

Programme Specification for the MBBS/BSc 2010-11

PLEASE NOTE. This specification provides a **concise** summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. This specification provides a source of information for students and prospective students seeking an understanding of the nature of the programme and may be used by the College for review purposes and sent to external examiners. More detailed information on the learning outcomes, content and teaching, learning and assessment methods of each module can be found in the course handbook or on-line at <http://www1.imperial.ac.uk/medicine/teaching/undergraduate/>. The accuracy of the information contained in this document is reviewed by the College and may be checked by the Quality Assurance Agency.

1. **Awarding Institution:** Imperial College London
2. **Teaching Institution:** Imperial College London
3. **External Accreditation by Professional / Statutory Body:** General Medical Council
4. **Name of Final Award (BEng / BSc / MEng etc):** MBBS/BSc (Honours)
5. **Programme Title (e.g. Biochemistry with Management):** Medicine
6. **Name of Department / Division:** Faculty of Medicine
7. **Name of Faculty:** Faculty of Medicine
8. **UCAS Code (or other coding system if relevant):** A100
9. **Relevant QAA Subject Benchmarking Group(s) and/or other external/internal reference points**
 - Tomorrow's Doctors (General Medical Council)
 - Framework for Higher Education Qualifications
 - Quality Assurance Agency Subject Benchmarks for Medicine
 - Course Handbooks
 - College Prospectus
10. **Level(s) of programme within the Framework for Higher Education Qualifications (FHEQ):**

Bachelor's (BSc, BEng, MBBS)	Level 6
Integrated Master's (MSci, MEng)	Levels 6 and 7
Master's (MSc, MRes)	Level 7

11. **Mode of Study:** Full-time
12. **Language of Study:** English
13. **Date of production / revision of this programme specification (month/year):**

October 2010

14. Educational aims/objectives of the programme

The programme aims/objectives are to:

- Provide a challenging, interesting and innovative undergraduate curriculum which equips students with the highest levels of knowledge, competence and attitudes appropriate to the effective and empathic practice of medicine;
- expose students to academic staff, in a world class research, innovative and education environment;
- produce doctors with originality and breadth of vision who will be leaders and innovators across all areas of medicine;
- produce doctors who will be clinician scientists and leaders of the future;
- support acquisition of a broad basic understanding of the biological, psychological and social bases of human health and illness;
- highlight the relevance of science to clinical medicine from the commencement of the course;
- provide opportunities for a broad range of appropriate clinical experiences;
- ensure that all students gain experience in the application of statistical principles, computer skills and information technology;
- develop good communication skills both orally and in writing, and help students to become good listeners;
- support the development of skills in analysing and solving problems both as individuals and within teams;
- prepare students for lifelong learning and independent study through self learning supported by accessible and appropriate high quality learning resources; and
- offer opportunities for in-depth study of particular areas through BSc courses and the option of applying to study an intercalated PhD.

15. Programme Learning Outcomes

1. Knowledge and Understanding

Knowledge and Understanding of (teaching/learning methods and strategies may include lectures, direct study, group work, work-based learning, practical skills, transferable skills, project work, problem solving, analysis, evaluation):

- Molecular and cellular organisation of the body including processes underlying growth, reproduction, and ageing; selected medically important examples of perturbation of these processes in disease (Years 1 and 2)
- Basic principles of infection and immunity, exemplified by selected medically important examples (Years 1 and 2)
- Normal structure and function of the body's systems and understanding of how they interrelate and interact; the nature of homeostasis and its expression in regulation of function in the human body, including medically important consequences of failure of homeostatic mechanisms (Years 1 and 2)
- Structure and function of the nervous system; biological dysfunction and mental illness (Years 1 and 2)
- Pharmacological principles underlying the actions and use of the main medically important types of drugs (Years 1 and 2)
- Principles and application of statistical analysis in medicine
- Behaviour and relationships between individuals, social groups and society with emphasis on relevance to health and illness (Year 1)
- The scientific concepts which underpin human biology, health and disease in relation to the practice of medicine
- Common disease processes, their aetiology, manifestations and the physical and psychological consequences for the patient, family and society
- Basic principles of epidemiology, public health, health promotion and preventive medicine
- Principles of organisational and self management, the consequences of disease and its treatment, and rehabilitation of patients

- Social and psychological consequences of chronic and acute illness, impairment, disability and handicap for the patient, family and community
- The management of health care from the perspectives of the individual, organisation and wider society
- Basic principles of medical ethics and law
- The impact of new technologies (including computers) on the practice of medicine
- Research methodologies relevant to chosen BSc course
- The body of knowledge underlying the BSc project
- The characteristics of good as opposed to poor research

2. Skills and other Attributes

Intellectual Skills (lateral and critical thinking, logic):

- Apply critical, evidence-based reasoning to scientific and medical problems
- Evaluate the reliance to be placed on particular items of information
- Integrate and organise information obtained from various sources
- Formulate and test hypotheses
- Recognise influence of own values and those of patients on perception of clinical situations
- Make a provisional diagnosis and undertake the investigation and management of a defined range of clinical problems
- Carry out a critical appraisal of scientific literature using library periodicals and books and computer-based information retrieval systems in order to base clinical practice on appropriate evidence
- Analyse clinical and scientific problems, formulate learning goals and identify strategies for problem solving
- Design experiments and apply experimental reasoning to research and problem solving
- Apply knowledge and understanding of research methodology to chosen area of BSc study

Practical Skills (experimental design, data analysis, research skills):

- Carry out practical work as instructed in an organised and safe manner (Years 1 and 2)
- Use safe technique in the handling of body fluids (Year 1)
- Make and record microscopic observations accurately (Year 1)
- Make reproducible and reasonably accurate measurements of basic cardiovascular and respiratory parameters (Year 1)
- Demonstrate structural features of the living body of importance in a physical examination (Years 1 and 2)
- Use stethoscope to listen to heart and breath sounds (Year 1)
- Demonstrate major structures in X-rays, Computerised Tomography (CT) and Magnetic Resonance Imaging (MRI) scans of normal patients; notice conspicuous deviations from the normal range (Years 1 and 2)
- Obtain and record a comprehensive history and perform a complete physical and mental state examination
- Perform clinical procedures routinely carried out during F1 posts as identified in GMC document 'The New Doctor'
- Use computers to record, analyse, retrieve and present data through the appropriate use of word processing, spreadsheet, database and statistical software
- Carry out a range of laboratory based skills and apply experimental techniques to research and problem solving (BSc)

