# Programme Specification (PG)

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| Awarding body / institution: | Queen Mary University of London |
| Teaching institution: | Queen Mary University of London |
| Name of final award and programme title: | MSc/PGDip Emergency and Resuscitation Medicine |
| Name of interim award(s): | Postgraduate Certificate (PGCert) |
| Duration of study / period of registration: | MSc (3 Academic Years), PGDip (2 Academic Years) |
| Queen Mary programme code(s): | A3Z3 MSc /A3Z2 PGDip |
| QAA Benchmark Group: | |
| FHEQ Level of Award: | Level 7 |
| Programme accredited by: | |
| Date Programme Specification approved: | 24 March 2021 |
| Responsible School / Institute: | Blizard Institute |

Schools / Institutes which will also be involved in teaching part of the programme:

Collaborative institution(s) / organisation(s) involved in delivering the programme:

Barts Health NHS Trust

## Programme outline

Resuscitation is a rapidly evolving area that crosses the boundaries of emergency medicine, intensive care medicine, prehospital care, anaesthesia, trauma/acute surgery and acute medicine. This Masters in Emergency and Resuscitation Medicine provides you with an opportunity to develop your skills under the guidance of an expert, international faculty.
Aimed at doctors, nurses, paramedics and physician associates/assistants, the part-time nature of this course allows students to apply their knowledge directly to their practice. Content and assessment are designed to mirror real-life activities to enhance your career. It is a vocational MSc aimed at clinicians with an interest in clinical leadership, clinical excellence, education and clinical research in resuscitation medicine.

## Aims of the programme

This MSc aims to assist doctors, paramedics and advanced nurse practitioners to develop the knowledge and skills required to be highly skilled practitioners in delivering acute critical care to patients as they arrive in the resuscitation area of an emergency department. This MSc offers dedicated training in Emergency and Resuscitation Medicine to provide the graduate with a skill base that reaches beyond general training in Emergency Medicine so marking the graduate as having a sub-specialty interest

and skill set. It is designed to teach the students to appraise and examine the evidence for critical care interventions based on published evidence and from their own clinical work. By learning the pathophysiology and how this as altered by treatment students will gain a detailed understanding and so be able to synthesise the best care in complex patients.
Upon graduation students will have an up to date, detailed understanding of
resuscitation medicine and a skill set to enable them to evaluate future research and integrate this into their practice. Students will understand how to write a scientific paper and deliver high quality teaching material. These skills will assist the graduate in taking leadership and teaching roles in resuscitation medicine.

## What will you be expected to achieve?

This MSc is designed to enable the student to gain an in depth understanding of emergency and resuscitation medicine with the focus on patients presenting to the Emergency Department. In the first module students will learn basic skills to aid identifying reading material, reviewing papers and clinical study design. These skills will be used in their subsequent personal study. Subsequent modules will help the students to develop an in depth and sophisticated understanding of shock, tissue hypoxia, organ failure and resuscitation. In the first year students will learn about the pathophysiology of shock and the tools used to treat this. The focus is on common medical conditions and how these interact to cause shock and organ failure. In year 2 these skills are further developed and include learning about the imaging and biochemical tools that are used in assessing and diagnosing critical illness. In year 2 the student is also introduced to trauma shock and toxicology. In the final module students will have the option of choosing between Module 8A (pre-hospital and mass casualty) or Module 8B (paediatric emergency medicine). In year 3 the students will have the opportunity to research, write and present a scientific paper on a topic of their choice, developed from the programme material and lectures.
Programme graduates are expected to apply the theoretical knowledge gained to:
- Take a sub-speciality interest in resuscitation medicine
- Offer a high standard of care and take a leadership role in resuscitation
- Identify shock syndromes, apply appropriate diagnostic tools and interpret the results
- Identify and appraise scientific literature, then formulate guidelines and teaching for their departments and areas of practice
- Develop team working and offer oral and written presentations

| Academic Content: | |
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| A 1 | Identify, critically evaluate and appraise original research. Basic trial design and statistics. |
| A 2 | Identify, classify, treat and understand the pathophysiology of shock syndomes. |
| A 3 | Understand of oxygen delivery, advanced airway care, respiratory support, procedural sedation/analgesia and the treatment of cardiorespiratory arrest in adults and children. |
| A 4 | Understand the pathophysiology of common emergency presentations, focussing on those at risk of deterioration. |
| A 5 | The assessment and initial resuscitation of major trauma. |
| A 6 | Understanding of diagnostic work up in the early phases of resuscitation, including imaging and blood tests. |
| A 7 | Core knowledge of acute toxicology and CBRN events as applied to critical illness. |
| A 8 | Knowledge of pre-hospital care and mass casualty incidents |
| A 9 | Knowledge of managing the critically unwell child |
| A 10 | Knowledge to a chosen topic of special interest |

