

PROGRAMME SPECIFICATION



1	Awarding Institution	Newcastle University
2	Teaching Institution	Newcastle University
3	Final Award	MBBS
4	Programme Title	Medicine and Surgery
5	UCAS/Programme Code	A100N, A100D, A100E, A101, 1500U (NUMed)
6	Programme Accreditation	General Medical Council
7	QAA Subject Benchmark(s)	Medicine
8	FHEQ Level	7
9	Last updated	April 2014

10 Programme Aims

The primary aim of undergraduate medical education in Newcastle is to produce graduates who are fit to practice in accordance with the professional standards set by the GMC for all doctors. We deliver an educational experience of sufficient range, depth and rigour to provide students with the intellectual tools, knowledge and understanding, practical skills and professional attitudes required for clinical practice as an F1 doctor and beyond.

Therefore our aim for the provision of undergraduate medical education is to:

1. **Foster the development of a caring, knowledgeable, competent and skilful medical graduate who broadly understands health and disease of the individual, the family and society, and who is able to benefit from subsequent medical education, adapt to future developments in practice, and work within the multi-professional health care team.**

To achieve this aim, the Board of Medical Studies seeks to make operational the commitments of the Institutional Plans of the Universities of Newcastle and Durham in meeting regional and national needs in relation to medical education by:

1. Providing a flexible portfolio of programmes responsive to the changing needs of the Health Service and its patients;
2. Admitting motivated students of high calibre with a demonstrable commitment to medicine and the provision of high quality health care;
3. Ensuring that the participation and contribution made by students from non-traditional backgrounds is encouraged and developed;
4. Engendering an educational environment conducive to the development of a reflective approach to medical practice that is patient-centred, questioning and self-critical;
5. Developing links and exploiting opportunities for inter-professional education in order to develop team working and engender an integrated approach to health care delivery;
6. Ensuring currency of provision by delivering programmes, the structure and content of which is informed by the needs of a modernized Health Service, inter-professional consensus, statutory recommendation, research and clinical audit.

In relation to the award of MBBS, objectives are set to ensure that a medical graduate will:

1. Demonstrate an ability to think critically, a proficiency in clinical reasoning, an insight into research and scientific method, a resourcefulness and creativity, and an ability to cope with uncertainty;
2. Possess an integrated core knowledge of biomedical, behavioural, population and clinical knowledge relevant to the understanding and management of problems and conditions encountered in the Foundation Programme F1 year;

3. Possess a range of generic (transferable) skills which are those expected of all university graduates;
4. Demonstrate competence in those core clinical, interpersonal, and practical/technical skills relevant to the commencement of the Foundation Programme F1 year and in line with the 'New Doctor'¹;
5. Demonstrate appropriate professional behaviours in relation to all aspects of clinical practice;
6. Demonstrate attitudes consistent with 'Duties of a Doctor'² as defined by the GMC in 'Good Medical Practice';
7. Broaden their academic, individual and professional perspectives through special study.

For those choosing to step aside from their mainstream studies to intercalate one year of study, additional objectives are set to ensure that graduates:

1. Gain an early introduction to basic research skills and method;
2. Develop understanding of the research process through the conduct of a research project of an original nature.

For those few, highly motivated and talented medical students admitted to the combined MBBS/PhD programme, the additional objectives of the doctoral period of study are the same as those for the conventional PhD.

A graduate from Newcastle Medical School will:

1. Demonstrate an ability to think critically, a proficiency in clinical reasoning, an insight into research and scientific method, a resourcefulness and creativity, and an ability to cope with uncertainty.
2. Possess an integrated core knowledge of biomedical, behavioural, population and clinical knowledge relevant to the understanding and management of problems and conditions encountered in the first year of the postgraduate Foundation Programme.
3. Possess a range of generic (transferable) skills which are expected of all university graduates
4. Demonstrate competence in those core clinical, interpersonal, and practical/technical skills relevant to the commencement of the postgraduate Foundation Programme and in line with Tomorrows Doctors.
5. Demonstrate appropriate professional behaviours in relation to all aspects of clinical practice.
6. Demonstrate attitudes consistent with 'Duties of a Doctor' as defined by the GMC in 'Good Medical Practice'.
7. Be able to broaden academic, individual and professional perspectives through study.

11 Learning Outcomes

The programme provides opportunities for students to develop and demonstrate knowledge and understanding, qualities, skills and other attributes in the following areas. The programme outcomes have references to the benchmark statements for (subject) (X).

The learning outcomes for the MBBS programme are defined as a set of terminal learning outcomes which are classified into three domains: **Knowledge** and Critical Thought, Clinical and Communication **Skills** and **Professional Behaviour**. It is expected that throughout the five years of the course students will be working towards these terminal outcomes. All individual learning outcomes at each stage of the course and all assessments are mapped to the appropriate terminal learning outcome.

¹ 'The New Doctor', Recommendations on General Clinical Training, GMC

² 'Duties of a Doctor', a pack of booklets, including *Good Medical Practice*, published by the GMC

Knowledge and Understanding

On completing the programme students should be able to:

A1. Demonstrate knowledge and understanding of:

- Normal structure and function of the major organ systems and how they interrelate
- The different stages of the life cycle and how these affect normal structure and function
- Behaviour and relationships between individuals and their family / partners, immediate social groups, and society at large
- Molecular, biochemical and cellular mechanisms important in maintaining homeostasis
- Causes of disease and the ways in which diseases affect the body
- Disease aetiology and relationships with risk factors and disease prevention
- Alteration in structure and function of the body & its major organ systems
- Pharmacological principles of treatment using drugs & efficacy of therapeutic measures in management and symptomatic relief of diseases
- Principles of disease surveillance and screening, disease prevention, health promotion, and health needs assessment
- Principles of healthcare planning, prioritisation of service and communicable disease control, including basic concepts of health economics
- Epidemiological principles of demography and biological variability
- Educational principles through which learning takes place (for patients, students and colleagues)

A2. Define public health problems at a population level or in clinical practice.