Transferable Skills (initiative, group work, independent thought etc):

- Communicate effectively with others including patients, relatives, colleagues and other health

- and social care professionals orally, in writing and through use of information technology
- Work effectively as a member and as a leader of a team
- Communicate effectively and appropriately with patients, colleagues and students, particularly in giving and obtaining appropriate information; be a good and sensitive listener
- Manage own time and workload and set priorities

Attitudes and Professional Values

- Taking responsibility for own learning both as an undergraduate and after graduation
- Demonstrating a flexible, enthusiastic attitude that is responsive to change
The confidence to adapt clinical behaviour in the light of new knowledge; to apply scientific method and an evidence based approach to medical decision making and the ability to tolerate uncertainty and share this appropriately with colleagues and patients
- An awareness of own limits of knowledge and skills and an awareness to extend boundaries
Respect for the individuality and values of others - (including having respect for themselves) patients, carers, colleagues and other health professionals
- Awareness of the impact of prejudice and discrimination (including their own) on medical practice
- A capacity for self audit and active participation in peer review
- Awareness and understanding of professional responsibilities including the delivery of the highest possible standard of clinical care within recognised constraints; providing appropriate support for colleagues and peers; working as a member of a team; being able to ask for help; contributing to teaching and research and maintaining professional confidentiality
- A patient-centred approach which acknowledges patients' expectations and perceptions; their health beliefs and autonomy, their right to confidentiality and informed consent and maintaining a balance between empathy and objectivity in order to alleviate patients' distress and suffering
- Recognition of the whole person within their community – social, psychological and biological
- Critical awareness of the diversity, strengths and weaknesses of different attitudes within the medical profession

16. The following reference points were used in creating this programme specification

- Tomorrow's Doctors (General Medical Council)
- Framework for Higher Education Qualifications (QAA)
- Subject Benchmarks for Medicine (QAA)
- Course handbooks
- College prospectus

17. Programme structure and features, curriculum units (modules), ECTS assignment and award requirements

Year One:

- **Molecules, Cells and Disease:** Introduction to Cells, Nucleic Acids and Gene Expression, Metabolism, Genetics, Cellular Organisation of Tissues, Microbiology, Immunology, and Cell Pathology.
- **Life Support Systems:** Cardiovascular System, Respiratory System, Alimentary System, Urinary System, Skin, and Anatomy of the Thorax, Abdomen, Pelvis.
- **Life Cycle and Regulatory Systems:** Human Life Cycle, Neuroscience and Mental Health, Endocrinology and Musculoskeletal System.
- **Foundations of Clinical Practice:** Sociology, Clinical Communication, Information Technology/Library Skills, Patient Contact Course, and Epidemiology in Practice.
- **Dr and Patient:** Problem-based learning and Personal and Professional Development

Clinical experience in Year 1 is provided by the First Clinical Attachment

Year 1 Examinations:

Year 1 Paper 1: Sections 1 and 2: Life Support Systems

Year 1 Paper 2: Molecules, Cells and Disease I

Year 1 Paper 3: Life Cycle and Regulatory Systems I

Year 1 Paper 4: Foundations of Clinical Practice I

Year 1 Paper 5: Dr and Patient (PBL)

Students are not permitted to enter Year 2 until they have passed all the examinations for Year 1

Year Two:

- **Molecules, Cells and Disease:** Haematology, Diagnostics, Microbiology, Cancer, and Immunology.
- **Life Cycle and Regulatory Systems:** Human Life Cycle, Neuroscience and Mental Health, Endocrinology, Musculoskeletal System, Anatomy of the Head, Neck, Spine & Limbs and Pharmacology & Therapeutics.
- **Foundations of Clinical Practice:** Clinical Communication, Medical Ethics.
- **Science and the Patient:** Nutrition, Human form and performance, Water and Electrolyte balance, Drugs and the Hospitalised Patient and the Physiology of Infection.
- **Dr and Patient:** Problem Based learning and Personal and Professional Development

During Year 2 all students undertake a 3-week hospital-based introductory clinical attachment at one of the 10 main hospitals associated with Imperial College School of Medical (ICSM).

Year 2 Examinations

Year 2 Paper 1: Science and the Patient

Year 2 Paper 2: Molecules, Cells and Disease II

Year 2 Paper 3: Life Cycle and Regulatory Systems II (sections 1 and 2)

Students are not permitted to enter Year 3 until they have passed all the examinations for Year 2

Year Three:

Year 3 consists of three 10-week clinical attachments, which may be at any of the 10 main hospitals associated with ICSM. The system and topics component of the course continues to be delivered via live lectures and interactive online learning delivered alongside the clinical attachments, and Problem Based Learning (PBL) cases will be studied within attachments. The emphasis throughout will be on the acquisition of core skills and knowledge in general medicine (including cardiovascular, renal, respiratory, neurology and cancer medicine, gastroenterology, endocrinology, haematology, rheumatology and medicine for the elderly), general surgery (including gastrointestinal, breast and vascular surgery, and urology), anaesthetics and clinical pharmacology and therapeutics. Core learning is based on:

1. Medical or surgical takes.
2. General Practice (GP) teaching: basic clinical skills/methods in GP.
3. Patient clerking: to clerk (take the history and examine) at least 2 patients each week and write up these case histories. Students are assessed on two of these written clerkings each firm, separate from the case project.
4. Consultant teaching: key cases relating to the firm – students will be expected to present patients during these sessions and this forms part of the assessment.
5. Problem-based learning

6. Lecture course: a continuation of systems and topics.
7. Other teaching: this will depend on the nature of the clinical programme of the attachment, but should include: Outpatient clinic teaching, theatre sessions, endoscopy sessions, and anaesthetic sessions.
8. Reading and electronic resources.
9. Three week 'Background to Clinical Specialities Course' which acts as an introduction to many different clinical specialities

Students undertake two patient case projects during their attachments, which contribute towards overall assessment. Satisfactory completion of the case projects is required for entry into the Objective Structured Clinical Examination (OSCE) and written examinations. At the end of the Year 3 there are written examinations comprised of Extended Matching Questions (EMQs), and an OSCE consisting of approximately 12 stations examining specific clinical skills.

