PROGRAMME SPECIFICATION

**Awarding body/institution:** Barts and The London School of Medicine and Dentistry (Queen Mary, University of London)

**Teaching institution (if different from above):** Professorial Surgical Unit (Upper Gastrointestinal Surgery) and The Centre for Surgical Sciences within the School’s Institute of Cancer, Queen Mary, University of London

If accredited by a professional/statutory body, please give the name, date of last accreditation visit, approximate date of next visit and details of exemptions that will be given to QMUL graduates: N/A

**Name of the final award:** M.Sc. in Surgical Skills and Sciences

**Duration of Study/Period of Registration:** 1 year

**Programme title:** M.Sc. in Surgical Skills and Sciences

**UCAS code:** N/A  **QAA Benchmark Group:** N/A

**Criteria for admission to the programme:**

The course is open to medical graduates (UK and Overseas). It would be an advantage, but not essential, for students to have GMC registration in order to obtain an honorary clinical contract at clinical assistant level. All students will have to obtain formal health clearance from the Barts and The London School of Medicine and Dentistry.

**Aims of the programme**

The aim of this course is to provide surgeons in training with a year of instruction into surgical sciences and clinical skills development in general surgery. The MSc in Surgical Skills and Science will provide students with a unique opportunity to gain postgraduate training in both laboratory and clinical research methodology relevant to surgical practice.

This MSc incorporates flexible learning (described below) which makes it much more practical and attractive compared to the other MSc courses in UK/London in terms of time, money and fast-tracking surgical education.

**Simulation in Medical Education**

Surgical Simulation is a tool for assessment, training and future certification of surgeons. Career progression will depend upon the demonstration of competency rather than time spent in a particular grade. The Royal College of Surgeons of England has proposed a radical change in the
arrangements for and process of assessment of surgical training. The new structure for surgical training has been described by the President of the College and its bulletin is attached (RCS Bulletin attached Ann R Coll Surg Engl (Suppl) 2004; 86: 332–333).

With the modernisation of medical education and a shorter period of surgical training, combined with the shorter working week (EU working time directive) means acquisition of technical skills must occur in a shorter period. This MSc course will help accelerate the surgical training and improve surgical skills that are essential for building confidence in operating theatre. Also the proposal of a seamless training grade from completion of foundation house job years to consultant means objective techniques to test aptitude to surgery prior to entry to a training program and consolidation of experience in training for the aviation and space flight has shown that simulation and virtual reality (VR) can deliver validated training/skills acquisition opportunities for other highly responsible fields such as surgery. Since adequate training models for complex operations are not generally available, the necessity for training simulators has become acute in recent years. Dramatic increases in computer performance have made mathematical remodelling of biological and medical reality possible. Trainees can interactively handle familiar surgical instruments and "tools", experience simple and complex operative and endoscopic scenarios, where their performance can also be objectively assessed on repeated occasions.

**Main Direct/ Indirect Advantages**

**To Patients/ Staff:**

Our aim is to provide a centre for education and training of the surgical trainees and their assessment within the Barts and The London Trust (and those outside the Trust, by way of providing the MSc Taught course). A centre for assessment of surgical skills will assist practice of techniques prior to patient experience, thereby promoting quality patient care, potentially reduce length of stay, improve clinical outcomes and reduce costs of care within the Trust. The centre will also provide training opportunity to staff across a number of clinical and nursing disciplines, e.g. Gastroenterology and nurse Endoscopy, through the availability of Endoscopy simulators, thus helping to widen the role of nurses and professionals allied to medicine within the Trust.

**To School/ Trust:**

The new MSc course will enable us to maximise the Centre for Surgical Science's plans for exploiting the potential for research and development in the area of surgical skills and technology through simulation, virtual reality and eventually robotic surgical developments. This is in line with the Government's policy for continuous assessment of doctors and the eventual introduction of re-accreditation and/or future certification of surgeons. Establishment of a Surgical Skills and assessment centre will boost clinical research activity. Provision of the facility will enable us to design and execute studies to validate methods of assessment of surgical competence, which is an essential element of the modernisation of surgical training. Such research activity may attract DOH funding.

**Learning outcomes for the programme**

It is intended that the course will provide a valuable opportunity for British trainees who have obtained their collegiate fellowship and wish to study an area of interest, in depth, before entering their higher surgical training. In addition, the course will be attractive to overseas graduates who
may not have their collegiate fellowship and who wish to train in an area of clinical or research interest in Surgery to further their careers. For suitably able students, the course will provide an excellent foundation for MS/MD or MPhil/PhD studies and obtaining grants, in open competition, from the work carried out in their dissertation. This would encourage more doctors to become clinical scientists.