- Recognise the causes of disease & threats to health of individuals & populations at risk

A3. Appreciate that health promotion & disease prevention depend on team-working and collaboration with other professionals & agencies.

A4. Demonstrate knowledge of the appropriate use of drugs:

- For all ages and with awareness of underlying chronic diseases
- In prescribing, calculating dosages, & methods of delivery
- Considering their interactions & adverse effects

A5. Recognise opportunities for screening, disease prevention, health education, health promotion.

A6. Demonstrate knowledge of the range of interventions and indications, for surgery, including the principles of pre-, peri- and post- operative care.

A7. Demonstrate knowledge of the indications for the provision of range of interventions and therapies provided by other health care professionals.

A8. Demonstrate knowledge of the range of more common clinical investigations and procedures and their appropriate use.

A9. Demonstrate knowledge of the management in relation to acute & chronic care of:

- conditions, not immediately life-threatening but requiring early treatment
- appreciation of impact of acute illness on chronic disease and the transition between acute and chronic conditions
- chronic diseases
- rehabilitation in recovery from major illness
- impairment & disability
- pharmacological, physical and psychological interventions in pain control
- care of the dying

A10. Demonstrate knowledge of the circumstances in which the commoner laboratory-based investigations are indicated, and procedures required to obtain the necessary material for investigation.

A11. Demonstrate knowledge of the range of more common radiological investigations available and their appropriate use in different circumstances.

A12. In relation to critical care, demonstrate knowledge of the management of:

- life threatening conditions due to trauma or disease
- intensive care, indications for intervention / monitoring
- implications for the patient & family

A13. Demonstrate an understanding of the basic ethical principles of autonomy, beneficence, non-maleficence and justice, and their application.

A14. Demonstrate an understanding of legal responsibilities, with respect to:

- human rights
- drug prescribing
- physical and sexual abuse of children and adults
- death certification
- codes of conduct
- reporting of adverse medical care / standards involving other practitioners

A15. Demonstrate an understanding of the practice of medicine in a diverse, multicultural society, by:

- understanding the roots of prejudice, and how prejudice and discrimination may be challenged in respect of age, gender, sexual orientation, ethnicity, disability, and socio-economic status

A16. Be aware of the requirements to ensure patient safety.

Teaching and Learning Methods

Teaching and learning strategies are primarily student-centred, and designed to enable achievement and demonstration of the learning outcomes. Students are expected to take responsibility for their learning from the earliest stages, while teachers guide, support and facilitate the process.

The overall approach can be best described as one of guided discovery. Students are actively involved in the exploration of knowledge and take responsibility for mastering the content needed for understanding themselves.

Key features include the provision of:

- A motivational context for learning based upon early clinical experience and application;
- A well-structured core knowledge base, focused upon integrated, multi-disciplinary units of study;
- Clearly articulated learning outcomes;
- A student-centred approach, which encourages the adoption of a problem-oriented, self-motivating learning style, and promotes active learning through self study;
- The opportunity for interaction and the exploration of knowledge and its clinical application in small groups;
- The opportunity to study an area of choice in more detail.

To ensure a problem-first, task-based focus to learning, a case-led approach is adopted. The cases used reflect the range of core clinical presentations and problems which will be encountered by graduates. The cases are used to contextualise the subsequent teaching and learning process focused on the underlying key concepts and mechanisms, and it is mastering these that should be the aim rather than simply the clinical entity itself.

Specific teaching and learning methods

Throughout the programme, the choice of teaching and learning method is tailored to the student's stage of development and prior experience. Specific learning experiences are differentiated according to the particular outcome to be achieved, i.e. the learning experience is set in the professional context best suited to facilitating the achievement of the desired outcome.

Most students entering Stage 1 of the five-year programme are in a transitional phase from earlier educational experiences and benefit from a learning environment that has clear structure. Less familiar teaching and learning methods are introduced in a progressive manner as students gain experience and confidence. Through the five years of the programme, the teaching and learning strategies encourage, and ultimately require, the student to adopt increasing self reliance and independence in their study and learning.

The learning and teaching strategy employed for Phase I of the Accelerated MBBS programme is matched to the maturity and prior experience of the students. From the outset learning is student-centred, case-led and contextual.

The following teaching and learning methods are used to enable students to achieve outcomes relating to **knowledge and understanding of basic, social and clinical sciences and their underlying principles**:

- Large class plenary sessions (e.g. lectures, clinical demonstrations, case presentations) are used, particularly in Phase I of the five-year programme, to present cases, to explain complex concepts and to provide early insight into the relationship between basic and clinical science and practice. In Stage 4 these sessions are used to present cases, to activate prior knowledge and to provide opportunities for clarification.
- Small group tutorials and seminars are used to provide opportunities for interaction, discussion and clarification in support of learning in selected areas.
- Small-group clinical teaching is used for experiential learning in hospital and community care settings
- Guided self-study, supported by the provision of learning outcomes and direction in Study Guides, to expand knowledge and understanding.

Assessment Strategy

General assessment strategy

Our system of assessment is designed to monitor acquisition and utilisation of core knowledge, skills and professional behaviour necessary for the student's first experience of clinical practice as a Foundation Programme doctor. A student is therefore required to pass each domain of assessment (Knowledge, Skills and Professional Behaviour) in order to progress to the next Stage of the course and ultimately the Foundation Programme. The assessments explicitly tests achievement of the defined learning outcomes as set out in the Degree Programme Handbooks and Study Guides. In line with the overall design of the curriculum all assessments reflect the integrated and interdisciplinary nature of the programme.