| Disciplinary Skills - able to: | |
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| B 1 | Undertake research methodology as applied to patients and critically appraise papers |
| B 2 | Demonstrate a detailed understanding of the causes and consequences of shock/organ failure, evaluation of treatment by understanding the risk and benefit of the tools of resuscitation. |
| B 3 | Demonstrate a detailed understanding of the management of cardiac arrest, airway care and sedation so allowing a detailed synthesis of the causes and treatments available. |
| B 4 | Demonstrate ability to evaluate the major pathologies that underpin organ failure and shock, and the developments in linked specialties enabling a comprehension of the care provided in the emergency department and hospital. |
| B 5 | Demonstrate a detailed understanding of trauma teams, haemostatic resuscitation and trauma assessment so enabling higher levels of care and team leadership. |
| B 6 | Undertake evaluation of diagnostic information gained from ECG, blood gas analysis and imaging (radiographs, computed tomograpahy and ultrasound) and their application to clinical practice. |
| B 7 | Ability to identify and treat toxidromes resulting form poisoning and CBRN related illness. |
| B 8 | Perform a detailed literature search and synthesise available evidence and apply to clinical practice. |
| B 9 | Formulate scientific questions, identify and synthesise what is known on the chosen topic, present ideas in a formal, concise and accessible manner using written and oral communication. |
| B 10 | Present ideas in a formal, concise and accessible manner for different audiences |

| Attributes: | |
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| C 1 | Students will learn to critically apply learning from scientific papers to their practice and how use these to develop guidelines to improve care in their departments. Through understanding trial design and ethics they will understand how to participate in research. |
| C 2 | Translation of (patho)phsiology and resuscitation tools into clinical practice. |
| C 3 | Synthesise the underlying causes and treatment options available to manage cardiac arrest and respiratory failure in clinical practice |
| C 4 | Understanding of the disease processes that lead to shock and organ failure so enabling a higher level of care delivery and communication. |
| C 5 | An understanding of trauma shock, trauma resuscitation and the roles of practitioners involved in trauma care enables students to develop skills in trauma team leadership. |
| C 6 | Evaluate the most appropriate diagnostic tools to answer clinical questions, synthesise the information obtained from imaging to offer high standards of patient care. |
| C 7 | To evaluate clinical presentations identifying the toxidromes that guide treatment and antidotes, to understand when to call a major incident and critically asses risks to staff. |
| C 8 | Understand and evaluate the differing priorities of care in the hospital and pre-hospital environments. |
| C 9 | Understand the issues unique to managing unwell children (including safeguarding, pain management, and distraction techniques). |
| C 10 | Develop skills in written communication and discussion, synthesise data to improve patient care. |

## How will you learn?

All modules are based on an online learning platform. Lectures are recorded by experts in their field and are released at a rate of three/four per week. Students listen to these in their own time. Each lecture is accompanied by course work which consists of reading around the topic and assignments as directed by the module leads.
Students will be expected to attend the online tutorials to discuss the topics studied that week.

Students will take 4 x 15 credit modules each year, for the first two years. Students wishing to complete the MSc award will undertake a scientific research paper in their 3rd and final year, worth 60 credits. All modules run for 8 consecutive weeks with a study break at Christmas. For the first two years the programme runs From September to December (Semester 1) and January to May (Semester 2). The final year will extend to April-June (Semester 3) for completion and submission of the dissertation.

Each 15 credit module represents 150 hours of notional study – this includes self-directed reading, lectures, tutorials, assessments and assignments. Each module will consist of around 20-25 lectures, each lecture approximately
60 minutes in length and an accompanying group tutorial also approximately 60 minutes in length. Thus contact teaching is approximately 40 hours with self-directed study of up to 110 hours per module. The MSc therefore requires a time commitment of around 600 hours annually for three years.

The final 60 credits will provide students with the opportunity to produce their own scientific paper. The topic will be proposed by the student at the start of their 3rd year, with final submission the following summer. All proposed topics must be agreed by the module lead and students will be assigned a supervisor to advise on their work. Manuscript marking will be by a tutor assigned by the course lead as well as the supervisor. Year 3 teaches the student how to author a paper for publication and prepare a presentation for a conference.

## How will you be assessed?

Programme assessment will include a mixture of MCQ exams, written assignments and presentations. Written assignments have formats which include long answers, short answers and critical appraisal.

Each module assessment may differ depending on the the stated learning outcomes and include, but not limited to:
- Writing assignments which are linked to the lectures delivered and may be a case report combined with analysis of care delivered against international standards, a critical literature review, producing or an appraisal of a guideline, a problem solving exercise or detailed critical appraisal of a scientific paper. The latter embeds skills taught in module 1 and prepares the student for preparing their own paper in year 3. Students will be encouraged to share and discuss their marks and feedback for mutual development.
-Multiple choice exams are delivered online at the end of each module. This will assess the basic knowledge taught in each module. The format is single best answer.