Year 3 Examinations

Year 3 Paper 1: A written examination covering the learning objectives for the clinical attachments and the lecture/e-learning programme.

Year 3 Clinical Examination: An Objective Structured Clinical Examination (OSCE).

Students are not permitted to progress into Year 4 until they have passed all the examinations of Year 3.

Year Four:

The modular BSc degree embodies the principle of a degree being designed along bio-medical research pathways. The BSc degree allows students to study a course that has intellectual integrity, is related to bio medical science and clinical practice and provides an extension and complement to the MBBS course. Modules are grouped so that they constitute a coherent educational and scientific programme of work.

To achieve the award of the BSc, students must have developed an understanding of a complex body of knowledge, some of it at the current boundaries of an academic discipline. Through this, the graduate will have an understanding of the scientific method, developed analytical techniques, problem-solving skills and appreciation of evidence-based judgement that can be applied in many types of employment. The graduate will be able to evaluate evidence, arguments and assumptions, to reach sound judgements, and to communicate effectively.

An honours graduate should have the qualities needed for employment in situations requiring the exercise of personal responsibility, and decision-making in complex and unpredictable circumstances. This is in accordance with the stated level in the Framework for Higher Education Qualifications (FHEQ).

The BSc comprises a two-week Introduction to the BSc Course which, while relating to specific BSc courses, will provide generic skills (essential basic scientific skills, techniques and research methodologies) relevant to all BSc courses. Following this, there are five modules: Modules 1 to 3 followed by modules 4-5, which is either a supervised two-modules research project (laboratory, clinical or library based) or a specialist course (one taught module and one module devoted to a mini-project).

The research project will be linked to the BSc course and has to be completed by the end of the summer term. The submitted project write-up and the oral presentation of project work will constitute the final part of the BSc assessment.

The specialist courses are offered to all students (except students on the BSc in Management) and are grouped under the following headings: History of Medicine, Medical Humanities, and Death, Autopsy and Law. These courses will be assessed via in-course assessment, mini-project write-up and an oral presentation of the mini-project.

BSc courses/ Title of Award: BSc in Medical Sciences with:	Year 4 (BSc) Modules 1- 3
Cardiovascular Sciences	Cellular Cardiology Vascular Biology and Cardiovascular Pharmacology Cardiovascular Disease: Epidemiology and Investigation
Endocrinology	Hormone Dependent Systems and Cancers Type II Diabetes Mellitus, Metabolism and Obesity Neuroendocrinology in Health and Disease
Gastroenterology and Hepatology	Gene-environmental Interactions: Metabolic, Genetic and Nutritional Disorders of Gut and Liver Diagnostic and Therapeutic Principles in Gastrointestinal and Liver Disease (with Emphasis on the Science Underlying Imaging and on Neoplasia) Infective, Immunological and Inflammatory Mechanisms in Gut and Liver Disease
Global Health	Infectious Diseases New and Old: Major Threats, Transmission, Molecular Epidemiology, Control The Challenges of New Epidemics: Obesity, Diabetes, Tobacco and Environmental Hazards; From Discovery of Causes to Governance Global Health Leadership: Institutions, Health Systems, Policies and Advocacy
Haematology	Red Cells Thrombosis and Haemostasis Leukaemias, Lymphomas and Multiple Myeloma
Immunity and Infection	Inflammation, Immunology, Infection and Wound Healing Infection and Host Responses Autoimmunity, Tumour Immunology, Transplantation and Tolerance
Neuroscience & Mental Health	Developmental Neuroscience Neurological and Psychiatric Disorders of the Central Nervous System Interventions for Neurological and Mental Disorders
Reproductive & Developmental Biology	Hormone Dependent Systems and Cancer: Gynaecology and Endocrinology Aspects of Development: Before and after Birth Complications: Paediatric Infection and Allergy
Respiratory Science	Investigation, Management and New Therapies for Lung Disease: Bench to Bedside Molecular Cell Biology of the Lung in Health and Disease. Infectious and Allergic Lung Disease

Surgery and Anaesthesia	Regeneration, Repair and Cancer Control Perioperative Medicine Bioengineering and Technology in Surgery and Clinical Safety.
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Management

The Tanaka Business School structure is different from the Medical School BSc courses in that modules are taught in 10-week blocks. The modules available in each term are shown below

Term 1					
Business Strategy	Organisational Behaviour and Human Resources Management	Accounting	Project identification and Development of Project Proposal	Health services Research	Information Systems and Health Care
Term 2					
Managing Healthcare Organisations	Project Management	Entrepreneurship	Project Continued	Health Economics	Marketing
Term 3					
Project continued - completion and presentation of report					

In order to qualify for the award of BSc degree, students must have passed all of the examinations taken in Years 1-4 and have demonstrated satisfactory performance in each module of the BSc Year. However a student who fails the Year 3 examinations at the second attempt may, at the discretion of the College, be permitted to continue with Year 4 in order to complete a BSc degree and have an honorary exit from the MBBS course.

Year 4 Examinations

- Year 4: Each module in Part B is assessed by a combination of in course assessment, normally two pieces, and a formal written examination. Candidates must pass all modules to successfully complete Part B.
- Year 4: Part C is assessed solely by in course assessment – the project write-up and oral presentation of the project for students undertaking a Part C: BSc Project option and the mini-project write-up, oral presentation of the mini-project and two pieces of in-course assessment for students undertaking the Part C: Specialist course option.

