

# Programme Specification

Title of Course: MSc Biomedical Science Medical Microbiology/with Professional Placement

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| Date first produced | 27th January 2023 |
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| Version number | 1 |
| Faculty | HSSCE |
| School | LSPC |
| Department | Biomolecular Sciences |
| Delivery Institution | Kingston University |

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

## SECTION 1: GENERAL INFORMATION

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| Award(s) and Title(s): | *MSc Biomedical Sciences* Medical Microbiology*/with Professional Placement* |
| Intermediate Awards(s) and Title(s): | *PG Cert, PG Dip* |
| FHEQ Level for the Final Award: | Masters Award Level 7 |
| Awarding Institution: | Kingston University |
| Teaching Institution: | Kingston University |
| Location: | Penrhyn Road |
| Language of Delivery: | English |
| Modes of Delivery: | Full time, Part time  September and January intake |
| Available as: | Full field |
| Minimum period of registration: | Masters FT- 1 years (2 years with placement)  Masters PT - 2 years  PG Dip FT – 2 Teaching Blocks/PG Dip PT – 4 Teaching Blocks  PG Cert FT – 1 Teaching Block/PG Cert PT – 2 Teaching Blocks |
| Maximum period of registration: | Masters FT- 2 years (3 years with placement)  Masters PT - 4 years  PG Dip FT – 2 years/PG Dip PT – 4 years  PG Cert FT – 1 year/PG Cert PT – 2 years |
| Entry Requirements: | Lower second class honours degree and above or equivalent in Biomedical science or other related biology and medical science degrees will be considered on an individual basis. All applicants must demonstrate sufficient understanding of mammalian biology and immunology. Prior study of microbiology is strongly preferred.  For international students: An IELTS academic test in English with an overall score of 6.5, with no element below 6.0, or meet the scores listed on the [alternative online tests](https://www.kingston.ac.uk/international/studying-at-kingston/language-requirements/alternative-tests-and-qualifications/) |
| Programme Accredited by: | Institute for Biomedical Science (IBMS |
| QAA Subject Benchmark Statements: | N/A |
| Approved Variants: | N/A |
| UCAS Code: | N/A |

## SECTION 2: THE COURSE

### Aims of the Course

### MSc Biomedical Science Medical Microbiology/with Professional Placement programme are;

* to develop and extend beyond honours degree level students’ knowledge of topics in Biomedical Science,
* to prepare students for employment, research, further study and lifelong learning by developing their intellectual, problem solving, practical and key (transferable) skills,
* to produce graduates with a knowledge and skills base that allows pursuit of careers in a wide variety of work environments,
* to encourage students to develop an informed, reflective and critically analytical approach to the subject of Biomedical Science,
* to provide an education in the theoretical and applied aspects of pathology at cellular and systemic levels,
* to convey an understanding of the theoretical and practical basis of modern molecular medicine,
* to develop an awareness of organisational relationships and interdependencies between specialist disciplines within diagnostic pathology,
* to develop the in-depth study of Medical Microbiology,
* to convey an understanding of the molecular basis of immunological mechanisms,
* to develop the ability to source information and to understand and critically appraise a research paper or article, including an assessment of the experimental design and methods of statistical analysis,
* to develop competence in the public presentation of scientific work,
* to enable students to carry out a sustained piece of independent research work related to Medical Microbiology,
* to develop the students’ research oriented practical and analytical skills,
* to enable students to write an extended report on their research work.
* Give students on the 2-year version an opportunity to develop further skills, preparing them for higher levels of employment!

1. **Intended Learning Outcomes**

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, skills and other attributes in the areas noted in the table below. There are no QAA benchmarks for this subject at level 7, but the programme outcomes are referenced to the Framework for Higher Education Qualifications in England, Wales and Northern Ireland (2014), and the IBMS ‘Criteria and Requirements for the Accreditation and Re-accreditation of MSc Degrees in Biomedical Science’, and relate to the typical student.