For some modules students will be expected to provide a short recorded presentation on a specific topic. These include the preparation of slides and recording of the presentation to develop students' teaching and presentation skills. In year 3 a conference standard presentation of the students chosen topic is included in the assessment.

## How is the programme structured?

Please specify the structure of the programme diets for all variants of the programme (e.g. full-time, part-time - if applicable). The description should be sufficiently detailed to fully define the structure of the diet.

The programme will offer part time study over 3 academic years, with credit value distributed equally over this time frame. Students will be required to pass sufficient credits to progress to the dissertation in the final year.

Year 1 Modules (60 credits)
Year one starts with an academic module to equip students with basic academic skills to use in their MSc and medical practice. Literature searching and study design and basic statistics are covered. The next 3 modules explore the basic science of resuscitation medicine with modules on cardiovascular failure, airway care & sedation and high risk Emergency Medical diagnoses.
- Fundamentals of Research (Compulsory, 15 Credits)
- The physiology of shock, shock syndromes and tools of resuscitation (Compulsory, 15 Credits)
- Cardiac arrest, airway management, oxygenation, analgesia and procedural sedation (Compulsory, 15 Credits)

- Emergency Care (Compulsory, 15 Credits)

Year 2 Modules (60 Credits)
Year 2 explores trauma care, imaging in acute illness, toxicology, prehospital care, and paediatric emergency medicine as applied to resuscitation medicine. The last module then looks at the transfer to intensive care Medicine, picking up and developing the discussion of homeostasis and organ support in more detail.
- Emergency Management of Severe Trauma (Compulsory 15 Credits)
- Diagnostic tools in critical illness (Compulsory 15 Credits)
- Toxicology and CBRN (Compulsory 15 Credits)
- Pre Hospital care and mass casualties (Elective15 Credits choose between this and the paediatric emergency medicine module)
- Paediatric Emergency Medicine (Elective 15 Credits - choose between this and the pre-hospital care module)

There will be no further teaching for PG Dip students.

Year 3 - Independent Scientific Paper (60 Credits, core for MSc award)
Students undertaking the MSc will need to complete and pass a further year of study which focuses on applying and developing academic skills to prepare an independent scientific paper and conference presentation. Year 3 includes dedicated teaching but the majority of the work is self directed under the guidance of a dedicated tutor. The topic and paper produced are chosen by the student and may be a systematic review +/-meta-analysis, narrative review, pro- or retrospective cohort study, education research or rarely be based on the students existing research work. The outputs are as follows:
- project proposal
- scientific paper
- supplementary material to scientific paper
- recorded presentation based on scientific paper

## Academic Year of Study FT - Year 1

| Module Title | Module Code | Credits | Level | Module Selection Status | Academic Year of Study | Semester |
|---|---|---|---|---|---|---|
| Fundamentals of Research | ICM7067 | 15 | 7 | Compulsory | 1 | Semester 1 |
| The Physiology of Shock, Shock Syndromes and tools of resuscitation | ICM7068 | 15 | 7 | Compulsory | 1 | Semester 1 |
| Cardiac arrest, Airway management, Oxygenation, analgesia and Procedural Sedation | ICM7069 | 15 | 7 | Compulsory | 1 | Semester 2 |
| Emergency Care | ICM7077 | 15 | 7 | Compulsory | 1 | Semester 2 |

## Academic Year of Study FT - Year 2

| Module Title | Module Code | Credits | Level | Module Selection Status | Academic Year of Study | Semester |
|---|---|---|---|---|---|---|
| Emergency Management of Severe Trauma | ICM7047 | 15 | 7 | Compulsory | 2 | Semester 1 |

Programme Title: Emergency and Resuscitation Medicine

| Module Title | Module Code | Credits | Level | Module Selection Status | Academic Year of Study | Semester |
|---|---|---|---|---|---|---|
| Diagnostic Tools in Critical Illness | ICM7078 | 15 | 7 | Compulsory | 2 | Semester 1 |
| Toxicology and CBRN | ICM7079 | 15 | 7 | Compulsory | 2 | Semester 2 |
| Pre Hospital Care and Mass Casualties<br>or<br>Paediatric Emergency Medicine | ICM7049<br>OR<br>ICM7231 | 15 | 7 | Elective | 2 | Semester 2 |

Academic Year of Study FT - Year 3

| Module Title | Module Code | Credits | Level | Module Selection Status | Academic Year of Study | Semester |
|---|---|---|---|---|---|---|
| Independent Scientific Paper | ICM7074 | 60 | 7 | Core | 3 | Semesters 1 & 2 |