Students are not permitted to progress into Year 5 until they have passed both Parts B and C

Year Five:

Students rotate over 42 weeks through 11 clinical specialties in six 7-week blocks (see below). Each specialty attachment has defined learning objectives which form the basis of the in-course assessments and the examinations, and students are encouraged to direct their own learning. The attachments aim to apply and extend the basic communication and clinical skills and knowledge acquired in the medical/surgical attachments in Year 3 to a wider range of clinical problems and patients, including children and parents, older people, people with mental illness, and pregnant women. Teaching is predominantly in small groups and is patient-focused, although it includes some large group presentations. Students must demonstrate satisfactory performance in each attainment in order to be entered for the end of year summative examinations.

Teaching blocks (duration of each specialty attachment in weeks in parentheses)

Block	Specialty	Weeks
A	Obstetrics and Gynaecology	7
B	Paediatrics	7
C	Psychiatry	6
D	Musculoskeletal and Dermatology	6
E	Human Immunodeficiency Virus (HIV), Genitourinary Medicine (GUM) and Infectious Diseases	3
	Critical Care	2
	Radiology	1
F	General Practice	3
	Oncology	2
	Teaching Skills	1

A clinical pathology course runs for four weeks at the start of the year and covers essential clinical pathology.

Year 5 Examinations:

Year 5, Paper 1: A written examination in Paediatrics, Psychiatry and Obstetrics and Gynaecology and the related areas of primary care of each.

Year 5, Paper 2: A written paper in Pathology

Year 5, Clinical examination (PACES): covering Paediatrics, Psychiatry, Obstetrics and Gynaecology and relevant primary care

Candidates are required to pass all Year 5 examinations before progressing into Year 6 of the course.

Year Six:

Students rotate through seven 3-week clinical placement blocks, attend a 3-week Practical Medicine Course, undertake an elective of 7-8 weeks and have a 3-week period of study leave. WebCT modules also run for Clinical Pharmacology and Therapeutics Course. The year also contains a two week Integrated Course in Medicine, Surgery and CPT and a Medicine and Surgery PACES programme in preparation for the final examinations.

3-week Clinical Placements Summary

- Ear, Nose, Throat/Head and Neck (1 week); Ophthalmology (1 week); and Renal (1 week)
- Neurology (2 weeks) and Cardiology (1 week)
- Emergency Medicine (3 weeks)
- General Practice Student Assistantship- Residential (3 weeks)

- Professional Work Experience - In (teaching hospital) (3 weeks)
- Professional Work Experience - Out (District General Hospital- Residential) (3 weeks)
- Specialty Choice Module (3 weeks)

Lecture and Tutorial Programmes

- Practical Medicine Course (3 weeks)
- Clinical Pharmacology and Therapeutics (e-lecture programme)
- Integrated Course in Medicine, Surgery and CPT (2 weeks)
- Medicine and Surgery PACES Programme

The first four of the clinical placements are comprised of core clinical topics covered by all students; the remaining three are selected by students from a range of options according to their interests. Two of the chosen modules are professional work experience placements during which students appreciate both the range of skills needed to work in a FY1 post, and also gain some insight into how they might integrate these skills into professional practice. These attachments are chosen by the students from a range of over 60 possible placements. Students are required to complete 1 surgical and 1 medicine attachment in any combination. The third chosen attachment is a specialty choice module, which allows students to gain further experience of an area of particular interest, and is selected from a choice of around 70 modules.

Year 6 Examinations:

Year 6 Paper 1: Written paper examining Medicine, Surgery and Clinical Pharmacology and Therapeutics and the areas of Year 5 not assessed at the end of Year 5.

Year 6: Paper 2: Practical prescribing

Year 6 Clinical Examinations: Surgery and Medicine Clinical Examinations

18. Support provided to students to assist learning (including collaborative students, where appropriate). (The description should include information about the induction programme, welfare and pastoral support, library and other facilities available to students, personal tutoring, and access to teaching and learning support services, English language support, feedback to students and dissemination of actions taken as a result):

- A 1-week induction programme (Year 1) for orientation, introduction to library and information technology
- Year Guides with details of courses, support staff, campus maps, methods and criteria for assessment (also published electronically, as are other guides)
- Additional information provided on the Undergraduate Teaching Intranet.

In addition, there are student-union nominated student representatives who sit on all Undergraduate Medicine Committees and who meet with staff at Staff-Student Liaison Groups covering all years of the programme. There are also Faculty Education Office (FEO) counters at four of the main teaching sites (Charing Cross, Hammersmith, South Kensington, and St. Mary's) where students can go for information and advice, in person. Students also have access to a list of key FEO contacts who they can telephone or email for help and advice.

19. Criteria for admission:

Academic requirements (A and AS levels and GCSE)

The minimum entry requirements for the School of Medicine are as follows: three A levels, including chemistry and/or biology and one science or mathematics subject, and one additional subject at AS level. If either chemistry or biology is offered alone at A level, then the other is required at AS level.

Our normal offer is grades AAA in the three A levels and a minimum of grade B in the additional AS subject. For candidates offering four A levels our normal offer is AAAC.

General studies will not be accepted at any level.

All applicants must have the following subjects at GCSE level, at grades AAABB or above (in any order): biology (or human biology), chemistry, English language, mathematics (or additional mathematics or statistics), physics. The science double award may substitute all sciences at GCSE. Equivalent points scores are not acceptable.

BioMedical Admissions Test (BMAT)

All candidates applying to the School of Medicine must take the BioMedical Admissions Test (BMAT) to be considered for interview. You are required to register with BMAT assessment centres. More information can be found at www.bmat.org.uk. Interview offers will be based on your performance in the BMAT and the content of the UCAS application.

International Baccalaureate

The full International Baccalaureate is acceptable as an entry qualification. You must offer: three subjects including chemistry or biology, and one other science or mathematical subject at higher level and three subjects at subsidiary level including chemistry or biology if not offered at the higher level.

