Programme Specification

A statement of the knowledge, understanding and skills that underpin a taught programme of study leading to an award from The University of Sheffield

1	**Programme Title**	Graduate Entry Bachelor of Medicine and Surgery
2	**Programme Code**	MDEU02
3	**JACS Code**	A300
4	**Level of Study**	Undergraduate
5	**Final Qualification**	MBChB
6	**Intermediate Qualification(s)**	Intercalated BMedSci (Hons) and BMedSci Clinical Sciences (for some students)
7	**Teaching Institution** (if not Sheffield)	Not applicable
8	**Faculty**	Medicine, Dentistry and Health
9	**Home Department**	School of Medicine
10	**Other Department(s) involved in teaching the Programme**	School for Health and Related Research
11	**Mode(s) of Attendance**	Full-time
12	**Duration of the Programme**	4 years
13	**Accrediting Professional or Statutory Body**	General Medical Council
14	**Date of production/revision**	April 2018

15. Background to the programme and subject area

The Sheffield medical programme is designed to produce doctors who are who are equipped with the clinical abilities, knowledge, attitudes and professional behaviours needed to become a Foundation Year 1 doctor. The programme is characterised by students obtaining extensive clinical experience which is underpinned by teaching and learning in the supporting medical sciences. Our graduates are well prepared for their role as Foundation Year 1 trainees in the hospitals in Sheffield and across South Yorkshire. During the Foundation Year the recently qualified doctor will work with a variety of consultant-led teams of doctors and gain general clinical experience that builds on their undergraduate learning. Trainees hold provisional registration with the General Medical Council and successful completion of their first year after qualifying leads to full registration.

The Medical School admits 256 students to the five year Medical Programme each year from a wide range of backgrounds, including 18 international students.

The content of the core curriculum of the Medical Programme is determined from the range of clinical cases that a doctor will have to be competent in dealing with on graduation. All the supporting science teaching and learning is based upon these cases. Thus the development of clinical ability and underpinning science is integrated and relevant to the needs of the future doctor. Clinical work occurs from the very earliest part of the Programme and includes early years' placements in general practice. In year 3 students complete a social accountability attachment with a voluntary or charitable organisation, which exposes students to the wider determinants of health. In years three and four students' complete clinical placements in a range of specialties where they develop their clinical knowledge through their experiences. The final year of the course focussing on preparing students for practice as a junior doctor and includes the six-week student assistantship, where students shadow a Foundation Year 1 doctor.

The Sheffield curriculum ensures that students:

- Become competent in all clinical skills needed to be a Foundation Year Trainee (F1) through seeing patients in hospitals and in the community and through closely supervised activities in Clinical Skills Centres.
- Learn the underpinning Medical Sciences through lectures, seminars, practical sessions, simulation, dissection of the human body and self-directed study.

- Have opportunities to explore areas that interest them independently of the core curriculum both in the UK and overseas.
- Learn how healthcare is organised.
- Become able to work in a team and independently.
- Develop the professional behaviours needed to be a doctor.

16. Programme aims

The aims of the medical Programme are:

1. To produce doctors with the clinical, practical and interpersonal skills together with the professional behaviours and attitudes that will be required of them to practice as Foundation Year Trainees (F1).
2. To support the development of students by providing teaching and learning opportunities in medical, behavioural and population health sciences that integrates with their acquisition of clinical competencies and their professional development.
3. To integrate the teaching and learning of all aspects of the Programme both horizontally (across a year) and vertically (throughout all years).
4. To use a blend of teaching and learning approaches to enable students to be progressively more able to personally manage their own learning.
5. To cultivate in students an attitude of curiosity and a desire for intellectual exploration and critical evaluation.
6. To inculcate behaviours appropriate for professional practice as medical students, junior doctor trainees and independent medical practitioners.

