the Research Project. Applicants who are able to show evidence of a relevant prior learning that has been credit-rated at level 7 in accordance with SGUL requirements may apply for that learning to be recognised with the following limits:
    18.1. MSc: up to 90 credits at level 7 may be transferred;
    18.2. PgDip: up to 60 credits at level 7 may be transferred;
    18.3. PgCert: up to 30 credits at level 7 may be transferred.
19. Applicants who have successfully completed SGUL's PgCert Interpretation and Clinical Application of Genomic Data (ICAG) will be exempt from the requirements of the following 15 credit modules on the basis of their prior learning: Fundamentals of Human Genetics and Genomics; Genomics of Common and Rare Disease; and an Introduction to Counselling Skills in Genomics. The PgCert ICAG can therefore be used as 45 credits of prior learning towards the MSc Genomic Medicine.

Period of Study

20. Without prejudice to the provisions of paragraph 18 above, the minimum and maximum periods of study required are:

	Full-time		**Part-time**	
	Minimum	**Maximum**	**Minimum**	**Maximum**
MSc	1 year	3 years	2 years	4 years
PgDip	1 year	3 years	2 years	4 years
PgCert	n/a	n/a	1 year	3 years

21. A student who wishes to request an extension to the maximum period of study shall do so in accordance with the procedure prescribed by Senate (see 4.13 *General Regulations)*.

Programmes Structure

22. The structure of the programme is as follows:

Core modules (mandatory):

Fundamentals of human genetics and genomics (15 credits; SGUL)
Omics techniques and technologies; their application to genomic medicine (15 credits; KCL)
Bioinformatics, interpretation and data quality assurance in genome analysis (15 credits; KCL)
Research Project (30 or 60 credits; SGUL/KCL)

Core modules (non-mandatory)
Genomics of common and rare inherited diseases (15 credits; SGUL)
Molecular pathology of cancer and application in cancer diagnosis, screening and treatment (15 credits; KCL)
Pharmacogenomics and stratified healthcare (15 credits; KCL)
Application of genomics in infectious disease (15 credits; SGUL)

Optional modules
Ethical, legal and social issues in applied genomics (15 credits; SGUL)
An introduction to counselling skills used in genomics (15 credits; SGUL)
Cardiovascular genetics and genomics (15 credits; SGUL)
Teaching, learning and assessment in healthcare and science education (15 credits; SGUL)
Advanced bioinformatics: practical bioinformatics data skills (15 credits; KCL)

MSc Genomic Medicine (180 credits)
Students must complete 4 mandatory core modules, at least 3 non-mandatory core modules and sufficient optional modules to meet the 180 credit requirement.

Postgraduate Diploma in Genomic Medicine (120 credits)
Students must complete 8 taught modules at least 4 of which must be SGUL modules (this same requirement must be met for students transferring credit from another institution). Two packages are available and described below.

Package 1:
- Fundamentals of human genetics and genomics (15 credits)
- Omics techniques and technologies; their application to genomic medicine (15 credits)
- Bioinformatics, interpretation and data quality assurance in genome analysis (15 credits)
- Molecular pathology of cancer and application in cancer diagnosis, screening and treatment (15 credits)
- Pharmacogenomics and stratified healthcare (15 credits)

- Plus 3 from:
o Genomics of common and rare inherited diseases (15 credits)
o Application of genomics in infectious disease (15 credits)
o Ethical, legal and social perspectives on genomics (15 credits) OR An Introduction to Counselling Skills in Genomics (15 credits) OR Teaching, learning and assessment in healthcare and science (15 credits)
o Cardiovascular genetics and genomics (15 credits)
o ~~Teaching, learning and assessment in healthcare and science (15 credits)~~

Package 2:
- Fundamentals of human genetics and genomics (15 credits)
- Omics techniques and technologies; their application to genomic medicine (15 credits)
- Bioinformatics, interpretation and data quality assurance in genome analysis (15 credits)
- Genomics of common and rare inherited diseases (15 credits)
- Application of genomics in infectious disease (15 credits)
- Pharmacogenomics and stratified healthcare OR Molecular pathology of cancer and application in cancer diagnosis, screening and treatment (15 credits)
- Ethical, legal and social perspectives on genomics OR Cardiovascular genetics and genomics OR Teaching, learning and assessment in healthcare and science (15 credits) OR An introduction to counselling skills in genomics (15 credits)
- Plus any one other (not excluding those already listed) (15 credits)

Postgraduate Certificate in Genomic Medicine (60 credits)
Students must complete 4 taught modules at least 2 of which must be SGUL modules (this same requirement must be met for students transferring credit from another institution). Three pathways are available depending on student background and interest.