On completing the programme, successful students should have gained the following experience:

1. Experience of general and specialist clinical surgical practice within the unique environment of the College and the Barts and The London NHS Trust through exposure to outpatient clinics, multidisciplinary cancer management meetings, operating sessions, and learn to critically appraise research articles published in peer-reviewed journals.
2. The students will have the opportunity of developing surgical skills in the Virtual Reality Surgical Training Simulator centre for accelerating the development of cognitive and motor skills that is essential for operational and medical decision-making, improving medical training and building confidence in operating theatre.
3. “Hands on Training” simulator experience in developing Surgical Skills in the field of:
   a. Open surgery
   b. Laparoscopic surgery
   c. Upper and Lower Gastrointestinal Endoscopy – Diagnostic and Therapeutic procedures.
4. Through completion of a dissertation, students should gain experience in research methodology and techniques, design of a research project, data analysis and presentation, literature searching, and presentation of work for publication.

**Teaching, learning and assessment strategies**

**Teaching methods**

Many different teaching methods are employed during the course, including lectures (from Department of Surgery staff and experts from other Queen Mary, University of London Departments), practical classes and demonstrations in the Surgical Simulator Centre, attendance and participation in the multidisciplinary cancer management meetings. Operation theatre sessions and learn to critically appraise research articles published in peer-reviewed journals. Clinical tuition is given on the wards and in theatres as well as by attendance and participation at Surgical Grand Round.

**Flexible Modules / External Teaching:** These modules include educationally approved teaching activity, which would count towards student learning that can be acquired as part of the MSc course at The Barts and The London NHS Trust or at another UK hospital of similar standard providing similar educationally approved teaching activity. For practical purposes this is most likely to be University of London Schools or Hospitals only, as the majority of the taught MSc course will take place at the Barts and the London site.

These flexible modules will include only a small proportion of the overall teaching provided as part of the MSc and will be subject to written confirmation from the lead clinician or lead tutor from that institute responsible for organizing the teaching activity confirming the participation and attendance by the student in that institute. (Refer to the External teaching letter template).
For quality control purposes and in some cases where there is a reason to doubt the quality of teaching provided by an external centre (e.g.: student complaint), it may be necessary for the course organisers to formally assess the teaching methods and facilities. This will be carried out by the head of centre (Prof. A K Kakkar) and the head of the MSc (Mr.B.P. Patel) by visiting the external centre to approve or disapprove the external centre for learning purposes, and the student may be asked to repeat the flexible module or attend at the Barts and the London site if that external centre fails to provide appropriate teaching.

External Teaching will exclude the lecture series and training in the skills lab but can include the following:

- Critical review of literature,
- Multidisciplinary meetings,
- Live operation demonstration and
- Group discussion based on reading assignments.

Aim of Flexible learning:
To make this MSc course more attractive compared to the other MSc courses in UK/London in terms of time, money and fast tracking surgical education. Many more London students can take advantage of this MSc provided by Queen Mary University while remaining in their present training post, which is main source of financial support to live and study in London and more importantly not having to take a year out for full-time study which is associated with a loss of earnings and pension.

Assessment Methods
Refer to Final assessment document on page no: 9

Format
The final mark will have the following components:

- Continuous Assessment in the skills lab
- Formal examinations in May and/or June and
- The research Dissertation.

In order to achieve an overall pass, a student will normally be required to achieve a pass mark of at least 50% in the Continuous Assessment, each individual component of the May and June Examinations and the Research Dissertation.

Continuous Assessment
For the continuous assessment mark, candidates will be assessed throughout the year, in the form of regular review by their course co-ordinators and objective assessment of surgical skills in the Virtual Reality Surgical Training Simulator.

Examination
The examination will consist of:

b. A written essay-style or MCQ paper, related to the principles of surgical science and practice.
c. One clinical viva session lasting 15 minutes, on surgery in general.
d. One academic viva session lasting 15 minutes. Candidates will be given a surgical paper and asked to critically appraise research articles published in peer-reviewed journals during the viva voce.

**Dissertation**

The candidates will submit a written Dissertation on a subject in which they have been supervised. A viva on the Dissertation may be required for borderline candidates. This will take place at the Final Board of Examiners meeting.

**Programme structure(s) and requirements, levels and courses**

The MSc is a one-year course running from October to September each year, based on the practice that 8 course modules in one academic year equals a full-time load (and 4 modules for Dissertation equals to 12 module).

Weekly timetable: *(The time shown may vary)*

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<tr>
<th>MSc</th>
<th>AM</th>
<th>PM</th>
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<tr>
<td><strong>Monday</strong></td>
<td>Lecture /Journal Club 8.30 to 9.30am</td>
<td>Skills Lab – 1-5pm</td>
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<td>Skills Lab – 1-5pm</td>
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<tr>
<td><strong>Tuesday</strong></td>
<td>Multi-disciplinary meeting 8-10am</td>
<td>Skills Lab – 1-5pm</td>
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<td><strong>Wednesday</strong></td>
<td>PBL – Discussion and Write-up 9 to 10am</td>
<td>Theatre SBH</td>
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<td><strong>Thursday</strong></td>
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<tr>
<td><strong>Friday</strong></td>
<td>PBL – Discussion and Write-up to 10am</td>
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Series of lectures, critical review of literature, multidisciplinary meetings, live operation demonstration and group discussion based on reading assignments. Apart from this the students will have to attend practical classes and demonstrations in Surgical Simulator Centre developing surgical skills in the field of Open surgery, Laparoscopic Surgery and Endoscopy. In addition, each student will engage in the preparation of a Dissertation on a particular aspect of clinical or applied research.