Each individual assessment in the Knowledge and Skills domains are given a numerical score. The individual scores within each domain are combined to give an end of Stage mark. Professional Behaviour is Acceptable (A) or Unacceptable (U) following monitoring and assessment of attitudes and behaviours throughout the course of the year. For the top decile of candidate in each Stage of the programme we award end of Stage Merit grades to recognise excellence in that Stage. We award MBBS degrees with Distinction and Honours to recognise outstanding performance throughout the whole of the MBBS programme. The assessment process also identifies those students with difficulties and who are in need of support and remediation for whatever reason. All examinations are scrutinised by External Examiners to ensure the requisite standards are maintained.

The following modes/instruments are used to assess knowledge:

- Single Best Answer questions (SBA)
- Short Structured Questions (open response)
- Problem Solving Questions
- Critical Appraisal Exercises
- Mini Cases
- Poster and Oral Presentations
- Project Reports and other written assignments

The various instruments are used both individually, as part of continuous assessment (e.g. project work, structured assessor reports, Clinical Logbook), or in combination at episodic Progress Assessments (e.g. in semester progress assessments in Phase I)).

Intellectual Skills

On completing the programme students should be able to:

B1. Demonstrate proficiency in clinical reasoning, through ability to:

- recognise, define and prioritise problems
- analyse, interpret and prioritise information, recognising its limitations

B2. Make diagnosis

- Describe the differential diagnosis of core conditions

B3. Demonstrate ability to think critically, by

- adopting an inquisitive and questioning attitude and applying rational processes
- recognising irrationality in oneself and others
- recognising importance of own value judgements and those of patients

B4. Demonstrate insight into research & scientific method, through the:

- appreciation of quantitative and qualitative methodology
- choosing and applying appropriate methodologies and statistical tests with some understanding of the underlying principles
- recognising the relationship between evidence based medicine, audit and the observed variation in clinical practice

B5. Exhibit creativity / resourcefulness, by:

- demonstrating self-reliance, initiative and pragmatism
- demonstrating preparedness to think out with conventional boundaries when appropriate

Teaching and Learning Methods

The following teaching and learning methods are used to enable students to achieve outcomes relating to **appropriate skills of decision making, clinical reasoning and judgement:**

- Problem-oriented learning opportunities: to develop problem-solving, numeracy, critical reasoning and clinical decision making skills through data handling and evidence-based activities;
- Laboratory practicals: to develop skills in scientific method;
- Project work: working in small groups to collectively produce material for presentation in written and oral format;
- Written assignments, project work and Student-Selected Components: to promote individual investigative and exploratory study;
- Clinical attachments where the development of diagnostic and clinical reasoning skills is promoted in the relationship to patients encountered on the wards, in out-patients clinics or in GP surgeries

Assessment Strategy

For general assessment strategy see Assessment Strategy section under Knowledge and Understanding.

The following modes/instruments are used to assess ability to apply knowledge, solve problems, critically evaluate evidence and test clinical reasoning:

- Data Interpretation within SBA Short Structured Questions (open response)
- Problem Solving within SBA and Short Structured Questions (open response)
- Mini Case assessments
- Project Reports
- Written assignments
- Poster and Oral Presentations

Practical Skills

On completing the programme students should be able to:

C1. Take a medical history, which:

- is patient centred
- is sensitive, structured & thorough in approach
- recognises and takes account of the age and state of the patient, and a range of contexts including multicultural factors
- recognises the need for skilled communication

C2. Undertake physical & mental state examination of patients, which is:

- general & systems-based
- appropriate for age, gender, culture and state
- thorough, sensitive & systematic

C3. Integrate results of history, examination & common investigative tests, so as to facilitate diagnosis

C4. Make diagnosis

- By gathering and interpreting relevant clinical information
- By recognising the patterns of presentation of core conditions

C5. Record findings, such that records:

- are contemporaneous, legible, concise, dated, and signed
- include all relevant communications with patients / relatives and colleagues

C6. Measure & record a range of common clinical parameters

C7. Perform a range of tasks commonly used in medical practice

C8. Follow general principles of patient investigation by:

- making evidence-based choice of relevant investigations, with awareness of limitations
- requesting relevant investigations according to national guidelines and local protocols
- obtaining informed consent
- preparing patients practically & with adequate information

C9. Request, justify and interpret appropriate and relevant laboratory-based investigations according to national guidelines and local protocols

C10. Order, package and label appropriate and relevant samples for laboratory based investigations

C11. Write a prescription for a range of commonly prescribed drugs

C12. Interpret a range of common x-rays.

