**1. Programme title and designation**  
MSc in Research Biobanking

**2. Final award**

<table>
<thead>
<tr>
<th>Award</th>
<th>Title</th>
<th>Credit value</th>
<th>ECTS equivalent</th>
<th>Any special criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSc</td>
<td>Research Biobanking</td>
<td>180</td>
<td>90</td>
<td>Must pass all modules</td>
</tr>
</tbody>
</table>

**3. Nested award**

<table>
<thead>
<tr>
<th>Award</th>
<th>Title</th>
<th>Credit value</th>
<th>ECTS equivalent</th>
<th>Any special criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**4. Exit award**

<table>
<thead>
<tr>
<th>Award</th>
<th>Title</th>
<th>Credit value</th>
<th>ECTS equivalent</th>
<th>Any special criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>PgDiploma</td>
<td>Research Biobanking</td>
<td>120</td>
<td>N/A</td>
<td>Must pass modules: Practical biobanking, Biobanking and Molecular Pathology and Fundamentals of Biobanking</td>
</tr>
<tr>
<td>PgDiploma</td>
<td>Health Sciences</td>
<td>120</td>
<td>60</td>
<td>N/A</td>
</tr>
<tr>
<td>PgCertificate</td>
<td>Health Sciences</td>
<td>60</td>
<td>30</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**5. Level in the qualifications framework**  
M

**6. Attendance**

<table>
<thead>
<tr>
<th>Mode of attendance</th>
<th>Full-time</th>
<th>Part-time</th>
<th>Distance learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Minimum length of programme</td>
<td>1 year</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Maximum length of programme</td>
<td>2 years</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**7. Awarding institution/body**  
King’s College London

**8. Teaching institution**  
King’s College London

**9. Proposing department**  
Division of Cancer Studies

**10. Programme organiser and contact Details**

- **First Tutor**  
  Dr Cheryl Gillett ([Cheryl.gillett@kcl.ac.uk](mailto:Cheryl.gillett@kcl.ac.uk))  
  02071880874

- **Second Tutor**  
  Prof Sarah Pinder ([sarah.pinder@kcl.ac.uk](mailto:sarah.pinder@kcl.ac.uk))  
  02071884260

**11. Relevant QAA subject benchmark/Professional, statutory and regulatory body guidelines**  
Biomedical Science  
Biosciences  
Clinical Science
<p>|<strong>14. Educational aims of the programme</strong>| |</p>
<table>
<thead>
<tr>
<th>i.e. what is the purpose of the programme and general statements about the learning that takes place over the duration of the programme</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The educational aims of the MSc are:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>• To provide students with a systematic and critical understanding of current theory, knowledge, debates and understanding of research biobanking applied to different disease types, legislative and research ethics developments and evolving researcher requirements</td>
<td></td>
</tr>
<tr>
<td>• To impart a comprehensive and critical understanding of research methodologies and practical techniques which can be used to develop methodologically robust laboratory-based research projects that are either relevant to biobanking or utilizes bioresources</td>
<td></td>
</tr>
<tr>
<td>• To provide students with the necessary skills to critically appraise published literature on biomedical research techniques and findings.</td>
<td></td>
</tr>
<tr>
<td>• To provide a range of learning experiences in a variety of learning environments to develop students' written and oral communication and analytical skills, and other appropriate technical skills, and to assess their progress through supervision, and through formal assessment.</td>
<td></td>
</tr>
<tr>
<td>• To incorporate the high standards of competence and understanding of ethics in biobanking and translational research</td>
<td></td>
</tr>
<tr>
<td>• To emphasise self-directed learning and self support in order to establish standards of competence</td>
<td></td>
</tr>
</tbody>
</table>
15. Educational objectives of the programme/programme outcomes (as relevant to the SEEC Credit Level Descriptors)

The MSc programme provides opportunities for students to develop and demonstrate knowledge and understanding, generic skills and other attributes in the following areas detailed below:

- Experience of taking patient consent for research biobanking and collecting, processing and storing human tissues into a research biobank
- Completion of a logbook to demonstrate competency in biobanking skills
  - Sample identification, collection and tracking
  - Sample processing
  - Pathological assessment
  - Molecular pathology techniques
  - Quality Assessment
  - Legal and ethical criteria
- Presentation of two case studies selected during the course that provide a detailed account of the symptoms, diagnosis and treatment choices
- Opportunity to utilise biobank resources to carry out either a biobank-related study or translational research study. As a result of which the student will learn:
  - To develop the written and oral presentation skills
  - Synthesis of oral, written, and digital information in order to communicate detailed research findings clearly.
  - Evaluation of the limits of their own abilities and the awareness of when to seek senior help.
  - To instil a critical approach to the reading of biomedical research papers.
- To equip students with the knowledge and skills required to manage a biobank and to actively participate in research and development utilising the bioresource.