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| **Programme Learning Outcomes** | | | | | |
|  | **Knowledge and Understanding**  On completion of the course students will be able to: |  | **Intellectual Skills**  On completion of the course students will be able to: |  | **Subject Practical Skills**  On completion of the course students will be able to: |
| A1 | the principles and practice of a variety of topics in Biomedical Science | B1 | demonstrate the ability to learn independently | C1 | understand, and be able to comply with, safety in the laboratory |
| A2 | the principles of constructive criticism in Biomedical Science | B2 | undertake the analysis and interpretation of experimental data | C2 | demonstrate competence in a range of practical and analytical techniques appropriate to Biomedical Science |
| A3 | the biological basis of disease | B3 | apply subject knowledge and understanding to the solving of problems in Biomedical Science | C3 | demonstrate skills in the evaluation, presentation, and interpretation of laboratory data |
| A4 | the principles and applications of a range of molecular techniques relevant to Biomedical Science | B4 | assemble, interpret and critically evaluate information and data from a variety of sources (including both academic literature and their own findings) | C4 | demonstrate new and/or improved practical skills and apply them in a research setting |
| A5 | the role of the pathology laboratory within the wider context of health care | B5 | use their generic intellectual and key skills in their lifelong learning and future employment | C5 | apply their subject specific knowledge to the planning, design and delivery of an experimental research project |
| A6 | the human immune system, its components and interactions at a molecular level and the relationship between the science of immunology and the aetiology and diagnosis of disease | B6 | apply independent judgement and original thought in a variety of contexts relevant to Biomedical Science | C6 | give a clear account of how the skills and knowledge acquired during studies can be applied in a work-place environment |
| A7 | the principles and practice of a range of topics within an elected specialist route -Medical Microbiology | B7 | demonstrate self-management and autonomy in the planning, organisation and conduct of an independent research project | C7 | demonstrate skills in the evaluation, presentation and interpretation of entrepreneurial skills and demonstrate commercial awareness relevant to biomedical sciences and biotechnology |
| A8 | the increasingly important relationships between traditionally separate subjects within the broader field of Biomedical Science | B8 | present their own research in a clear and concise fashion in writing and in scientific poster presentations |  |  |
| A9 | the principles of objective scientific research |  |  |  |  |
| A10 | the ethical implications of Biomedical Science research |  |  |  |  |
| A11 | the statistical and computing techniques required to assess and present their own data |  |  |  |  |
| A12 | the range of career opportunities available within the field of Biomedical Sciences |  |  |  |  |

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| **Graduate attributes** | | | | | | | |
| **Creative Problem Solving** | **Digital competency** | **Enterprise** | **Adaptability** | **Empathy** | **Collaboration** | **Resilience** | **Self-awareness** |
| Apply scientific and other knowledge to analyse and evaluate information and data and to find solutions to problems | Use software and IT technology as appropriate | Determine the scope of a task (or project) | Work flexibly and respond to change | Show sensitivity and respect for diverse values and beliefs | Work well with others in a group or team in the group oral presentations | Give, accept and respond to constructive feedback | Take responsibility for own learning and plan for and record own personal development |
| Work with complex ideas and justify judgements made through effective use of evidence | Accurately cite and reference information sources | Identify resources needed to undertake the task (or project) and to schedule and manage the resources | Discuss and debate with others and make concession to reach agreement | Awareness of different academic backgrounds and strengths | Work well with others in a group or team in laboratory research projects | Maintaining academic standards when faced with impending assessment deadlines | Recognise own academic strengths and weaknesses, reflect on performance, and progress and respond to feedback |
|  |  | Evidence ability to successfully complete and evaluate a task (or project), revising the plan where necessary |  |  |  |  | Organise self effectively, agreeing and setting realistic targets, accessing support where appropriate and managing time to achieve targets |
|  |  | Motivate and direct others to enable an effective contribution from all participants |  |  |  |  | Work effectively with limited supervision in unfamiliar contexts |