C13. Follow general principles of patient management recognising:

- The patient's safety at all times
- effect on patient & concordance
- age and social circumstances when determining treatment
- requirements for informed consent
- need for team work
- need for appropriate referrals to right professionals

C14. Formulate management plans:

- which focus on patient's needs & involve patient in decision making
- prioritising treatments / interventions
- involving other health care professionals as appropriate
- recognising one's own limitations

C15. In relation to critical care, be able to demonstrate

- effective working in the emergency care team

C16. In relation to acute and chronic care be able to formulate a management plan for

- chronic diseases
- the dying patient
- pain control

C17. Accurately write up a drug cardex for a newly admitted patient according to information supplied in the patients notes

- C18. Calculate drug dosages for individual patients and work out loading and delivery rates**
- C19. Request and justify appropriate and relevant radiological investigations according to national guidelines and local protocols**
- C20. Demonstrate ability to prioritise the patient's care, including the management of tasks, events and time**
- C21. Follow general principles of good communication, including:**
- active listening
 - gathering and giving information with good record keeping and correspondence skills
 - mediating, negotiating & dealing with complaints
 - making oral presentations & writing reports
 - safeguarding confidentiality
 - recognising own limitations, extent of personal knowledge
- C22. In communicating with patients / relatives, be able to:**
- demonstrate empathy
 - elicit patient's ideas, concerns & expectations
 - achieve a shared understanding
 - build and maintain a relationship
 - answer questions & give explanations
 - deal with challenging consultations
 - make requests
 - obtain informed consent for appropriate procedures
- C23. In communicating with other health professionals, be able to:**
- transfer information (oral, written & electronic)
 - write a good referral letter
 - write good discharge summaries
 - refer patients appropriately
- C24. In communicating with other agencies (e.g. police, coroner), and the media/press:**
- follow proper procedures without breaking rules of confidentiality
 - act as a patient's advocate when appropriate
 - write a death certificate
 - complete cremation forms
- C25. Communicate as a teacher and mentor**
- C26. In relation to patient records:**
- maintain high quality of recording (whether by writing or on computer)
 - write up patient notes in a legible and structured format
 - demonstrate an awareness of the different types of records and how they are stored and retrieved
 - maintain confidentiality
 - demonstrate awareness of legislation governing access to medical records and data
- C27. In relation to health promotion be able to**
- assess the health, health care and health promotion needs of individual patients
- C28. Take appropriate action in communicable disease control according to national guidelines and local protocols**
- C29. Implement evidence-based risk reduction strategies for individual patients**
- Be able to recommend appropriate vaccination regimes for individuals
- C30. Plan and implement, where appropriate, health promotion taking into account barriers to disease prevention and health promotion both in the individual & population**
- C31. Recognise and contribute to meeting patients' needs within the health care system**
- C32. Behave in such a way as to maintain patient safety at all times**

C33. Demonstrate acceptance of the professional responsibilities and role of the doctor, through:

- commitment to the 'Duties of a Doctor' as defined by the General Medical Council and local codes including clinical governance
- participation in clinical governance and valuing professional self-reflection
- valuing the role and opinions of other health care professionals and ability to benefit from, and contribute to, the multi-professional team
- appreciating the value of, and opportunities for medical research and its role in career progression
- participation in teaching and mentoring students, colleagues and other health care professionals
- fostering a culture of life-long learning in the health service
- appreciating the role of the doctor as manager both in one's own practice and in the health care system
- appreciating the medical profession as a voice in society and an agent of change

C34. Demonstrate the acquisition of appropriate professional attitudes, by

- accepting the duties of a doctor and codes of professional practice
- maintaining confidentiality, truthfulness and integrity
- behaving at all times in an ethical manner
- establishing trust and showing respect in the doctor / patient relationship
- demonstrating an empathic and holistic approach to patients
- valuing and preserving patient autonomy and involving patients in decisions affecting them
- respecting colleagues, other health care professionals and regulatory bodies
- dealing effectively with complaints
- appreciating financial and other constraints affecting the NHS and their impact on delivery of care
- recognising the importance of contributing to the advancement of medicine

C35 Behave within an appropriate legal framework with respect to:

- human rights
- drug prescribing
- physical and sexual abuse of children and adults
- death certification
- codes of conduct
- reporting of adverse medical care / standards involving other practitioners

Teaching and Learning Methods

The following teaching and learning methods are used to enable the student to achieve outcomes relating to clinical skills and practical procedures and clinical and professional competency in the areas of investigation, management and health promotion and disease prevention:

- Laboratory practicals: to develop observational, manual proficiency and practical procedures
- Clinical skills training: initially in the supportive environment of the Clinical Skills Laboratory, and subsequently in small groups in the Clinical Base Units and other clinical attachments
- Small-group clinical teaching: for experiential learning in hospital and community care settings
- Case presentations/discussions: opportunities to present and discuss cases in small groups to develop initially history and examination skills and subsequently to increase competency in investigation, diagnosis and management.

The following teaching and learning methods are used to enable students to achieve outcomes relating to health promotion and disease prevention:

- Small group tutorials and seminars: provide opportunities for interaction, discussion and clarification in support of learning in selected areas
- Practical learning exercises: provide opportunities to work through problems/practical exercises in groups and individually
- Project work: involving working as a team, defining and solving problems

The following teaching and learning methods are used to enable students to achieve outcomes relating to communication skills:

- Supervised training sessions: to develop information skills and proficiency in the use of communications
- Video/role play/consultation skills training: to teach communication skills
- Project work: working in small groups to collectively produce material for presentation in written and oral format

The following teaching and learning methods are used to enable students to achieve outcomes relating to **professional behaviours and personal development**:

- Video and role play: to teach communication skills, and develop attitudes and promote reflective practice;
- Small group activities: to encourage team work and involvement;
- Written assignments, project work and Student-Selected Components: to provide acquisition of many opportunities for self expression and choice, and serve to foster the of the attitudinal objectives

Clinical attachments from the early contextual visits to hospitals and general practices in Phase I through to the Essential Senior Rotations of Stage 5, to provide the opportunity for integration, consolidation and application of the knowledge, skills and attitudes accumulated from all the other course components and as such provide teaching and learning experiences which enable students to achieve learning outcomes in all three domains.

Assessment Strategy

For general assessment strategy see Assessment Strategy section under Knowledge and Understanding.