Knowledge and understanding

The programme provides a knowledge and understanding of the following:

1. Concepts, principles and theories of topics that are relevant to research biobanking
2. Application of different methodologies (e.g. molecular, genetic, imaging and biostatistics/bioinformatics techniques) to conduct a Biobanking Research study or Translational Research Study using bioresources
3. Pathogenesis and pathology of disease process
4. Seeking donor consent for biobanking

These are achieved through the following teaching/learning methods and strategies:

1-year Biobank secondment and specialist lectures, seminars and workshops

Assessment:
- Biobank competency logbook – completed and signed off by supervisor (1, 3)
- Biobank competency Logbook-Based oral exam (1-3)
- Written and oral presentation of 2 case studies (1-3)
- Biobank or translational research project, proposal orally presented then written-up in the form of a scientific paper (1-3)
- Competency assessment for taking participant consent (1, 4)
## Skills and other attributes

### Intellectual skills:

1. Application of human tissue use, legislation and ethical requirements to specialist biobanking
2. Analyse and compare quality measures, experimental results, test the strength and validity of numerical results and hypotheses
3. Demonstrate ability to disseminate case studies and research findings in oral form, as written reports and in research journal format.
4. Critically evaluate biobank quality management systems
5. Acquisition of effective problem solving in practical and theoretical contexts
6. Acquire the ability to apply basic statistical skills to biobank research and translational studies

These are achieved through the following teaching/learning methods and strategies:

Intellectual skills are developed through lectures, seminars, workshops, case studies and research project work; directed self-learning and training in dissemination skills

**Assessment:**

Biobank competency logbook – completed and signed off by supervisor (1-2)

Biobank competency Logbook-Based oral exam (1-2)

Written and oral presentation of 2 case studies (1-3)

Essay (1,4,5)

Oral presentation of essay topic (1-4)

Biobank or translational research project, proposal orally presented then written-up in the form of a scientific paper (1-6)

### Practical skills:

1. Participate in obtaining patient consent and the collection, processing and storage of biobank samples in compliance with standard operating procedures.
2. Attain defined competency levels in biobanking procedures including sample preparation.
3. Attain defined competency levels in molecular pathology sample preparation and techniques, including immunohistochemistry
4. Keep clear, dated records of experimental protocols and procedures
5. Produce coherent and accurate scientific reports orally and in writing
6. Make appropriate and effective use of scientific literature, including peer-reviewed articles

These are achieved through the following teaching/learning methods and strategies:

Practical skills are developed through being fully integrated into a biobank, with rigorous supervision and feedback mechanisms. Research project work and directed self-learning

**Assessment:**

Competency assessment for taking participant consent (1-2)

Biobank competency logbook – completed and signed off by supervisor (1-7)

Biobank competency Logbook-Based oral exam (1-7)

Written and oral presentation of case studies (5-7)

Essay (3,6)

Oral presentation of essay topic (3,6)
7. Use of relevant computational packages for effective data analysis

Biobank or translational research project, proposal orally presented then written-up in the form of a scientific paper (3-7)

Generic/transferable skills:

1. Effective and appropriate handling of human tissue for research techniques can also be utilised in animal model and cell line – based research.
2. Ability to work independently and effectively, demonstrating skills of self-learning, self-reliance and personal responsibility.
3. Learn to participate effectively and constructively as part of a biobank team.
4. Ability to demonstrate effective oral and written communication skills.
5. Capability to manage time, prioritise workloads and work to deadlines.
6. Ability to demonstrate proficiency in IT skills and data analysis packages.
7. Capacity to evaluate and assess personal abilities, performance and understanding of the subject.
8. Acquire research study design abilities.
9. Ability to critically appraise and integrate appropriate published work into written assignments.

These are achieved through the following teaching/learning methods and strategies:

Generic/transferable skills are developed through being fully integrated into a biobank. There is strong emphasis on the need to communicate accurately and effectively with biobank staff, hospital staff, and researchers. Whilst protocol-driven biobankers must be receptive to bioresource research developments.

Generic skills are acquired throughout the programme and are nurtured particularly within the context of specific transferable skills provided by the Graduate Skills Development Programme, coordinated by the Graduate School.