### Outline Programme Structure

**MSc Biomedical Science Medical Microbiology/with Professional Placement**

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| --- | --- | --- | --- | --- |
| **Core modules** | **Module code** | **Credit Value** | **Level** | **Teaching Block** |
| Immunology and the biology of disease | LS7002 | 30 | 7 | TB1 |
| Microbial pathogenesis and control of infectious disease | LS7004 | 30 | 7 | TB1 |
| Taxonomy of microorganisms and diagnosis of infectious disease | LS7003 | 30 | 7 | TB2 |
| Research techniques and scientific communication | LS7001 | 30 | 7 | TB2 |
| Research project | LS7010 | 60 | 7 | TB3 |
|  | | | | |
| **Option Modules** |  |  |  |  |
| Professional Placement | CH7900 | 120 | 7 |  |

Full time students attend two days per week

Part time students attend one day per week

Students exiting the programme with 60 level 7 credits are eligible for the award of PgCert in Biomedical Science Medical Microbiology

Students exiting the programme with 120 level 7 credits are eligible for the award of PgDip in Biomedical Science Medical Microbiology

1. **Principles of Teaching, Learning and Assessment**

Students on MSc in Biomedical Science Medical Microbiology/with Professional Placement come from a wide variety of backgrounds (e.g. recent graduates from Kingston, recent graduates from other UK institutions, those returning to study after a break, overseas students, and all are likely to find the programme challenging for different reasons. These individual challenges, coupled with the higher demands of a postgraduate programme that is completed within 12 months, guide our teaching and assessment which are designed to ensure that students are given the best opportunity to learn effectively.

The Research Project, which comprises one third of the programme, is designed as a ‘capstone’ project, and aims to give students the opportunity to use and synthesise the knowledge and skills they have acquired during their degree e.g. by using aplied “real world learning” (such as working on a live project for an employer), presenting work in formats appropriate to wider audiences, practice new and/or improved laboratory skills, and - most importantly - demonstrate the ability to independently solve complex problems

There are four Curriculum Design Principles, and these are linked to the teaching, learning and assessment strategies for the programme (see section C of this document) as follows:

Assessment for learning designed at programme level with opportunities for feedback and ‘feedforward’ explicitly specified at the design stage;

* All assessments have been designed at level 7; students are encouraged to reflect on the link between intended learning outcomes and the requirements for each assessment and ensure that they understand how they can meet these. Examples of this are the individual and group presentations in LS7003 (Taxonomy of microorganisms and diagnosis of infectious disease), and a product review relating to this specialist area.
* Students will receive feedback on all assessments; this will take a variety of forms and may be individual, group or generic and may be provided by teaching staff, peers (fellow students) or visiting experts.
* Feedback will enable the students to learn from each assessment experience and feedforward that learning to future assessments, most critically to the final assessments in the summer Research Project module. The ‘Critical Review’ assessment in LS7001 (Research techniques and scientific communication) is designed to prepare students for their Research Project by allowing them to gain a deeper understanding of aspects of their research such as; the generation of a suitable hypothesis, correct experimental design to test this hypothesis, ethical considerations, health and safety.

Research-led and research informed teaching with increased opportunities for postgraduate research and capstone projects;

* + The Curriculum content is heavily research-led and research informed.
  + Modules incorporate opportunities to explore current developments in the field.
  + Teaching teams draw on the academic strengths and research interests of staff.
  + Students complete their MSc by conducting a research project.

A robust, academically-led personal tutor system which helps to personalize students’ experience and track their academic development.

An embedded employability curriculum at discipline level and explicit links to the co-curriculum;

* + Employability skills are embedded into several modules, including ‘applying for funding’ (LS7001), and ‘industry specific recruitment information’ (e.g., from external expert practitioner lecturers in specialist subject modules – see section G of this document),
  + Communication skills (‘presenting your published work’) are emphasized in all modules in a variety of media, including written, oral and poster presentations.
  + Key laboratory-based skills are included in the taught modules and in the independent research projects, for which students may have an opportunity to take up a placement outside Kingston University.
  + Specialist visiting lecturers from Industry, the Health Service and research organisations and also visits to these organisations provide great insight into employability skills.