These aims reflect and satisfy the requirements of the General Medical Council as specified in a number of their publications including *Tomorrows Doctors, Good Medical Practice and The New Doctor* http://www.gmc-uk.org/education/undergraduate/tomorrows_doctors.asp . They also are consistent with the requirements of the employer of our graduates, namely the National Health Service (NHS), with whom the aims have been developed www.foundationprogramme.nhs.uk

The undergraduate medical Programme is structured so that the aims of the undergraduate curriculum merge seamlessly with the aims of early postgraduate training.

The aims of the undergraduate Programme are consistent with the generic and subject specific benchmarks of the Quality Assurance Agency (QAA) for Higher Education, a group required by the Government to ensure higher education in the UK is of the appropriate standard. The QAA Subject Benchmark Statements for medicine are available at http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/Subject-benchmark-statement-Medicine.aspx.

In order to ensure the responsiveness to national and local initiatives in healthcare Programme aims are kept under regular review by the Curriculum Management Committee of the Medical School, whose membership includes staff responsible for the delivery of all parts of the Programme (including our NHS partners) and medical student representatives. The overall vision for the Programme is available at http://www.shef.ac.uk/aume/medicine

17. Programme learning outcomes

Knowledge and understanding:	
K1	Students will demonstrate knowledge and understanding of the normal structure and function (anatomy, physiology and biochemistry) of the various organ systems of the body. The areas in which such knowledge will be acquired are: 1. Cardiovascular and Respiratory systems. 2. Gastrointestinal system and the Liver. 3. Genitourinary, Endocrine and Reproductive systems. 4. Nervous and Musculoskeletal systems and the Skin. 5. Haemopoetic and Immunological systems. This knowledge and understanding is integrated with that specified in K2.

K2	Linked to the learning specified in K1 students will develop knowledge of the pathophysiology (the causes of disease and how the anatomy, physiology and biochemistry are disturbed) of the clinical problems from which the core curriculum is derived. These clinical problems may be accessed at http://cms.shef.ac.uk/aume/curriculum_dev/corecurriculumsub2.html and reflect the range of conditions likely to be seen by a newly qualified doctor. Students will also learn about the natural history of diseases, the genetics of diseases, the basis and effects of neoplasia (tumours), the effect of disease on individuals and populations and the methods and benefits of screening for diseases. Coincident with learning about diseases students will learn about the principles and practice of treating patients with drugs, surgery, radiotherapy, psychotherapy and the therapeutic value of good communication.
K3	Students will acquire knowledge of the behavioural and population health sciences (including psychology, sociology and societal aspects of medicine and illness, public health medicine, epidemiology and statistics) as well as understanding the legal and ethical framework within which medicine is practised. Students will be able to see many patients who have varying types and severities of illness, including disabilities and handicaps, and from these experiences learn about the impact of illness on individuals, their families and the population. Students will thus gain the knowledge and understanding of why and how patients talk about their illnesses and the factors that make them think they are ill. They will also understand the biological bases of disease and to be able to recognise and understand its causes and patterns.
K4	Knowledge of the development of current medical practice and how research informs this process.
K5	An understanding of the structure and policies of the NHS and the requirements of doctors as regards clinical governance and audit.

Skills and other attributes:

S1 The course is designed so that students progressively acquire the clinical competencies required to practice as a Foundation Year Trainee (F1). These competencies are shown below.

Clinical Skills	**Interpersonal Skills**	**Professional Behaviours**	**Practical Skills**
Contributes to the cure of illness, recovery from sickness and the easing of discomfort	Can establish, build and maintain proper partnerships with patients, their family/ friends/carers	Adopts a questioning approach to own work and that of others	Ensures optimal patient comfort and privacy
Participates in health promotion and in prevention of disease and disability	Communicates effectively	Works within limits of knowledge and experience	Prepares patient for, and explains and conducts technical and practical procedures effectively
Gathers relevant patient history information systematically either from patient or third party	Works effectively as a member of a multidisciplinary team	Maintains patients confidentiality	Ensures patient consent is obtained in all aspects of investigation, treatment and management