Assessment:

Biobank competency logbook – completed and signed off by supervisor (1-7)

Biobank competency Logbook-Based oral exam (1-7)

Written and oral presentation of case studies (4, 5)

Essay (4,5, 7,9)

Oral presentation of essay topic (4,5, 7, 9)

Biobank or translational research project, proposal orally presented then written-up in the form of a scientific paper (1-9)

16. Statement of how the programme has been informed by the relevant subject benchmark statement(s)/professional, statutory and regulatory body guidelines

(UG: http://www.qaa.ac.uk/ASSURINGSTANDARDSANDQUALITY/SUBJECT-GUIDANCE/Pages/Honours-degree-benchmark-statements.aspx

PGT: http://www.qaa.ac.uk/AssuringStandardsAndQuality/subject-guidance/Pages/Master%27s-degree-benchmark-statements.aspx)
There are at present no entirely relevant subject benchmark statements available; however the benchmark statements available at http://www.qaa.ac.uk/ for Biosciences, Biomedical Science, and Clinical Sciences have all informed this programme specification.

The design of this MSc has similarities to the existing MRes in Translational Cancer Medicine currently running in the School and will utilise some of the existing seminars and lectures on this programme.

17. In cases of joint honours programmes please provide a rationale for the particular subject combination, either educational or academic

N/A

Which is the lead department and/or School?
18. Programme structure
See Programme Handbook for modules to be taken.

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a Masters programme, are level 6 credit levels permitted within the programme?</td>
<td>No, Level 7 Only</td>
</tr>
<tr>
<td>Maximum number of credits permitted with a condoned fail (core modules excluded)</td>
<td>None</td>
</tr>
<tr>
<td>Are students permitted to take any additional credits, as per regulation A3; 5.9?</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Are students permitted to take a substitute module, as per regulation A3; 5.10?</td>
<td>No</td>
</tr>
</tbody>
</table>

Are there are any exceptions to the regulations regarding credits, progression or award requirements? (where relevant the information should also differentiate the particular requirements of pathways within a programme or nested/exit awards)

Students must pass the logbook based oral examinations in module 1 (Practical Biobanking) and module 2 (Biobanking & Molecular Pathology) and obtain an overall mark of 50% in all four modules in order to be awarded the MSc.
With exception of the logbook based oral stated above, compensation will be permitted within the modules but not between modules, provided that the mark of an individual element of assessment does not fall below 40%. If an individual mark is below 40% then a revised assessment may be resubmitted but the whole module will be capped at 50%.

A Postgraduate Diploma may be awarded if students pass the logbook based oral examination in module 1 (Practical Biobanking) and obtain an overall mark of 50% in modules 1 (Practical Biobanking), 2 (Biobanking & Molecular Pathology) and 3 (Fundamentals of Biobanking and Translational Research).

Other relevant information to explain the programme structure
Please note that new students enrolling on the information provided on this section of the PAF will have these regulations stipulated throughout their programme of study. The only exception to this will be if there are changes made by Professional, Regulatory or Statutory Bodies that are noted to this programme.

The major focus of the programme is giving students the opportunity to learn how to undertake high quality biobanking within a regulatory and ethical framework. Students will also undertake research either directly associated with science of biobanking or utilising banked material for translational research.

The programme is structured into 4 modules; a 60 credit practical biobanking, 30 credit biobanking & molecular pathology, 30 credit taught module called ‘Fundamentals of Biobanking and Translational Research’ and a 60 credit laboratory project,
Module 1: Practical Biobanking: Students will be expected to work four days a week in a biobank so they gain the specialist knowledge and skills to reach competency levels in biobank procedures and techniques. This includes sample collection, preservation and processing, microtomy, cryotomy, tissue array construction, cell sorting and cell culture. Competency will be judged by observation and skills tests. Students will keep a logbook of the knowledge and skills learnt, which will be reviewed by their supervisor. Students will also be taught how to take consent through practical demonstration, role-play and mentoring. Competency will be assessed by observation. Students will have opportunity to attend slide or case review meetings and will be required to select one case to show an in-depth understanding of the cause, pathology and treatment of a specific disease type. The case studies will be presented both as a written report and oral presentation. The students understanding of biobank standards and practical skills learnt during module 1 will be assessed by oral examination.

Module 2: Biobanking and Molecular Pathology: Students will continue to work in a biobank gaining specialist knowledge of molecular pathology techniques and sample preparation, using both manual and automated platforms. This includes DNA/RNA extraction, immunohistochemistry and in situ hybridisation. Competency will be judged by observation and quality measures. Logbook completion will be reviewed by the supervisor. During this module students will select a second case study but for oral presentation only. Students understanding of molecular pathology techniques and sample preparation learnt during module 2 will be assessed by oral examination.