–Standard Pathway (60 credits):
- Fundamentals of human genetics and genomics (15 credits)
- Genomics of common and rare inherited disease (15 credits)
- PLUS 2 from:
    - Omics techniques and technologies; their application to genomic medicine (15 credits)
    - Application of Genomics in Infectious Disease (15 credits)
    - Cardiovascular Genetics and Genomics (15 credits)
    - Ethical, legal and social implications of applied genomics (15 credits) OR Introduction to counselling skills in genomics (15 credits) OR Teaching, learning and assessment in science and healthcare (15 credits) Pharmacogenomics and stratified healthcare (15 credits)
    - Molecular Pathology of cancer and application in cancer diagnosis, screening and treatment (15 credits)
    - Bioinformatics, interpretation and data quality assurance in genome analysis (15 credits)

Medical Pathway (60 credits):

- Omics Techniques and Technologies; their application to genomic medicine (15 credits)
- PLUS 1 from:
    - Bioinformatics, interpretation and data quality assurance in genome analysis (15 credits)
    - Pharmacogenomics and Stratified Healthcare (15 credits)
    - Molecular Pathology of cancer and application in cancer diagnosis, screening and treatment (15 credits)
    - Advanced Bioinformatics (15 credits)
- PLUS 2 from:
    - Genomics of common and rare inherited diseases (15 credits)
    - Application of Genomics in Infectious Disease (15 credits)
    - Cardiovascular genetics and genomics (15 credits)
    - Ethical, legal and social implications of applied genomics (15 credits) OR Introduction to counselling skills in genomics (15 credits) OR Teaching, learning and assessment in science and healthcare (15 credits)

Package 3 – Bioinformatics (60 credits)

- Bioinformatics, interpretation and data quality assurance in genome analysis (15 credits)
- Plus 1 from:
    - Advanced Bioinformatics (15 credits)
    - Pharmacogenomics and stratified healthcare (15 credits)
    - Molecular Pathology of cancer and application in cancer diagnosis, screening and treatment (15 credits)
    - Omics techniques and technologies; their application to genomic medicine (15 credits)
- Plus 2 from:
    - Genomics of common and rare inherited diseases (15 credits)
    - Applications of genomics in infectious disease (15 credits)
    - Cardiovascular genetics and genomics (15 credits)

<u>Postgraduate Certificate in Genomic Medicine (60 credits)</u>

Students must complete the following 4 taught modules

- Fundamentals of Human Genetics and Genomics
- Genomics of Common and Rare Disease
- An introduction to counselling skills in genomics
- Ethical, legal and social implications of applied genomics

Assessment

23. A combination of course work assignments, examination, and research dissertation are prescribed for the core and optional modules and will be detailed in the module descriptors and relevant module handbooks.

24. The dissertation will take the form of a report on the research project conducted during the course. The 60-credit research project has a word limit of 10,000; the 30-credit research project has a word limit of 6000.

25. Candidates will be given a single final percentage mark for each module, taking into account the weightings of the elements prescribed in the module descriptors and relevant module handbooks. The pass mark for each assessment will be 50.

26. The Course Committee shall agree, and from time to time make changes to, the Scheme of Assessment for the course. The Scheme of Assessment shall be approved by the Taught Postgraduate Courses Committee.

27. Coursework must be submitted by the deadlines specified in the relevant module handbook unless written permission for an extension is given.

28. The Board of Examiners will determine whether a student's progress is sufficient to merit the award of credit for each module completed.

29. The Board of Examiners will determine at the end of the year whether a part-time student's progress in first year assessments is sufficient to permit continuation to the second year of the programme. Examiners will determine at the end of the programme whether a student's progress is sufficient to merit the award of the qualification for which the student has registered.