Clinical Skills	**Interpersonal Skills**	**Professional Behaviours**	**Practical Skills**
Conducts complete mental state examination or selects appropriate components in a systematic and directed fashion	Deals sensitively with patients, their family/friends/carers	Is responsive to changes in healthcare policy and science	An access relevant information and record information accurately

	Conducts complete physical examination or selects appropriate components in a systematic and directed fashion	Identifies potential danger for self and others and takes appropriate action to limit impact	Maintains an ethical approach	Makes thorough and accurate observations, measurements and calculations
	Makes accurate assessment of patient's problems and formulates differential diagnosis		Complies with legal responsibilities and requirements and guidelines of regulatory bodies and the NHS	Recognises, identifies and can describe abnormalities and symptoms
	Selects and initiates appropriate investigations		Demonstrates respect for the role and function of all those involved in patients care	Demonstrates effective decision making
	Interprets and evaluates data from history, physical examination and other findings to formulate diagnosis		Demonstrates a patient-centred approach	Manages life-threatening conditions
	Formulates and implements management plan and monitors its effectiveness		Recognises and takes advantage of opportunities to teach	
			Fulfils professional responsibilities in work and in contexts outside work	
	Each of these learning outcomes for the Programme may be seen in greater detail at http://www.shef.ac.uk/%7edme/curriculum/outcomes.html. Students will progressively acquire an understanding of and a practical ability to perform clinically in all of these areas and by the time of qualifying as a doctor would be expected to have all of the above skills.			
S2	Progressively during the three Phases of the Programme students will develop a range of generic skills and attitudes enabling them to: • Use information sources including libraries, data bases, scientific and medical papers. • Appraise evidence critically. • Reflect critically on their own performance and that of others. • Pose a research question and undertake a project to seek an answer. • Develop methods of enquiry that allow them to solve problems. • Evaluate information and present it in an unbiased manner. • Prioritise tasks and time-management. • Handle data, including statistical analyses. • Use information technology. • Understand factors influencing interpersonal relationships. • Work as part of a team and work independently. • Recognise the need for life-long learning. • Communicate with colleagues. • Engage in self-directed learning. • Identify personal learning needs and skills. • Recognise personal limitations regarding skills and knowledge. • Be non-prejudiced in their approach to others.			

	• Respect the dignity, integrity and autonomy of others. The acquisition of these skills is facilitated through the Personal and Academic Tutor Scheme, which provides personal support for students. All of the above descriptors of the Programme learning outcomes are consistent with the requirements of the General Medical Council, the Quality Assurance Agency and the employers of our graduates.

18. Teaching, learning and assessment

Development of the learning outcomes is promoted through the following teaching and learning methods:

The most important method by which students learn medicine is by seeing patients and by considering their clinical problems. Seeing a patient involves three key activities, namely, taking a clinical history in which all aspects of a patient's present and past illnesses are inquired about, conducting a physical examination of the patient and lastly, discussing and agreeing with the patient a plan for their future care including special tests and treatment. This overall learning outcome is achieved by the progressive development of Clinical Competencies throughout the Programme as shown in S2 and which are derived from the core clinical problem list http://cms.shef.ac.uk/aume/curriculum_dev/corecurriculumsub2.html. The clinical aspects of care and the underpinning knowledge are both taught and assessed in an integrated manner.

The School recognises the diversity of approaches to learning that students have experienced and used when they enter the Programme and seeks to take account of this by providing a wide range of teaching methods and learning opportunities.

The methods by which Medical Sciences are learnt include:

- Clinical case discussions.
- Lectures, seminars and tutorials.
- Practical sessions, (including dissection).
- Integrated Learning Activities (ILAs)
  These link the medical sciences with clinical practice. Their format evolves with the developing abilities of the students so that at an early stage of the Programme they require little medical knowledge but towards the end of the course they are complex and require a high level of knowledge and understanding. At all stages students are able to structure their learning around real clinical problems. Through ILAs students will develop the skills of problem analysis, identification of personal learning needs, self-directed learning and the application of new knowledge.
- Computer-aided learning
  A variety of IT based methods are used throughout the programme. They are mainly delivered through the School's web-based Networked Learning Environment (Minerva).
- Self-directed study.