Module 3. Fundamentals of Biobanking and Translational Research: The taught component will consist of lectures (one day per week) in the first 5 months, literature review/journal clubs/seminars (at least once a month, at the individual laboratory or department that the student is attached to) and workshops on relevant topics such as biostatistics, drug design, etc. During this time the student will submit an essay on a biobank-based topic and also present the information orally.

Module 4: Laboratory Project: The project may be either research associated with biobanking, or part of a translational research study. Students will be assessed on an oral presentation of the project proposal and by a written paper of the standard and format required for a scientific journal.
19. Marking criteria

Assessment criteria are in line with new marking criteria produced by the School Board of Examiners and agreed by KCL

20. Will this Programme report to an existing Board, and if so which one? If a new Programme Board of Examiners is to be set up please note name of Board here

New Board will be required.

Name: Programme Board for MSc in Research Biobanking

21. Please confirm that the process for nominating External Examiners has commenced, and if known, note whom the nominated External Examiner(s) may be

Not yet commenced.

22. Measures to help ensure that the programme is inclusive to all students

Anticipatory:
The programme will be accessible to all potential students who comply with the College general policies and entry requirements. Participation is subject to meeting College English language requirements, occupational health clearance and Disclosure and Barring Service (DBS) checks.

Flexible:
There is scope for some flexibility within the framework of the programme.

Collaborative:

Transparent:
The programme structure, content and marking scheme are well-defined and available to prospective students. This information alongside the availability of making additional inquiries from the course organiser should ensure that potential students have all the facts to decide if this is a suitable programme of study.

Equitable:
I foresee no problems with equitable access to the programme. Equality and diversity statistics will highlight and issues which need to be addressed
Not all of the information in this section will be relevant for all programmes and for some programmes this section will not be relevant at all.

1. Programme name

MSc in Research Biobanking

2. Is this programme involved in collaborative activity?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

If yes what type of Collaborative Provision is it *(tick appropriate box)*?

- Does the programme have an access/feeder Programme for entry into it?
- Does the programme have an articulation/progression agreement for entry into it?
- Dual Award
- Franchised Provision
- Joint Award
- Multiple Award
- Partnership Programme
- Recognition of Study or Award of Credit through off-campus study or placement
- Placements, including those in industry, those required for teacher education, experience necessary for qualifications in the health professions and continuing professional development
- Staff and student exchange
- Provision of learning support, resources or specialist facilities
- Validated provision
- Distance learning and online delivery involving work with delivery organisations or support providers
## Programme approval 2013/14

Have the relevant stages and appropriate paperwork been approved and the paperwork forwarded onto QAS Office?

Yes ☐  No ☐  Not applicable ☐

## 3. If the programme is a joint award with an institution outwith the University of London, validated provision or franchised provision, has the necessary approval been sought from College Education Committee?

Yes ☐  No ☐  Not applicable ☒

Please attach a copy of Part 1 of the Partner Profile and checklist submitted to the College Education Committee.

## 4. Partnership programme - in cases where parts or all of the programme are delivered away from one of the College campuses by a body or bodies external to the College please provide the following details

Name and address of the off-campus location and external body

**All teaching will be on campus**

Percentage/amount of the programme delivered off-campus or by external body

Nature of the involvement of external body

Description of the learning resources available at the off-campus location

What mechanisms will be put in place to ensure the ongoing monitoring of the delivery of the programme, to include monitoring of learning resources off-site or by the external body?

*Please attach the report of the visit to the off-campus location*

## 5. Recognition of study or award of credit through off-campus study or placement - please indicate how the time will be spent, the length of time out, the amount of credit and whether it is a compulsory or optional part of the programme

<table>
<thead>
<tr>
<th>Year abroad</th>
<th>Year in employment</th>
<th>Internship</th>
<th>Placement</th>
<th>Other (please specify)</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☒</td>
</tr>
</tbody>
</table>

Time spent ......................Credit amount ..............Compulsory/optional................
6. Please provide a rationale for any such time outside the College, other than that which is a requirement of a professional, statutory or regulatory body

N/A

7. Please give details if the programme requires validation or accreditation by a professional, statutory or regulatory body

Name and address of PSB

N/A

Date validation/accreditation commenced:

Frequency of validation/ accreditation

Date of last validation/accreditation    Date of next validation/ accreditation