**Problem Based Learning (PBL) – Discussion and Write-up.**

On weekly basis groups of 3 to 5 students will be allocated a theory topic with learning objectives or a clinical scenario (as part of weekly self-learning). At the end of the session the any unresolved questions or controversies arising from this discussion will be resolved in the following week by the personal tutors or the teaching staff from the Centre for Surgical Sciences, Institute of Cancer or Department of Surgery.
It will be the responsibility of the chairperson in each group to write-up an essay of 1000 to 1500 words on the topic and keep a list of unresolved questions from the discussion. This will form part of the continuous assessment.

**Indicators of Quality** (please include details of: SSLC meetings, student feedback mechanisms, personal tutor arrangements, programme induction, programme review and monitoring.)

**Programme monitoring and review**

Center for Surgical Science will be responsible for regular monitoring of the programme. The monitoring process will consider the effectiveness of the programme in achieving its stated aims, and the success of students in attaining the intended learning outcomes. Periodically, the continuing validity of those aims and outcomes themselves will be reviewed both internally and if necessary by involving external participants of high caliber and academic/professional credibility to ensure that appropriate actions are taken to remedy any identified shortcomings.

**Support for students and their learning**

- Induction programme for orientation and introducing study skills.
- Student Handbook and Module Guides.
- Library and study skill packages.
- Extensive library and other learning resources and facilities at both Charterhouse and Mile End site.
- Clinical education supported by clinical supervisors and assessors located within service provider units.
- Close collaboration between the University and hospital clinical sites via the University
- All students are allocated personal tutors whose role is to assist them with personal problems and to advise on pastoral issues.
- Student email and open personal access to tutorial staff including the Course Director.
- Access to student counsellors within the Queen Mary University.
- Access to Teaching and Learning Support Services, which provides assistance and guidance e.g. dyslexia.

**Quality assurance:**

- External examiners' reports;
- Staff and student feedback - anonymous questionnaire
- Feedback from former students and their employers
- Student progress information.

**Personal Tutors**

<table>
<thead>
<tr>
<th>Professor Ajay Kakkar</th>
<th>Dr Jude Fitzgibbon</th>
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<tr>
<td>Mr.B.P.Patel</td>
<td>Dr Simon Joel</td>
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<tr>
<td>Professor Nicholas Lemoine</td>
<td>Mr.R.Hutchins</td>
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<td>Professor Ian Hart</td>
<td>Mr.H.Kochar</td>
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<td>Professor Peter Armstrong</td>
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Employers Links

http://www.cancer.qmul.ac.uk/index.html

Professor Ajay Kakkar - Centre Lead for Surgical Science
Mr Hemant Kochar
Senior Clinical Lecturer

Professor Nicholas Lemoine
Director and Centre Lead for Molecular Oncology
Dr Gloria Pertralia
Clinical Research Fellow

Professor Ian Hart
Deputy Director and Centre Lead for Tumour Biology
Ms Marie Claire Rickard
Research Nurse

Mr Hemant Kochar
Senior Clinical Lecturer

Dr Neelam Saba
Clinical Trials Co-ordinator

Surgical Science Staff

Professor Ajay Kakkar
Centre Lead
Mr Mark Baginski
Data Manager (clinical trials)

Mr Bijendra Patel
Senior Clinical Lecturer
Ms Kate Hawkshaw
PA to the Director

Mr Rob Hutchins
Hon: Senior Clinical Lecturer
Dr Delphine Purves
Institute Manager

<table>
<thead>
<tr>
<th>Person Completing Programme Specification</th>
<th>Mr B Patel</th>
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<tr>
<td>Person responsible for management of programme</td>
<td>Mr B Patel</td>
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<tr>
<td>Date programme specification agreed by Department or teaching and learning committee</td>
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<td>Date of completion of programme specification:</td>
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<td>Date of approval by Faculty Board/EB:</td>
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<td>Date of update/amendment:</td>
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Final Assessment

Section A = 40%
- Endoscopy Simulator
- Laparoscopy Simulator
- Continuous Assessment

Section B = 60%
- Viva
- Written Paper
- Dissertation

Endoscopy Simulator 10
Laparoscopy Simulator 10
Continuous Assessment 20
Viva 15
Written Paper 15
Dissertation 30

100%

Pass

≥ 50% and ≥ 50% in both section A & B

Borderline

45 to 50%

Fail

≤ 45%
Redo year + Full fee

Borderline Fail

- Section A < 20% Redo this section £500
- Section B < 30% Redo Written and Viva £250
- Dissertation Fail (to be agreed at examiners meeting) – Redo dissertation fee £2000 New/Additional supervisor.