The methods by which Clinical Competencies are learnt include:

- Clinical team attachments to Teaching Hospitals and to General Practice
  These will provide opportunities to see patients alone or with clinical teachers, to follow patients through an episode of illness, to interact with other healthcare professionals and thus to develop an understanding of the broader aspects of healthcare.
- Clinical Demonstrations
  These are usually delivered to small groups in clinical settings but are also used to teach large groups in lecture theatres.
- Attendance at Clinical Skills Centres
  These will provide opportunities to practice clinical, practical and technical skills in simulated and closely supervised settings using models, simulated patients and real patients.
- Attachments to other healthcare professionals such as nurses and Social Service personnel.

In addition to the core Programme which is undertaken by all students, 22% of the Programme is designated for Student Selected Components (SSCs). The key element about SSCs is that students have choice over the studies that they undertake. Throughout the Programme, students will be able to explore areas outside the core curriculum that interest them. SSCs must be directly related to medicine. SSCs contribute to the development of

intellectual and attitudinal attributes and prepare students for professional life and life-long learning. In particular, they will enable students to have greater control over their own learning and help them develop confidence in their own abilities by studying a topic of their choice in depth. They will be able to learn about and develop research skills and consider potential career paths. They provide a context in which many generic skills will be acquired. Whilst the core curriculum will ensure a consistency of quality of Foundation Year 1 trainees, the SSCs create diversity between graduates.

Opportunities to demonstrate achievement of the Programme learning outcomes are provided through the following assessment methods:

Students are assessed by two main methods. These are Formative and Summative. Formative assessments occur throughout the Programme and are designed to aid students in their study. The results from these assessments do not contribute to overall marks in a Phase. Summative assessments (including Mastery assessments and sequential assessments) must be passed in order for a student to progress to the next Phase and, with respect to the Phase 4 assessment, to graduate as a doctor. Summative assessments occur both during and at the end of Phases.

Key features of the assessment procedures include:

- All assessments being closely matched to the learning outcomes through the use of blueprinting the assessments against the learning outcomes.
- Summative assessments being valid and reliable.
- Regular opportunities being provided for Formative assessment, remediation and counselling.
- Use of Mastery assessments to ensure students have acquired the required range of essential clinical skills.
- Progressive assessment of clinical competences and medical sciences occurring throughout the Programme.
- with a proportion of material learnt in previous Phases being included in subsequent assessments.

Written assessments are used to examine students in both clinical science knowledge and clinical competencies. The methods of assessment include Single Best Answer Questions, Structured Short Answer Questions, Project Reports, Poster Presentations and Log Books (portfolios). Clinical Competencies are assessed by Objective Structured Clinical Examinations, Observed Long-Cases, Mini Clinical Examinations, Reports of Clinical Attachments and Oral Presentations.

The summative assessment of attitudes and Professional Behaviours is undertaken progressively throughout the Programme. During all clinical attachments the supervising clinicians will make judgements as to whether a student has demonstrated appropriate professional attitudes and behaviours. These judgements are collected and collated into a progress file and discussed with the student and will form part of students' personal portfolios.

19. Reference points

The learning outcomes have been developed to reflect the following points of reference:

- *Outcomes for Graduates (originally published as 'Tomorrow's Doctors'*: General Medical Council. http://www.gmc-uk.org/education/undergraduate/undergraduate_outcomes.asp. And *Promoting Excellence: standards for medical education and training* www.gmc-uk.org/education/standards.asp
- The accreditation of the Programme by the General Medical Council http://www.gmc-uk.org/education/index.asp
- *'Duties of a Doctor' and 'The Doctor as Teacher'*: General Medical Council http://www.gmc-uk.org/guidance/good_medical_practice/index.asp
- *'Subject Benchmark Statement for Medicine'*: The Quality Assurance Agency for Higher Education http://www.qaa.ac.uk/Publications/InformationAndGuidance/Pages/Subject-benchmark-statement-Medicine.aspx
- Health Education England
- The evaluations of doctors, students and other who teach on the Programme, as well as members of the public.