If mathematics or English language are not offered as part of the diploma, they must be offered at GCSE, grade B or above. The minimum grade requirement is eight points in chemistry or biology, and in one other subject at higher level, and five points in each of the other four subjects with a total of 38 points.

European Baccalaureate

The European Baccalaureate is acceptable as an entry qualification. Candidates must offer chemistry and biology. Minimum grades of 9.0 are required in each of these two options and a grade of 85 per cent is required overall. Good passes at GCSE or at equivalent examinations are required in physics, mathematics and English language if they are not offered as part of the Baccalaureate.

Scottish Highers

Scottish Highers are not accepted alone. You must offer Advanced Highers, or A levels. Candidates must offer: five Scottish Highers (or GCSEs) at grades AAABB in any order, in biology, chemistry, physics, maths, and English language. Candidates must offer grades at AAB, in Advanced Highers, or A levels, in three of the subjects offered at Scottish Highers, and including chemistry and biology.

For other acceptable qualifications contact registry at admissions.ug.medicine@imperial.ac.uk

Graduate and mature applicants

Graduate applicants

Information relating to the Graduate Entry Medicine course (A101) can be found in the specific Graduate Entry Medicine course Specification.

Graduates in subjects not aligned to biomedical sciences can apply for admission to the 6-year MBBS/BSc course but would have to take the whole course including the BSc year.

Mature applicants

Mature applicants are normally required to meet the entry requirements given above, in addition to other qualifications that may be offered.

Foundation courses

Your application will be considered if you have satisfactorily completed a foundation course at Thames Valley University in addition to the BMAT. This option aims to widen access to the medical profession only for non-graduate home/EU students who have the potential to study medicine but may not have had the opportunity to fulfil their potential for socio-economic reasons. See Human Sciences Pre-Medical Option entry at www.tvu.ac.uk.

Deferred entry

The School of Medicine welcomes applications from school leavers who wish to take a gap year. You must state in your UCAS personal statement how you propose to spend your time. Deferred applications will not normally be accepted from graduate, mature or overseas applicants.

Overseas students

Approximately twenty-one overseas students are accepted on the Medicine course each year. Applicants offering overseas qualifications will be considered, but you must have the equivalent of the standard qualifications in the relevant subjects.

If you are offering non-standard qualifications you must supply full details direct to our Admissions Officer. Supplementary information should not be sent to UCAS. You must also be available for interview at the School of Medicine between January and April. You are required to offer GCSE English Language or IGCSE English as a first language at grade B or above. For details of other acceptable English language qualifications please see the Prospectus (available online via: <http://www3.imperial.ac.uk/ugprospectus>) email the School of Medicine admissions team at admissions.ug.medicine@imperial.ac.uk.

Transfers

Students will not be accepted for transfer from other Imperial courses or from other institutions (exception: see Oxbridge applicants on page (14)).

Age requirements

Candidates below the age of 18 on the first day of October 2010 will not be admitted to the course.

Health requirements

Assessment

All candidates called for interview must complete a health assessment with the College's Occupational Health Service. The candidate will be sent a confidential health questionnaire along with your offer. You should complete this and return it to the Occupational Health Services as soon as possible.

The primary aim of the assessment is to learn about any health problems or disabilities that the candidate may have which may require special support, so that requirements can be planned for before the student begins on the course. We are also required by the General Medical Council (GMC) to ensure that the applicant is not affected by a condition that would make it impossible for them to acquire the skills necessary to qualify and work safely as a doctor before accepting them onto the course.

If the applicant receives an offer of admission, it will be conditional upon their being passed as fit to proceed onto the course by the Occupational Health Service by the given deadline.

Vaccinations for medical school

If the applicant is offered a place, they will need to be vaccinated against hepatitis B, rubella, measles, chickenpox and tuberculosis before commencing your course. The candidate will be sent details of the vaccination programme along with their offer. The candidate should arrange with their doctor to begin vaccinations as soon as they receive their offer, as it can take eight months to complete the programme.

Blood-borne infections

Chronic viral infections that are carried in blood can be transmitted during surgery to patients from an infected healthcare worker. When a student comes to Imperial, in order to comply with NHS requirements, the student will be tested to check that you are not infected with HIV, Hepatitis B or Hepatitis C.

If the student is infected, they will be allowed to continue their course but not allowed to assist with or undertake surgery or other 'exposure-prone' procedures on patients. It will not prevent the student from qualifying or practising as a doctor, except for the restriction on exposure-prone procedures.

Criminal record check

Admission is subject to the Rehabilitation of Offenders Act (1974) Section 4(2) (Exemption) Order 1975 and DHSS Circular HC(88)9 guidelines regarding child protection and police checks. As a condition of acceptance, all applicants will be required to have completed an enhanced criminal record disclosure by the given deadline. When you are offered a place you will be advised of any relevant consequential procedures as part of the admissions process.

20. Processes used to select students:

Competition for places at the School of Medicine is fierce. We receive about 2,500 applications for entry and interview about 700 candidates. Approximately 500 offers are made, and 286 students will be admitted in October 2011.

A range of criteria is used to assess candidates. While each application is looked at as a whole, candidates must meet the minimum academic requirements outlined in the section on entrance requirements. No offers are made without applicants attending for competitive interview.

The School of Medicine has a comprehensive admissions policy that ensures that all applications are dealt with in the same way. When applications are received, they are assessed to make sure that candidates fulfil the minimum requirements. Candidates must:

- have obtained or be predicted to obtain grades in GCSE A and AS levels, International or European Baccalaureate or other acceptable qualifications that satisfy the School of Medicine's academic criteria (see Entry Requirements section);
- sit the 2009 entry BMAT examination; and
- not submit a late application.

In addition, resit candidates must:

- have previously applied to Imperial College School of Medicine have achieved at least grades CCC at the first attempt have predictions of at least three A grades in the winter resit examinations,
- have acceptable extenuating circumstances to explain the failure to achieve the grades at the first attempt (the extenuating circumstances should be included in the referee's statement and the candidate may also wish to write directly to the School). Candidates who do not fulfil the above requirements will be rejected without interview.