The following modes/instruments are used to assess competence in Clinical and Communication Skills:

- Multi-station Objective Structured Clinical Examinations (OSCE)
- Multiple Observed Structured Long Examination Records (MOSLER)
- Structured Assessor Reports (supervisors and members of the clinical team)
- Project reports and written assignments
- Workplace based assessment of practical clinical skills

Transferable/Key Skills

On completing the programme students should be able to:

D1. In accessing and manipulating data, demonstrate ability to use:

- library and other information systems to access data
- information from primary sources to inform evidence-based practice
- use information from secondary sources (e.g. professional guidelines)

D2. Demonstrate C&IT skills, including use of:

- E-mail
- word-processing
- on-line databases
- spreadsheets & statistical packages
- search engines and decision support tools

D3. Maintain records for personal & professional development

D4. Conduct oneself as a reflective and accountable practitioner

- D5. Manage ones own learning**
- D6. Manage one's own self-care, by:**
- recognising the pressures of a demanding professional life on oneself and others and the need to maintain a balance between professional and personal activities
 - attending to one's own lifestyle and recognising the hazards of self- medication and substance abuse
 - making use of available help and advice in stressful circumstances
- D7. Identify the value of career planning and be able to set realistic short and long-term goals**
- D8. Accept a commitment to medicine through adherence to the codes of conduct and behaviour expected of a member of the profession**
- D9. Recognise key personal motivating factors and their importance in sustaining a high level of commitment**
- D10. Participate fully in the life of the professional community**
- D11. Demonstrate an understanding of the practice of medicine in a diverse, multicultural society, by:**
- valuing diversity
 - showing respect for differing personalities, lifestyles and cultures, in patients and colleagues and in health and illness
- D12. Demonstrate the ability to cope with uncertainty, by:**
- appreciating that uncertainty exists and using cognitive and intellectual strategies when dealing with uncertainty
 - making decisions in partnership with colleagues and patients, recognising one's own level of responsibility and capability

Teaching and Learning Methods

The following teaching and learning methods are used to enable students to achieve outcomes relating to data & information handling skills:

- Laboratory practicals: to develop data handling and interpretative skills
- Supervised training sessions: to develop information skills and proficiency in the use of information technology (C&IT);
- Laboratory practicals: to develop data handling and interpretative skills
- Project work: working in small groups to collectively produce material for presentation in written and oral format

Assessment Strategy

For general assessment strategy see Assessment Strategy section under Knowledge and Understanding.

The following modes/instruments are used to assess Professional Behaviour:

- Multi-station Objective Structured Clinical Examinations (OSCE)
- Multiple Observed Structured Long Examination Records (MOSLER)
- Structured Assessor Reports
- Participation in Evaluation/Audit/Appraisal activities
- Compliance with Learning Agreement
- Clinical Logbooks
- Monitoring of behaviours and attitudes, including attendance and behaviour in teaching sessions
- E-portfolio

12 Programme Curriculum, Structure and Features

Basic structure of the programme

The curriculum is designed to provide students with a general medical education, suitable for all types of doctor entering the Foundation Programme and subsequent specialist training. The content of the programme is organised to provide a core course, encompassing the basic knowledge, understanding, personal attributes and skills needed at the start of the Foundation Programme, and Student-Selected Components which augments the core and allows students to study in depth topics of their own choosing.

The programme is split into two Phases of study with Phase I involving the first two years of study in A100 and one extended year of study in A101. Phase II involved the final three years of the course. Phase I, whether studied as part of A100 or A101, deals with normal and abnormal structure, function and behaviour, and Phase II with clinical practice through a series of themed clinical rotations. An integrated system and topic based approach is taken with the emphasis changing in each stage as students progress through the curriculum. Students study each system/topic in Phase I and again in Phase II building on their prior knowledge.

In relation to the core MBBS programme, a fully integrated approach is adopted from the outset. Each Unit of study offered relates to a system of the body or topic of relevance. In order to emphasise integration and build interrelationships between the disciplines within a Stage, each unit/rotation is delivered by an interdisciplinary teaching team. All teaching is based around a series of core cases which allow learning about basic clinical sciences to be contextualised in a clinical scenario.

In Phase I, core content is organised into ten subject strands and a student selected assignment in which a student is able to individualise their medical education. The subject strands, or Units of study, are:

- Induction and Student Support
- Clinical Skills and Communication
- Patients, Doctors and Society
- Molecules to Disease
- Clinical Sciences & Investigative Medicine
- Nutrition, Metabolism & Endocrinology
- Cardiovascular, Respiratory & Renal Medicine
- Thought, Senses & Movement
- Life Cycle
- Clinical Pharmacology, Therapeutics and Prescribing

In Phase II, students are allocated to one of four regional Clinical Base Units Stages 3 and 5 to gain clinical experience and build upon the core knowledge and skills acquired in Phase I. At the beginning of Stage 3 those students who studied Phase I at the Queen's Campus, Stockton (A100D) integrate with peers from Newcastle (A100N and A101) within Base Units. Stage 3 begins with a comprehensive 15-week Foundations of Clinical Practice course in which students further develop the key clinical skills of history taking, examination, and clinical procedures. Student will also gain early experience in medicine and surgery in both hospital and general practice settings. This is followed by a series of Essential Junior Rotations in Women's Health, Child Health, Mental Health, Infectious Diseases and Clinical Practice, Chronic Disease and Rehabilitation and Primary care. These attachments emphasise the importance of hospital, primary care and community medicine, and address the overall theme of Health & Disease. Students gain relevant experience by rotating through the various hospitals, practices and community facilities associated with their Stage 3 Base Unit.