- Acute Hospital NHS Trusts and Primary Care NHS Trusts to which students are attached for clinical work.
- University Strategic Plan http://www.sheffield.ac.uk/strategicplan
- University of Sheffield Learning and Teaching Strategy.
- The international education literature regarding best practice in medical education.

20. Programme structure and regulations

The Medicine Programme is fully integrated as required by the GMC. Eighty percent of the curriculum is core, which all students must undertake. In addition, students have an opportunity to undertake studies, in the form of Student Selected Components (SSCs), which form the remainder of the Programme. A wide range of SSCs is available and many students elect to undertake up to 15 weeks abroad.

On award of the MBChB degree the General Medical Council will grant a graduate provisional registration as a medical practitioner. Full registration is obtained when a doctor satisfactorily completes one year as a Foundation Year Trainee (F1).

Any time after successful completion of Phase 2, students have an opportunity to apply to study for an intercalated honours degree of Bachelor of Medical Science (BMedSci). The broad range of subjects available for study reflects the research strengths of the School of Medicine and the School of Health and Related Research. Students reading for a BMedSci gain expertise in designing and completing a research programme over one year. A wide range of research subjects is available. Assessment is based upon the production of a dissertation and a *viva-voce* examination. Many students who undertake a BMedSci subsequently become more deeply involved in medical research and find that the basic training in research methodology is well respected by employers in medicine. Alternatively, students have the opportunity to intercalate at Masters level and all Masters degree programmes in the Faculty of MDH (and many beyond, including external to the UoS) are open to them.

A very few students find during the course of the Programme that they do not wish to or are unable to continue to study medicine. Provided such students have satisfactorily completed the first clinical module of Phase 3A, they may be granted an unclassified BMedSci degree.

Detailed information about the structure of programmes, regulations concerning assessment and progression and descriptions of individual modules are published in the University Calendar available on-line at http://www.sheffield.ac.uk/calendar/regs.

21. Student development over the course of study

Progression in the development of the clinical skills, knowledge base, and generic skills is facilitated by integration of the four vertical themes of the curriculum. These are Medical Sciences, Clinical Competencies, Integrated Learning Activities (ILAs) and Student Selected Components (SSCs).

Students' knowledge of Medical Sciences progresses from normal structure and function of the body to an understanding of abnormal structure and function in disease, which they then apply to increasingly complex problems in clinical practice.

Clinical Competencies develop progressively throughout all Phases as shown below.

The Programme is divided into four successive Phases, with the level of clinical competence being designated Introductory, Basic, Extended and Advanced, respectively. The sequential development of clinical competencies over the four Phases is shown below.

Clinical Competencies

Introductory: (Graduate Entry Introductory Course: lasting 6 weeks).

- Introductory clinical history taking and physical examination.
- Cardio-pulmonary resuscitation.
- Professionalism and patient safety (learning about professional responsibilities, personal attitudes and behaviour, working within the National Health Service).
- Introduction to ethical issues.

Basic: (Phase 2: 2a lasting twenty nine weeks and Phase 2b lasting twenty two weeks).

- Further development of skills in clinical history taking and physical examination.
- Assessment of mental state of patients.
- Writing up the findings from a clinical history and physical examination and maintaining case records.
- Use of problem lists, formulation of differential diagnosis, plans for investigation and treatment, and prioritisation of health and social care needs.
- Interdisciplinary care.
- Further professionalism and patient safety.
- Pharmacology and prescribing.