If a candidate fulfils the minimum entry requirements, his or her application form will be passed to an experienced member of the selection panel. The selection panel comprises teachers in undergraduate education with experience in the admissions process, who will decide whether to offer the candidate an interview. These decisions are ratified by one of the admissions tutors. The panel members look at the following criteria when assessing applications:

- GCSE results;
- A/AS level or equivalent predicted (or achieved) grades;

- BMAT scores;
- motivation and understanding of medicine as a career;
- community activities;
- leadership and teamwork interests; and a
- referee's report.

Interviews

If you have been assessed as suitable you will be required to attend a 15-minute interview. This will take place at the South Kensington campus between January and April. The interview includes time for the panel to make its decision. Normally interview panels consist of a chairperson, two members of the selection panel, a senior medical student and frequently a lay observer. Before your interview you will have a chance to take a tour of the South Kensington Campus organised by medical students. The interview is not intended to be an intimidating experience and staff will try to put candidates at ease while evaluating the following:

- motivation and realistic approach to medicine as a career;
- capacity to deal with stressful situations;
- evidence of working as both a leader and a team member;
- ability to multitask;
- likely contribution to university life; and
- communication skills, and maturity of character.

There will be three possible outcomes from the interview:

- an offer: conditional upon obtaining relevant qualifications
- waiting list: candidates who are unplaced elsewhere may be reconsidered after the summer examination results
- rejection

Candidates should normally receive a written response from the School of Medicine within two weeks of interview.

The School of Medicine abides by the Equal Opportunities Policy of Imperial College London published in.

Candidates who are unsuccessful cannot be reconsidered for entry within the same cycle but may reapply the following year (if they obtain the relevant qualifications at the first attempt) without prejudice to the new application.

Oxbridge applicants

If you are a pre-clinical medicine Oxbridge graduate who has obtained, or expects to obtain, a degree, you may apply to join the course. You will join the course at the beginning of the third year and follow a special preparatory course to cover elements of the Imperial course not covered at your previous university. You will not study for the BSc. Applications should be made through the Common Application Scheme. Successful completion of all medical examinations and award of degree are required by the 10 September 2010.

A Clinical Open Day specifically for Oxbridge students is held in November. Additional arrangements for you to see the facilities and meet students and staff are made between the Students' Union and medical societies, and visits usually take place in November. For additional queries about entry requirements or more information, please email us at medicine.ug.admissions@imperial.ac.uk.

21. Methods for evaluating and improving the quality and standards of teaching and learning

a) Methods for review and evaluation of teaching, learning, assessment, the curriculum and outcome standards:

The external examiner system and Boards of Examiners are central to the process by which the College monitors the reliability and validity of its assessment procedures and academic standards. Boards of Examiners comment on the assessment procedures within the College and may suggest improvements for action by relevant departmental teaching Committees.

The Faculty Studies Committees and the Graduate Schools' Postgraduate Quality Committees review and consider the reports of external examiners and accrediting bodies and conduct periodic (normally quinquennial) and internal reviews of teaching provision. Regular reviews ensure that there is opportunity to highlight examples of good practice and ensure that recommendations for improvement can be made.

At programme level, the Head of Department/Division has overall responsibility for academic standards and the quality of the educational experience delivered within the department or division.

Most of the College's undergraduate programmes are accredited by professional engineering and science bodies or by the General Medical Council. Accreditation provides the College with additional assurance that its programmes are of an appropriate standard and relevant to the requirement of industry and the professions. Some postgraduate taught courses are also accredited.

Methods for evaluating and improving the quality and standards of teaching and learning, specific to the MBBS/BSc course include:

- Course reviews based on Student Online Evaluation (SOLE) questionnaires and reports from course teams;
- Reports from the annual Governance and Education Monitoring Visits to our associated Trusts;
- Staff/ Student Liaison Group meetings (Years 1 & 2; Year 4; and Years 3, 5 & 6);
- Staff/ Student feedback and discussions at the Education Sub-Board Committees and the Medical Studies Committee which all have student representation;
- Annual staff appraisals by section heads, reviewed by Head of Department;
- External examiner reports and the responses to critical comments from Examination Sub-Board Chairs which are reported to the Examinations Board and Medical Studies Committee; Positive comments are also extracted from the external examiner reports to ensure that good practice is noted and shared;
- Periodic review of departmental teaching by Quality Assurance and Review Committee which often includes external reviewers;
- External surveys and league tables (such as the National Student Survey); and
- Feedback from Quality Assurance of Basic Medical Education reviews and subsequent follow-up visits by the General Medical Council.

b) Committees with responsibility for monitoring and evaluating quality and standards:

The **Senate** oversees the quality assurance and regulation of degrees offered by the College. It is charged with promoting the academic work of the College, both in teaching and research, and with regulating and supervising the education and discipline of the students of the College. It has responsibility for approval of changes to the Academic Regulations, major changes to degree programmes and approval of new programmes.

The **Quality Assurance Advisory Committee (QAAC)** is the main forum for discussion of QA policy and the regulation of degree programmes at College level. QAAC develops and advises the Senate on the implementation of codes of practice and procedures relating to quality assurance and audit of quality and arrangements necessary to ensure compliance with national and international standards. QAAC also considers amendments to the Academic Regulations before making recommendations for change to the Senate. It also maintains an overview of the statistics on completion rates, withdrawals, examination irregularities (including cases of plagiarism), student appeals and disciplinaries.

The **Faculty Studies Committees** and **Graduate School Postgraduate Quality Committees** are the major vehicle for the quality assurance of undergraduate / postgraduate courses respectively. Their remit includes: setting the standards and framework, and overseeing the processes of quality assurance, for the areas within their remit; monitoring the provision and quality of e-learning; undertaking reviews of new and existing courses; noting minor changes in existing programme curricula approved by Departments; approving new modules, changes in module titles, major changes in examination structure and programme specifications for existing programmes; and reviewing proposals for new programmes, and the discontinuation of existing programmes, and making recommendations to Senate as appropriate.