Stage 4 begins with a 12-week block of study delivered at Newcastle Medical School that includes Clinical Sciences and Investigative Medicine, Personal and Professional Development and Clinical Pharmacology, Therapeutics and Prescribing Units of study. Stage 4 continues in January of the fourth year with 21 weeks spent studying full-time, a series of student selected components (SSCs). These SSCs are arranged in three six-week blocks (plus three weeks of assessment), with topics being chosen from a wide range of over 300 clinical and non-clinical titles or arranged personally by the student. The block of SSCs is followed by an eight-week period of elective study. This elective period provides each student with the opportunity to study any aspect of medicine almost anywhere in the world.

In Stage 5 (the final year of the curriculum), students are again allocated to a Base Unit and undertake whole-time work in clinical and community settings. The final year begins with an induction programme introducing concepts of patient safety and prescribing and during which students are taught to teach. This is followed by four three week Senior rotations in Child Health, Women's Health, Mental Health and Primary Care. There is then a three week course entitled Preparing for Practice containing elements of advanced communication, ethics, patient safety and governance. Students then undergo a 16 week period of Hospital Based Practice which focuses on acute management in Medicine and Surgery and prepares students for their role as F1 doctors.

Following the final examination at the end of Stage 5, graduates undertake a 2-week preparatory course to ease the transition from final year student to Foundation Programme Doctor. This course allows graduates to 'shadow' the F1 doctor whom they will be relieving.

Key features of the programme (including what makes the programme distinctive)

Regional basis

The delivery of the MBBS curriculum depends on a partnership between the Newcastle University, Durham University and the NHS. In order to provide sufficient clinical placements for the numbers of students we currently have on the course we need to use teaching hospitals across the whole of the Northern region of England. One of the strengths of the course has been the ability to deliver an equivalent student experience across a geographically dispersed region. This has in large been due to the management structures that have been put in place with each local set of hospitals and other health care providers (a Base Unit) being the responsibility of a local Sub-Dean. The Sub-Deans meet almost weekly during term and ensure coordination of the student experience across the region.

School of Medical Education and the Faculty Computing Service

The MBBS programme sits within the School of Medical Education and is supported by the Faculty of Medical Sciences Computing Service through the development and maintenance of the e-portfolio, electronic student record system, Learning Support Environment (LSE) and the Teaching Support Environment (TSE). The LSE is a bespoke virtual learning environment supporting student learning through provision of timetable and course information as well as teaching resources and links to external material. The LSE is also the site through which student can submit assignments, select their preferred Base Unit allocation as well as selecting early clinical experience opportunities and student selected components within the course. The TSE helps supports teachers across the regional medical school enabling us to maintain equity of experience for our students across the regional medical school. The student record system allows details of student progress, absences and meetings with tutors and curriculum officers to be logged. This is invaluable as students move around the region in enabling those responsible for student welfare to have easy access to a student's personal records.

Intercalation opportunities

The fundamental aim of basic medical education is to produce graduates who have a sound and broadly based knowledge of the principles and practice of medicine. Opportunities for gaining research experience are necessarily limited in the mainstream programme. However, it is essential for the future scientific and clinical development of the profession that it can draw on a pool of clinically qualified graduates also trained in research.

It is the practice of this Medical School to encourage some highly motivated and able medical students to step aside from their mainstream undergraduate studies to intercalate one year of additional study. Opportunities for intercalation exist at three stages (following successful completion of Stages 2, 3 or 4 at the first attempt) in the MBBS programme.

Following Stage 2, a student is able to intercalate the final year of one of the science honours degrees offered by the School of Cell and Molecular Biosciences in the Faculty of Medical Sciences.

Intercalation at the end of Stage 3 is limited to Masters by Research programmes at Newcastle University.

Following Stage 4 a student is able to intercalate a programme from the postgraduate taught or research programmes available in the Faculty or an equivalent programme offered at another institution subject to approval from the Degree Programme Director.

MBBS/PhD Degree

This combined degree programme is offered to one or two students undertaking the intercalated MPhil programme following completion of Stage 4 MBBS. The aims of the programme are to foster talented undergraduates who are motivated to a future in medical research and who will ultimately be among the key clinical academics of the future.

Candidates for entry to the programme are expected to have demonstrated particular aptitude in the MPhil. Transfer to the MBBS/PhD programme is based upon a rigorous assessment of the applicant's progress to date, including full curriculum vitae with a personal statement and the student's outline of proposed research with their own aims and objectives.

On entry to the programme, students commence a three year period research and are expected to submit a doctoral thesis before resuming the mainstream medical course.

Following submission of the thesis, students commence the final year and follow the full Stage 5 MBBS programme.

Programme regulations (link to on-line version)

<http://www.ncl.ac.uk/regulations/programme/>

13 Criteria for admission

Entry qualifications

A100:

A Levels: AAA including Chemistry or Biology at A or AS level, and excluding General Studies and Critical Thinking. If only one of Biology and/or Chemistry is offered at A/AS level, the other should be offered at GCSE grade A (or Dual Award Science grade A)..

International Baccalaureate: 38 points including a minimum of grade 5 in all subjects, with Higher Level grade 6 in Chemistry or Biology. Combinations including two science subjects, Mathematics and English are desirable.

A101:

Upper second or first class honours degree and evidence of relevant academic endeavour within three years of application. Applications are also welcome from individuals who have relevant experience which includes substantial contact with patients gained as a health care professional within the NHS or similar body, (e.g. RGN, RMN, Physiotherapist), with a qualification recognised by a statutory body and evidence of recent academic endeavour. Please see admissions policy for all other accepted entry qualifications:

<http://www.ncl.ac.uk/undergraduate/degrees/a100/entryrequirements/>

Admissions policy/selection tools

Following an academic screen based on entry requirements short listing for interview is based on the applicants UKCAT score. Applicants with a UKCAT score above the cut off will be invited to a semi-structured interview with the score of that interview determining whether or not an offer of a place is made.