## Support for Students and their Learning

In order to assist students in achieving their learning outcomes, the Faculty of Health, Science, Social Care and Education has a raft of initiatives to support postgraduate students in both academic and pastoral issues. These are summarised below, and include skills workshops that offer English language support, academic surgeries, detailed induction and orientation programmes at the start of the academic year, and subject-based conference style events. Advice on generic study skills is available on the virtual Learning Environment (Canvas) to which all students have access; this includes advice on writing, oral communication, numeracy, problem-solving and career management, among others.

Students also have access to Academic Success Centre (ASC), which provides a ‘drop in’ service giving advice on all non-subject based aspects of academic work including;

* grammar and punctuation,
* academic structure
* referencing and plagiarism
* maths skills

Students are encouraged to discuss academic and pastoral concerns with their Course Leader/personal tutor, and all academic staff operate a system of Office Hours during which students can consult their lecturers. In addition, each faculty has a student achievement advisor to support students in all aspects of their education, including pastoral issues.

The Personal Tutor Scheme (PTS) has been designed to ease a student’s transition into postgraduate study by building a rapport between themselves and academic staff as soon as possible, so personalising their experience at Kingston. Students are placed in small tutorial groups, and are encouraged to work together to provide mutual support. Where possible these groups will include a mix of Kingston alumni, UK and overseas students, and they will meet with their personal tutor two to three times in each teaching block.

**The PTS aims;**

* To provide appropriate academic advice and guidance to students throughout their time at Kingston by monitoring their progress and helping to identify individual needs.
* To foster a close and engaged academic relationship with students and advise and refer students to other University services as appropriate.
* To help to develop students’ ability to be self-reliant and self-reflective and their ability to use feedback to best advantage.
* To provide a link between curricular and co-curricular aspects of employability

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| **Summary of Student Support**   * A personal tutor who provides academic and personal support * A Module Leader for each module * A Course Leader to help students understand the programme structure, * Technical support to advise students on IT and the use of software * A designated programme administrator * An induction week at the beginning of each new academic session * Student Voice Committee * Canvas – a versatile on-line interactive intranet and learning environment * A substantial Academic Success Centre that provides academic skills support * Student support facilities that provide advice on issues such as finance, regulations, legal matters, accommodation, international student support etc. * Disabled student support * Union of Kingston Students * Careers and Employability Service |

## Ensuring and Enhancing the Quality of the Course

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

* External examiners
* Student voice committees
* Annual Monitoring and Enhancement
* Continuous Monitoring of courses through the Kingston Course Enhancement Programme (KCEP+)
* Student evaluation including Module Evaluation Questionnaires (MEQs), and the postgraduate Student Survey (PSS).
* Moderation policies
* Feedback from employers/Industrial liaison

## Employability and work-based learning

Students’ employability skills are developed throughout this course, both through activities that are embedded within the syllabus and from services offered by the University’s Careers and Employability Service. Biomedical science modules have been designed to meet the requirements of a Master’s level qualification accredited by the IBMS, and as such prepare students for a career in hospital-based biomedical science laboratories and related industries.

Students are helped to reflect on the transferable skills they have acquired and their relevance to employment. Students are also encouraged to explore the job market and possible career paths, and to consider attributes that employers look for beyond essential academic skills, such as initiative, teamwork, time management, motivation to improve performance, and appropriate communication skills. Students are encouraged to take advantage of opportunities within and outside of the university to develop skills through voluntary roles such as Course Representative. Students are also encouraged to develop clear ideas about possible career options and are offered assistance and guidance in the preparation of CVs and for job applications and interviews.

Current employers are involved in the delivery of the course, and ensure that the content of the course, and the knowledge and skills that students acquire, are appropriate to workplace requirements.