Extended (Phase 3: 3a lasting forty nine weeks, Phase 3b lasting forty eight weeks).

- Clinical history taking and physical examination extended to include knowledge and skills in medical specialities (e.g. Child Health, Women's Health, Mental Health, Acute Clinical Care, and Medical and Surgical Specialties).
- Clinical examination of acutely ill patients and with patients unable to give a clinical history.
- Communication skills development including advising patients, breaking bad news and talking with relatives.
- Keeping case records.
- Selection of treatment (e.g. drugs, surgery) and monitoring outcomes.
- Interdisciplinary care.
- Adverse event management.
- Professionalism and patient safety.
- Pharmacology and prescribing.

Advanced (Phase 4: lasting 24 weeks).

- Refining clinical history taking and physical examination skills to the level of those needed by a Foundation Year 1 doctor.
- Able to diagnose clinical conditions likely to be seen by a Foundation Year 1 doctor.
- Able to undertake all the clinical practical procedures that will be required of a Foundation Year 1 doctor.
- Able to talk with patients and their relatives to explain the nature of their condition, the implication of test results, the therapeutic options and how the most appropriate treatment is identified.
- Able to interact appropriately with others in the health service.
- Understanding of the professional responsibilities required to work within the National Health Service.

For example, students learn by attending clinical demonstrations and by observing healthcare professionals in practice during Graduate Entry Introductory Course, by acquiring practical clinical skills in Skills Centres and with patients in Phase 2 and using these skills in practice with patients in hospital and general practice settings in phase 3. In Phase 4 they acquire the advanced skills required to become a Foundation Year 1 doctor.

Students undertake a variety of ILAs throughout the Programme, which integrate the Medical Sciences and Clinical Competencies and also allows them to acquire progressively important generic skills such as the ability to identify their own learning needs and to become self-directed life-long learners.

The SSCs provide an opportunity for students to develop their academic and medical interests outside of the core curriculum. The SSCs in later Phases enable students to select areas of work which they wish to study at a greater depth than in the core part of the Programme and allows them also to work in clinical disciplines of potential vocational interest.

22. Criteria for admission to the programme

Applications for entry must be made through the University and Colleges Admissions Service (UCAS). Our application process is aligned with the Medical Schools Council *'Selecting for Excellence'* guidance.

The academic requirements are:

- For subjects taken at A2, three B grades with one of these being in Biology or Chemistry.
- An upper second class or first class Bachelor's degree in an appropriate life sciences subject.
- UKCAT score equal to or above the threshold determined by the Medical School (this is determined each year, based on the results of the previous year nationally). Applicants are then ranked on their UKCAT score to determine which applicants are invited for interview.
- Applicants must, in addition to meeting the above academic entry criteria also demonstrate that they come from a widening participation background.

If an applicant is uncertain whether their qualifications are suitable they are advised to contact the Admissions Office in the School of Medicine and Biomedical Sciences.

Applicants selected for interview will attend a Multiple Mini Interview which includes eight 8 - minute stations.

In accordance with national guidelines all prospective students must demonstrate that they are not infectious carriers of hepatitis B before an offer of a place at the Medical School can be confirmed. In addition all prospective students must undergo a Disclosure and Barring (DBS) check. A condition of accepting an applicant on to the course will be subject to a satisfactory DBS report.

The School welcomes applications from students with disabilities but it is important to state the General Medical Council requires that a student studying to become a doctor must be assessed as being fit for practise.

Detailed information regarding admission to the programme is available at http://www.shef.ac.uk/prospective/

23. Additional information

The School of Medicine and Biomedical Sciences website http://www.shef.ac.uk/medicine/ provides access to additional and more detailed information about the Programme.

This specification represents a concise statement about the main features of the Programme and should be considered alongside other sources of information provided by the teaching department(s) and the University. In addition to Programme specific information, further information about studying at The University of Sheffield can be accessed via our Student Services web site at www.shef.ac.uk/ssid.