Please see the admissions policy for greater detail on the admission process:

<http://www.ncl.ac.uk/undergraduate/degrees/a100/entryrequirements/>

Non-standard Entry Requirements

Please see the admissions policy for details:

<http://www.ncl.ac.uk/undergraduate/degrees/a100/entryrequirements/>

Additional Requirements

A valid UKCAT score. Please see the admissions policy for details:

<http://www.ncl.ac.uk/undergraduate/degrees/a100/entryrequirements/>

Level of English Language capability

Minimum of 9.0 in each domain of IELTS or equivalent

14 Support for Student Learning

The Student Services portal provides links to key services and other information and is available at: <http://www.ncl.ac.uk/students/>

Induction

In Phase I, induction and orientation to MBBS take place at the start of each Stage and throughout that Stage within the Induction and Student Support unit. In Phase II (the clinical years), students attend an induction programme during the first week of the first semester .. During induction, new students will be given a general introduction to University life and the University's principle support services and general information about the School and their programme, as described in the Degree Programme Handbook. New and continuing students will be given detailed programme information, including assessment, and the timetable of lectures/practicals/labs/ tutorials/etc. There are also sessions aimed at developing generic transferable skills, including data handling and IT skills, within the Induction and Student Support strand The International Office offers an additional induction programme for overseas students.

Study skills support

Students will learn a range of Personal Transferable Skills, including Study Skills, as outlined in the Programme Specification. Some of this material, e.g. time management is covered in the appropriate Induction Programme. Students are explicitly tutored on their approach to both group and individual projects.

Numeracy support is available through Maths Aid and help with academic writing is available from the Writing Development Centre (further information is available from the Robinson Library).

Academic and Pastoral support

Each undergraduate and taught postgraduate student will be assigned a personal tutor.*

A personal tutor is one part of a wider network of advice and guidance available to students to support their personal and general academic development. The module leader acts as the first point of contact for subject-specific academic advice. Thereafter the Degree Programme Director or Head of School may be consulted. Issues relating to the programme may be raised at the Student-Staff Committee, and/or at the Board of Studies. Within the academic unit, students may also receive additional academic and pastoral advice from a range of other student-facing staff including degree programme directors, dissertation/project supervisors, and administrative support staff.

*Arrangements may vary for students taking special types of provision.

The University also offers a wide range of institutional services and support upon which students can call, such as the Writing Development Centre, Careers Service and Student Wellbeing Service. This includes one-to-one counselling and guidance or group sessions / workshops on a range of topics, such as emotional issues e.g. stress and anxiety, student finance and budgeting, disability matters etc. There is specialist support available for students with dyslexia and mental health issues. Furthermore, the Student Union operates a Student Advice Centre, which can provide advocacy and support to students on a range of topics including housing, debt, legal issues etc.

Support for students with disabilities

The University's Disability Support team provides help and advice for disabled students at the University - and those thinking of coming to Newcastle. It provides individuals with: advice about the University's facilities, services and the accessibility of campus; details about the technical support available; guidance in study skills and advice on financial support arrangements; a resources room with equipment and software to assist students in their studies.

Learning resources

The University's main learning resources are provided by the Robinson and Walton Libraries (for books, journals, online resources), and Information Systems and Services, which supports campus-wide computing facilities.

All new students whose first language is not English are required to take an English Language Proficiency Test. This is administered by INTO Newcastle University Centre on behalf of Newcastle University. Where appropriate, in-session language training can be provided. The INTO Newcastle University Centre houses a range of resources which may be particularly appropriate for those interested in an Erasmus exchange.

15 Methods for evaluating and improving the quality and standards of teaching and learning

The Faculty is committed to the provision of high quality teaching and learning in order to produce doctors capable of contributing to the present and future health needs of the nation. In recognition of this commitment, the Board of Medical Studies aspires to promote a total quality environment in which students and the staff reflect upon their practice as part of the Learning Agreement.

Programme and teaching quality is monitored and enhanced via the following mechanisms:

- The quality of the medical degree programme is monitored by the Board of Medical which meets at least once every two weeks.
- Student representatives are members of all key committees including the Board of Medical Studies, Assessment Working Groups and Annual Quality Monitoring meetings.
- Staff-student meetings are held at all stages of the curriculum;
- Focus meetings are held where necessary
- On-line student evaluation questionnaires are used throughout the course;
- The External Examiner system provides individual feedback on the quality of provision as well as on the outcomes of Stage assessments.
- For every rotation and for subject strands Annual Quality Monitoring meetings are held annually which bring together teachers from Phase 1 and II and from all Base Units to discuss course evaluation and student feedback and to produce an action plan for the next cycle of teaching.

The Phase I and II Staff-Student Committees make recommendations to the Board of Medical Studies, where student opinion, along with other internal monitoring data (e.g. assessment outcomes) and the views of External Examiners informs the development of appropriate action plans for change. These changes are reported back to the student representatives on the Staff/Student Committees. Student representatives are a key link in communication with the student body as a whole. The system depends upon informed input from the student representatives, who in turn depend on input from their colleagues; in similar fashion student representatives are expected to disseminate information back to other students in their group.

Focus groups and ad hoc working parties of students and staff are used regularly to further explore in depth specific problems or development issues, e.g. development of assessment methods. Commonly chaired by one of the Curriculum Officers or an independent facilitator, these groups report back to the Board of Medical Studies.