Emphasis is also placed on the transferability of these skills, and graduates of this course have taken up posts in a variety of employment settings including the NHS, commercial and research laboratories (for example GlaxoSmithKline, the Animal Health and Veterinary Laboratories), and diagnostic instrument and reagent manufacturers. Skills learned and developed during the research project have often allowed students to secure job interviews and employment and/or to finalise their employment ambitions. Some students continue with their studies, and the course is an excellent basis for those who intend to pursue a research career via a PhD. Additionally, the degree can be used as a qualification for entry to PGCE teacher training.

For students already in employment the course offers an opportunity to enhance their knowledge and to develop their practical, intellectual and key skills to assist them in their career development.

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

Work placements are actively encouraged – although it is the responsibility of individual students to source and secure such placements. This allows students to reflect upon their own personal experience of working in an applied setting, to focus on aspects of this experience that they can clearly relate to theoretical concepts and to evaluate the relationship between theory and practice. MSc Biomedical students on full time study have the optional opportunity to be paced on the professional placement (PP) program extending their degree course by an extra year to their studies. The program is an important steppingstone in providing work-based experiences and developing key employability skills. It is the responsibility of the students to secure their own placements, where the placement lasts for 10-12 months and is directly related to biomedical sciences. Allied to the program is the PP module providing students with the skills and knowledge to secure a placement in a working environment. The PP module provided exercises in preparing CVs and applications, interview techniques and networking. During the placement, the student completes a monthly logbook and at the end of the placement program, the student completes a 1,000-word reflective essay. Only on completion of the program and submission of the dissertation can students pass the PP module.

## Other sources of information that you may wish to consult

*Further information on the requirements of the Institute of Biomedical Science can be found on the official site:* [*https://www.ibms.org/home/*](https://www.ibms.org/home/)

## Development of Course Learning Outcomes in Modules

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

**MSc Biomedical Science Medical Microbiology/with Professional Placement**

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|  | | **Level 7** | | | | | |
|  | | **Compulsory Modules** | | | | | **Optional Modules**  **(Professional Placement)** |
| **Module Code** | | LS7001 | LS7002 | LS7010 | LS7003 | LS7004 | CH7900 |
| **Knowledge & Understanding** | A1 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| A2 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| A3 |  | 🗸 | 🗸 | 🗸 | 🗸 |  |
| A4 | 🗸 |  | 🗸 |  |  |  |
| A5 |  | 🗸 |  | 🗸 | 🗸 |  |
| A6 |  | 🗸 |  |  | 🗸 |  |
| A7 |  |  | 🗸 | 🗸 | 🗸 |  |
| A8 | 🗸 |  | 🗸 | 🗸 | 🗸 |  |
| A9 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| A10 | 🗸 |  | 🗸 |  |  |  |
| A11 | 🗸 |  | 🗸 | 🗸 | 🗸 |  |
| A12 | 🗸 |  |  |  |  | 🗸 |
| **Intellectual Skills** | B1 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |
| B2 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| B3 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| B4 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| B5 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |
| B6 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |
| B7 | 🗸 |  | 🗸 |  | 🗸 | 🗸 |
| B8 | 🗸 |  | 🗸 | 🗸 | 🗸 |  |
| **Practical Skills** | C1 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| C2 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| C3 | 🗸 | 🗸 | 🗸 | 🗸 | 🗸 |  |
| C4 | 🗸 |  | 🗸 |  |  |  |
| C5 | 🗸 |  | 🗸 |  |  |  |
| C6 |  |  | 🗸 | 🗸 | 🗸 |  |
| C7 |  | 🗸 |  |  |  |  |

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

**Course codes:**

**MSc Biomedical Science - Medical Microbiology/with Professional Placement:**

**Route: PFBMM1BMM20 -**Full Time

MAS:  PFBMM1BMM20BD01 - Sep entry

            PFBMM1BMM20FD01 - Jan entry

Route:  **PPBMM1BMM20** - Part Time

MAS:   PPBMM1BMM20BD01 - Sep entry

             PPBMM1BMM20FD01 - Jan entry

Route: **PFBMM1BMM99**- with Professional Placement

MAS:   PFBMM1BMM99BD01 - Sep entry

             PFBMM1BMM99FD01 - Jan entry