The **Faculty Teaching Committees** maintain and develop teaching strategies and promote inter-departmental and inter-faculty teaching activities to enhance the efficiency of teaching within Faculties. They also identify and disseminate examples of good practice in teaching.

Departmental Teaching Committees have responsibility for the approval of minor changes to course curricula and examination structures and approve arrangements for course work. They also consider the details of entrance requirements and determine departmental postgraduate student numbers. The Faculty Studies Committees and the Graduate School Postgraduate Quality Committees receive regular reports from the Departmental Teaching Committees (DTCs).

The MBBS/BSc course has the following DTCs:

- Staff-Student Liaison Groups (Years 1 & 2; Year 4; and Years 3, 5 & 6);
- Education Committees (Years 1 & 2; Year 4; and Years 3, 5 & 6);
- Directors of Clinical Studies Committee;
- Students Admissions Committee;
- Student Welfare Committee;
- E-Learning Implementation Group;
- Examinations Board and Examination Sub-Boards

In addition to the formal committees, informal course-specific meetings occur to discuss particular issues in more detail, reporting to the appropriate formal teaching committee.

c) Mechanisms for providing prompt feedback to students on their performance in course work and examinations and processes for monitoring that these named processes are effective:

All years of the MBBS/BSc provide feedback to students on their performance. The style of feedback provided varies depending on the style of teaching given in the various sections of the six year course, including: a formative examination in Year 1, formative online self assessments, formative tests in class marked there and then, immediate verbal feedback during clinical teaching, marks and domain based performance indicators in clinical exams. Our regular Staff-Student Liaison Groups, SOLE and informal feedback provides subjective evaluation and examination results provide objective evaluation.

Whilst the School of Medicine remains competitive in the National Student Survey, the area feedback to students remains an area for improvement. We continuously strive to improve in this area and in 2009-10 we introduced formal, paper based feedback to students on their performance in the Year 3 OSCE, and the Year 5 PACES and Pathology summative examinations. This was reported to the students as soon as administratively possible after the examination period.

Responses from the SSLG (Years 3, 5 & 6) indicate that students appreciate this feedback. They requested that all students should be told their overall ranking within the year cohort and we will consider this for the next diet of examinations. We anticipate that it will encourage closer relationships between students and their Personal Tutors, as all feedback is given with a recommendation to meet with their tutors to discuss the contents.

In Years 1, 2 & 4 students already receive feedback on coursework in various forms throughout the course. It is college policy that students receive feedback on coursework within two weeks of submission. We monitor feedback via student representatives and the use of SOLE (Student Online evaluations). This year we have introduced a specific question on feedback in the SOLE survey. Course leads will be required to keep a log of teachers who are persistently late with feedback and these individuals will be referred to their line managers.

d) Mechanisms for gaining student feedback on the quality of teaching and their learning experience and how students are provided with feedback as to actions taken as a result of their comments:

Student feedback is taken into consideration via a variety of different routes: Student Online Evaluation (SOLE), the three Student-Staff Liaison Groups (Years 1 & 2; Year 4; and Years 3, 5 & 6); the Education Sub-committees, the informal student focus groups that occur annually at every Hospital site as part of the Governance and Education Monitoring Visits.

In addition to these standard mechanisms, when necessary, we also hold informal focus groups with students concerning changes to facilities, resources or procedures (e.g. e-learning opportunities, changes to the Intranet). We also hold informal events throughout the year, such as 'Meet the FEO' and 'Personal Tutor evenings'.

Alongside the committee structure, students are provided with feedback on the actions taken following their SOLE comments via the quality assurance and enhancement pages on the Undergraduate Teaching Intranet.

e) Mechanisms for monitoring the effectiveness of the personal tutoring system:

Enhancing the relationship between tutor and student is a priority in Medicine. The new student support arrangement, which has now been in place for over a year, aims to bring Medicine in line with the model employed across the College. We have three year-specific Senior Tutors, who have the following remits:

- Senior Tutor 1 - MBBS/BSc – Years 1 & 2 (Early years)
- Senior Tutor 2 - MBBS/BSc – Year 4, Graduate Entry (Year 1) and other BSc's (Biomedical Science and Pharmacology and Translational Medical Science)
- Faculty Senior Tutor - MBBS/BSc – Year 3, 5 & 6 (Clinical Years)

Each Senior Tutor is responsible for specific areas of the course and coordinating and monitoring the activities of the Personal Tutors allocated to students on those particular years of the Medicine course and BSc's, with administrative support from the Faculty Education Office. They are also the point of contact for the students and are expected to meet regularly with the student representatives as well as to attend the relevant staff student liaison group. Each tutor has a case-load of students with more long term problems, thus ensuring continuity of support. The remit of the Faculty Senior Tutor covers the clinical aspects of the course and the post holder is based at a clinical teaching site.

The success of the new system is monitored by the Faculty Senior Tutor via feedback received from the Students, via the Student Union representative for Welfare, the Tutorial Online Evaluation (TOLE) system, regular Student-Staff Liaison Groups, and feedback from Students and Personal Tutors themselves, with whom the welfare team are working closely with.

f) Mechanisms for recognising and rewarding excellence in teaching and in student support:

Staff are encouraged to reflect on their teaching, in order to introduce enhancements and develop innovative teaching methods. Each year College awards are presented to academic staff for outstanding contributions to teaching, pastoral care or research supervision. A special award for Teaching Innovation, available each year, is presented to a member of staff who has demonstrated an original and innovative approach to teaching. Nominations for these awards

come from across the College and students are invited both to nominate staff and to sit on the deciding panels.