Unit of study reviews

All Units of study are subject to review. Changes to Units of study are considered at the Board of Studies and/or the MBBS Teaching and Learning Committee. Student opinion is sought at the Staff-Student Committee and/or the Board of Studies. Major changes to Units of study are subject to approval by the Faculty Teaching, Learning and Student Experience Committee.

Programme reviews

The Board of Studies conducts an Annual Monitoring and Review of the degree programme and reports to Faculty Learning, Teaching and Student Experience Committee. The FLTSEC takes an overview of all programmes within the Faculty and reports any Faculty or institutional issues to the University Learning, Teaching and Student Experience Committee.

External Examiner reports

External Examiner reports are considered by the Board of Studies. The Board responds to these reports through Faculty Learning, Teaching and Student Experience Committee. External Examiner reports are shared with institutional student representatives, through the Student-Staff Committee.

Student evaluations

All modules and stages* are subject to review by student questionnaires. Informal student evaluation is also obtained at the Student-Staff Committee, and the Board of Studies. The National Student Survey is sent out every year to final-year undergraduate students, and consists of a set of questions seeking students' views on the quality of the learning and teaching. The results from student surveys are considered as part of the Annual Monitoring and Review of the programme and any arising actions are captured at programme and School / institutional level and reported to the appropriate body.

*With the exception of intercalating years and the final stages of undergraduate programmes.

Mechanisms for gaining student feedback

Feedback is channelled via the Student-Staff Committee and the Board of Studies.

Faculty and University Review Mechanisms

Every six years degree programmes in each subject area undergo periodic review. This involves both the detailed consideration of a range of documentation, and a review visit by a review team (normally one day in duration) which includes an external subject specialist and a student representative. Following the review a report is produced, which forms the basis for a decision by University Learning, Teaching and Student Experience Committee on whether the programmes reviewed should be re-approved for a further six year period.

Accreditation reports

The programme was last reviewed by the General Medical Council (GMC) in 2005 and the Quality Assurance Agency (QAA) in 1998. The QAA awarded the MBBS programme 24 out of 24 for its provision, concluding that each of the six aspects on which the visit was based made a full contribution to the attainment of the stated objectives

16 Regulation of assessment

Pass mark

All Summative assessments in the 'Clinical and Communication **Skills**' and '**Knowledge** and Critical Thought' domains are marked via scores awarded to individual criteria within each individual assessment. These marks are summed to give an overall mark for the Stage (in each of the assessed domains). A candidate must achieve a passing mark to be deemed competent to progress to the next Stage. **Professional Behaviour** is assessed on a binary scale of Acceptable or Unacceptable through monitoring and assessing attitudes and behaviours throughout the Stage.

Course requirements

A candidate must achieve a pass in both the Skills and Knowledge domains of assessment and achieve an Acceptable grade in the Professional Behaviour domain to progress to the next Stage of the course. A final end of year award of Fail, Pass, or Merit can be achieved at each Stage of the course by combining all elements of assessment.

There is no cross compensation between the three domains of assessment.

Weighting of stages

Only successful completion of Stage 5 (Finals) can lead to the award of the degree of MBBS. To be eligible for the award of MBBS with Distinction, a student must have fulfilled the following criteria:

- Must have passed at least three Stages (2 of which must have been in Phase II) of the MBBS programme with Merit
- Must not have failed any Stage of the MBBS programme
- Must not have received any U grades for Professionalism for any in-course professionalism assessments throughout Stage 5.

To be eligible for the award of MBBS with Honours, a student must have fulfilled the following criteria:

- Must have passed at least three Stages (2 of which must have been in Phase II) of the MBBS programme with Merit
- Must have pass Stage 5 with Merit
- Must not have failed any Stage of the MBBS programme
- Must not have received any U grades for Professionalism for any in-course professionalism assessments throughout Stage 5.

Common Marking Scheme

In-course assessments are marked against pre-published criteria. Each criterion is scored on a scale of 1 – 5. The cumulative marks within each domain of assessment must achieve a pre-determined threshold for the candidate to pass.

Thresholds for unseen examinations are determined by the Angoff method for written and borderline regression method for clinical examinations. To ensure consistency between year groups, and to ensure no cohort is disadvantaged, we may also use the Hofstee standard setting method. The pass threshold is not given in advance and will vary for each of the progress examinations

Role of the External Examiner

An External Examiner, a distinguished member of the subject community, is appointed by Faculty Teaching and Learning and Student Experience Committee, following recommendation from the Board of Studies. The External Examiner is expected to:

- i. See and approve draft assessment papers
- ii. Attend Clinical Examinations for all Stages of the programme
- iii. Observe SSC oral presentations
- iv. Moderate examination and coursework marking
- v. Attend the Board of Examiners
- vi. Report to the University on the standards of the programme

Board of Examiners

The Stage 5 Board of Examiners is the official degree awarding body for the MBBS degree. For the progress examinations at each of the other stages meetings of examiners are held at which external examiners are present to agree progression from each stage. The outcomes of these meetings are reported to the Board of Examiners and to the Board of Medical Studies.

In addition, information relating to the programme is provided in:

The University Prospectus: <http://www.ncl.ac.uk/undergraduate/>

The School Brochure: <http://www.ncl.ac.uk/marketing/services/print/publications/ordering/>

Degree Programme and University Regulations: <http://www.ncl.ac.uk/regulations/docs/>

The Degree Programme Handbook:

Please note. This specification provides a concise summary of the main features of the programme and of the learning outcomes that a typical student might reasonably be expected to achieve if she/he takes full advantage of the learning opportunities provided. The accuracy of the information contained is reviewed by the University and may be checked by the Quality Assurance Agency for Higher Education.