## What are the entry requirements?

For doctors:

A medical degree
Two or more years' basic training in Emergency Medicine/anaesthesia/general medicine/cardiology/acute surgery/intensive care medicine/pre-hospital care.
Current employment in emergency medicine, critical care, acute medicine, observation medicine or pre-hospital care. Part time work of at least two days per week is accepted.
For nurses:

An undergraduate degree at 2:1 or above. Applicants with academic study slightly below this level will be considered on an individual basis if there is very strong evidence of suitable clinical experience in a relevant medical field. For example, nursing professionals with non-honours degrees or diploma/foundation degrees but who come with extensive clinical experience.
5 years' experience in emergency and critical care nursing
A letter of support from the departmental lead or educational lead that the applicant has the skill set to complete the course.
For paramedics:

A degree in paramedic science at 2:1 or above. Applicants with academic study slightly below this level will be considered on an individual basis if there is very strong evidence of suitable clinical experience in a relevant medical field. For example, Paramedics with non-honours degrees or diploma/foundation degrees but who come with extensive clinical experience.
5 years' experience working as a paramedic OR 3 years' experience plus at least 12 months experience working as a critical care paramedic or in a dedicated HEMS system.
For Physician's Assistants/Associates:

A degree in this area at 2:2 or above. Applicants with academic study slightly below this level will be considered on an individual basis if there is very strong evidence of suitable clinical experience in a relevant medical field.
4 years' experience with at least 2 years in emergency medicine/anaesthesia/general medicine/cardiology/acute surgery/ intensive care medicine/pre-hospital care. Up to 2 years from previous paramedic/nursing experience could be included.

## How will the quality of the programme be managed and enhanced? How do we listen to and act on your feedback?

The Staff-Student Liaison Committee provides a formal means of communication and discussion between the Institutes and its students. The committee consists of student representatives from each programme in the Institute together with appropriate representation from Institute staff. It is designed to respond to the needs of students, as well as act as a forum for discussing programme and module developments where appropriate. Staff-Student Liaison Committees meet regularly throughout the year. Students studying the MSc Emergency Medicine programme would be asked to nominate representative(s), who would be asked to attend these SSLC meetings. However as distance learning students, they would not be expected to attend in person, rather they would be asked to submit a written report gathered from their colleagues which would be formally reviewed by the SSLC. The programme leads are asked to provide comment/feedback on any issues raised by the student representatives.

The Institute operates an Education Committee, which will advise the director and Education Lead on all matters relating to the delivery of taught programmes at School level including monitoring the application of relevant Queen Mary policies and reviewing all proposals for module and programme approval and amendment before submission to the relevant Committee for approval. Student views are incorporated in the committee's work in a number of ways, such as through student membership, or consideration of student surveys.

## What academic support is available?

Students on this programme will be studying via distance learning, and will engage with each other and programme tutors via a combination of online discussion forums, one to one email support, and live tutorial sessions. Students will be encouraged to support each other in their research and discussion, and will also have email access to specialist module tutors who can address specific queries or concerns.

Each student will be invited to view the recorded institute PGT induction programme, which will include sessions on academic writing, plagiarism, referencing and pastoral support.

Each student will be provided with a dedicated personal tutor, who will remain with them for the duration of their studies. This tutor will support the student on an academic and pastoral level as required, referring issues to the programme director and academic coordinator when appropriate.

Students undertaking the final year will be allocated a dedicated tutor at the start of the year, depending on the subject chosen.

## Programme-specific rules and facts

Students must achieve sufficient credits/module marks to progress from the taught element to the final year of study.(Years 2-3)

## How inclusive is the programme for all students, including those with disabilities?

The Blizard institute are committed to supporting disabled students of all backgrounds, and have close links with Queen Mary DDS and student support services. Academic advisors and course tutors are encouraged to closely monitor the experience of disabled students, and provide all necessary support and referrals as needed.

The programme will aim to identify and assist any undiagnosed students who may be suffering from SpLD within the first semester. All efforts will be made to support these students in collaboration with the services offered by Queen Mary.

All students (including DL students) are given the opportunity for a disability and dyslexia assessment, and the programme will work to implement all recommendations made by Queen Mary for diagnosed students.

**Links with employers, placement opportunities and transferable skills**

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## Programme Specification Approval

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| **Person completing Programme Specification:** | Krys Gunton |
| **Person responsible for management of programme:** | Professor Tim Harris |
| **Date Programme Specification produced / amended by School / Institute Learning and Teaching Committee:** | 08/12/2020 (For Sept 2021) |
| **Date Programme Specification approved by Taught Programmes Board:** | 24 March 2021 |