30. Examiners will determine whether MSc students successfully completing module credits, but not completing the whole degree, are eligible for the Postgraduate Diploma or Postgraduate Certificate.

31. Examiners will determine whether Postgraduate Diploma students successfully completing module credits, but not completing the whole Diploma, are eligible for the award of the Postgraduate Certificate.

Re-Entry to Assessments

32. Students are entitled to two attempts at each assessment.

33. Course work assignments must normally be resubmitted within four weeks of receiving an initial fail mark. Marks for any module that involves a resubmission or resit will be capped overall at 50%. Students are required to pass sufficient core modules and sufficient numbers of option modules (as described in 22) to complete the course. Students who fail to submit course work by the deadlines specified on more than one occasion without due reason (e.g. extenuating or mitigating circumstances) may have their registration terminated.

34. Students who fail the dissertation at the first attempt will be permitted to resubmit the dissertation on one occasion at a date determined by the Board of Examiners. Marks for the re-submission of the dissertation will be limited to a bare pass (50%). Students who fail the dissertation at the second attempt will fail the

MSc but may be awarded a Postgraduate Diploma at the Examiners' discretion if they have successfully completed 120 credits at level 7.

35. Students who fail a core non-mandatory or option module after two attempts are permitted to replace the module with an alternative module (see 10.10 General Regulations) subject to still meeting programme structure requirements. Substitution of compulsory research or core mandatory modules is not permitted.

Awards

36. Candidates for the award of MSc Genomic Medicine must obtain a pass in all modules undertaken within the maximum registration period specified and inclusive of RPL.

37. Candidates for the award of Postgraduate Diploma in Genomic Medicine must obtain a pass in all modules undertaken within the maximum registration period specified and inclusive of RPL.

38. Candidates for the award of Postgraduate Certificate in Genomic Medicine must obtain a pass in all modules undertaken within the maximum registration period specified and inclusive of RPL.

39. Candidates for the award of Postgraduate Certificate in Genomic Healthcare must obtain a pass in all modules undertaken within the maximum registration period specified and inclusive of RPL.

40. Students wishing to transfer to a different programme route (i.e. from CPPD to PgCert/PgDip/MSc, from PgCert to PgDip/MSc, from PgDip to MSc) will have their performance so far assessed by the Course Director who will decide whether or not to support this transfer request. Students wishing to transfer to the MSc will be expected to be passing assessments at first attempt.

Distinctions and Merits

41. Criteria for the award of distinctions and merits will be specified in the scheme of assessment. Outright distinctions will be awarded to MSc candidates obtaining an overall average assessment mark of ≥69.5%. Such candidates will normally be expected to pass each component at first attempt. The award of merit will be given to MSc candidates obtaining an overall average assessment mark falling in the range 59.5-69.4%. Outright distinctions will be awarded to PgDip candidates obtaining an overall average assessment mark of ≥69.5%. Such candidates will normally be expected to pass each component at first attempt. There is no award of merit for the postgraduate diploma, and no award of merit or distinction for the postgraduate certificate.

Date of award

42. The date of award of the qualification for successful students will be the date of the Board of Examiners' meeting at which their final result is determined.

Board of Examiners

43. A Board of Examiners shall be appointed annually to serve from 1 October – 30 September with membership agreed by the Course Committee and approved by Senate. This membership shall include the SGUL Course Director, KCL Programme Leader, Chair of the Board (who shall not be the Course Director) and at least three other internal examiners (as defined in General Regulations 8.2.1.) deemed appropriate. At least one external examiner will be appointed each year as a member of the Board. Assessors may be invited to attend the Board where appropriate. The Director of Academic Administration (Postgraduate) or his/her nominee shall act as secretary to the Board.

44. The Board of Examiners shall have the power to determine all final marks awarded to students, to decide on students' progression within the course, to decide on the award of degrees, diplomas, certificates, merits and distinctions, and to make recommendations concerning changes to the Scheme of Assessment where necessary. The Board of Examiners shall meet at least once a year to fulfil these purposes.

45. Students enrolled on this programme are bound by the General Regulations in force at the time.

LH 03.06.15
KE 18.06.18
KE 19.09.18
KE 03.12.19
KE 24.03.20
KE 24.11.20
KE 05.03.21