The Faculty of Medicine has two additional initiatives to recognise and reward excellence in teaching:

- Awards to NHS staff for teaching excellence: the awards can be nominated to NHS staff in any profession and at any grade in recognition of their outstanding commitment to teaching. Ten awards are presented at an annual ceremony.
- Local Teaching Heroes: these awards are aimed at non-consultant grade NHS staff and professions allied to medicine that are involved in educating our medical students in order to acknowledge their commitment and enthusiasm for teaching. These are in the format of letters of recognition and up to 10 heroes can be nominated in a six-month period from any of our associated Trusts.

g) Staff development priorities for this programme include:

- College and Faculty of Medicine staff development courses, including those delivered by the Educational Development Unit;
- Implementation of the Imperial College staff development strategy as appropriate;
- Staff appraisal scheme;
- College Teaching Development Grant Scheme to fund the development of new teaching and learning methods; and
- Peer review of teaching.

22. Regulation of Assessment

The comprehensive assessment regulations are available online via:

<http://www3.imperial.ac.uk/registry/information/academicregulations>

a) Assessment Rules and Degree Classification:

For **undergraduate programmes** classification of degrees will be according to the following range of marks:

First class	70 - 100%
Second class (upper division)	60 - 69.9%
Second class (lower division)	50 - 59.9%
Third class	40 - 49.9%

In Undergraduate Medicine, the BSc is a classified degree and students may receive a first, upper second, lower second or third class honours, in accordance with the regulations for other Imperial College courses. The MBBS is an unclassified degree, but students may receive distinction in one or more subjects.

For **postgraduate taught programmes**: The Pass Mark for postgraduate taught courses is 50%. In order to be awarded a result of merit, a candidate must obtain an aggregate mark of 60% or greater; a result of distinction requires an aggregate mark of 70% or greater.

Where appropriate, a Board of Examiners may award a result of merit where a candidate has achieved an aggregate mark of 60% or greater across the programme as a whole AND has obtained a mark of 60% or greater in each element with the exception of one element AND has obtained a mark of 50% or greater in this latter element.

Where appropriate, a Board of Examiners may award a result of distinction where a candidate has achieved an aggregate mark of 70% or greater across the programme as a whole AND has obtained a mark of 70% or greater in each element with the exception of one element AND has obtained a mark of 60% or greater in this latter element.

b) Marking Schemes for undergraduate and postgraduate taught programmes:

The Pass Mark for all **undergraduate** modules is 40%. From October 2008 entry all undergraduates are required to pass all their course units to progress to the next year.

The Pass Mark for all **postgraduate** taught course modules is 50%. Students must pass all elements in order to be awarded a degree.

c) Processes for dealing with mitigating circumstances:

For undergraduate programmes: Candidates with mitigating circumstances are not subject to the borderline restrictions but should be considered individually. However, as a general principle, candidates whose marks are more than 5% below the borderline should not normally be raised to the next higher classification. Where the Board of Examiners determines that a higher classification should be awarded extra marks should be applied to bring the final marks into the higher range.

For postgraduate taught programmes: A candidate for a Master's degree who is prevented owing to illness or the death of a near relative or other cause judged sufficient by the Graduate Schools from completing at the normal time the examination or Part of the examination for which he/she has entered may, at the discretion of the Examiners,

- (a) Enter the examination in those elements in which he/she was not able to be examined on the next occasion when the examination is held in order to complete the examination;
- or
- (b) be set a special examination in those elements of the examination missed as soon as possible and/or be permitted to submit any work prescribed (e.g. report) at a date specified by the Board of Examiners concerned. The special examination shall be in the same format as specified in the course regulations for the element(s) missed.

Applications, which must be accompanied by a medical certificate or other statement of the grounds on which the application is made, shall be submitted to the Academic Registrar who will submit them to the Board of Examiners.

d) Processes for determining degree classification for borderline candidates:

For undergraduate programmes: Candidates who fall no more than 2.5% below the minimum mark for a higher honours classification shall be eligible for review of their final classification; this review could include an oral examination or practical test or other mechanism appropriate to the discipline. Candidates whose marks are below the 2.5% borderline may be considered for a higher honours classification where certain provisions apply. Where the Board of Examiners determines that a candidate should be awarded a higher honours classification extra marks should be applied to bring their final marks into the higher range. Detailed records of all decisions should be recorded in the minutes of the meeting of the Board.

For postgraduate taught programmes: Candidates should only be considered for promotion to pass, merit or distinction if their aggregate mark is within 2.5% of the relevant borderline. Nevertheless, candidates whom the Board deems to have exceptional circumstances may be considered for promotion even if their aggregate mark is more than 2.5% from the borderline. In such cases the necessary extra marks should be credited to bring the candidate's aggregate mark into the higher range.

e) Role of external examiners:

The primary duty of external examiners is to ensure that the degrees awarded by the College are consistent with that of the national university system. External examiners are also responsible for approval of draft question papers, assessment of examination scripts, projects and coursework (where appropriate) and in some cases will attend *viva voce* and clinical examinations. Although external examiners do not have power of veto their views carry considerable weight and will be treated accordingly. External examiners are required to attend each meeting of the Board of Examiners where recommendations on the results of individual examinations are considered.

External examiners are required to write an annual report to the Rector of Imperial College which may include observations on teaching, course structure and course content as well as the examination process as a whole. The College provides feedback to external examiners in response to recommendations made within their reports.

23. Indicators of Quality and Standards (e.g. accreditation reports):

- The outcomes of independent review by the Quality Assurance Agency as part of Imperial College London audit and by the General Medical Council's Quality Assurance of Basic Medical Education quality;
- Reports from the College Periodic Review process;
- Students' examination performance throughout the course;
- Favourable reports by external examiners;
- High proportion of students achieving a First Class or Upper Second Class Honours BSc degree;
- Favourable reports on FY1 Posts; and
- Positive student feedback, both informal and formal, via the Student-Staff Liaison Groups and via the results of the National Student Surveys.

24. Key sources of information about the programme can be found in (links to course handbook, prospectus, departmental website, syllabus etc):

- Undergraduate Teaching Intranet (Requires password):
<https://education.med.imperial.ac.uk/> (All course handbooks are available via this link)
- Undergraduate Prospectus: <http://www3.imperial.ac.uk/ugprospectus>
Programme Syllabus: http://www.imperial.ac.uk/workspace/college/public/pdfs/ugsyllabus/UG_syllab_Medicine_09-10.pdf