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Learning Medicine in Dundee

The Dundee curriculum has been designed to meet the challenges of educating competent doctors for the twenty-first century, including:

- Changes in delivery of healthcare. Services are being moved away from in-patient hospital care towards day-care, out-patient clinics and community settings. Improved diagnostic techniques and treatment methods, enhanced community services and government policy have all contributed to this trend.

- Changes to the public’s expectations of a doctor.

- Exciting developments in the methods of teaching and learning and in approaches to assessment - the Dundee curriculum is at the forefront of many of these developments.

- The expectations set out in the General Medical Council document ‘Tomorrow’s Doctors’ (GMC, 2009), which builds on their previous recommendations for all UK medical schools.

In summary, the GMC recommend a curriculum which:

- ensures all graduates meet the outcomes specified in ‘Tomorrow’s Doctors’.

- comprises a core, complemented by opportunities for students to exercise choice.

- integrates basic and clinical sciences to link theory with practice.

- prepares graduates for their responsibilities as provisionally registered doctors.

- takes into account modern educational theory and current research.

- provides students with a balance of learning opportunities.

- takes advantage of new technologies to deliver teaching.

- allows students to revisit topics at different stages and levels.

- includes early and continuing contact with patients.

Key features of the Dundee curriculum are:

- an explicit statement of the outcomes expected of students at each stage.

- a core curriculum with student-selected components.

- the spiral nature of the curriculum, with its three interlocking phases, allowing topics to be revisited in more depth.

- a body-system-based approach, providing a focus for students’ learning.

- a framework of over one hundred core clinical problems to develop reflective practice.

- a range of educational strategies, including elements of task-based and problem-oriented learning, community-based learning, and approaches to teaching and learning that encourage the students to take increasingly more responsibility for their own learning.

- an ‘assessment to a standard’ approach which emphasizes the overall outcomes of the curriculum and which uses a range of methods including online examinations, OSCEs (Objective Structured Clinical Examination) and portfolio assessment.
Students are encouraged to develop a partnership approach to their learning for professional practice. Students and staff, as active stakeholders, have an important role to play in the continuing development of the curriculum.

About this handbook

This document has been designed to provide a comprehensive overview of learning and teaching in Dundee Medical School. It is not intended to be read from cover to cover but to be dipped into on an as-and-when-required basis. Section 1 outlines the educational approach adopted in general terms while the Section 2 goes into more specific detail about the teaching and assessment at different stages of the course. Section 3 contains additional detailed information which may be required by individuals.

Whilst the information in the handbook was correct at the time of printing, the curriculum is constantly being reviewed, refined and updated. The most recent versions of any documents can be obtained through the School website and we encourage you to check regularly for updates (http://www.dundee.ac.uk/medschool/undergraduate/mbchb).
About the curriculum

**The Spiral Curriculum**

The Dundee curriculum draws on constructivist learning theory, where students gain new knowledge and ideas by expanding and developing what they already know. The ‘spiral curriculum’ means that students are given opportunities to revisit aspects of learning, making links between concepts and deepening understanding. The course is split into three phases; as the student progresses to each new phase in the spiral, new information and skills are introduced that build on the information and skills from the previous phase.
The Three Phases of the Curriculum

Phase 1 – Foundation of Medical Practice

This phase introduces students to the curriculum outcomes and key scientific principles using core clinical problems. There is early patient contact in the Doctors, Patients and Communities and Clinical Skills programmes.

Phase 2 – Systems in Medical Practice

Semester 2 of year 1 and semesters 3-6 of years 2 and 3 form the single entity known as Phase 2. It is an integrated body-system-based course that expands the students’ understanding from Phase 1. Semester 2 year 1 includes core teaching for three systems, a longitudinal Student Selected Component (SSC) and an assessment week. Years 2 and 3 include core teaching for systems (five in year 2 and six in year 3), an assessment week, and two four-week blocks of SSCs.

Transition Block

Between years 3 and 4 there is a transition period which is designed to ‘pull together’ the cross-systems teaching and to prepare students for the task-based clinical approach to teaching adopted in Phase 3.

Phase 3 – Clinical Practice

Years 4 and 5 form Phase 3, consisting mainly of clinical attachment blocks. The Phase utilises task-based learning based on over 100 core clinical problems with which patients may present to their doctor. This provides students with a framework for an integrated view of medicine. The 4th year project, a major independent study assignment, will be completed throughout Year 4 and is equivalent to a 4-week Student Selected Component. The majority of Year 5 is devoted to clinical or theme-based SSCs together with two pre-registration (foundation) apprenticeship attachments.
Outcome-based Education

Learning outcomes are increasingly used as a focus for curriculum planning. Identifying, defining and communicating the knowledge, skills, attitudes and professional behaviours doctors should have is fundamentally important for the curriculum. Staff and students need to be clear what our medical school training programme is for, and on which issues it will be judged. What sort of doctors are staff aiming to produce and students aiming to become? What are the expected learning outcomes for the curriculum? Doctors have a unique blend of different kinds of abilities that are applied to the practice of medicine. What is needed or valued at any time depends on the context - at times it may be a practical intervention, at other times, diagnostic abilities and at other times a caring attitude and understanding.

In Dundee we have developed an interactive, user friendly and transparent approach to communicating learning outcomes. It emphasizes the relevance and validity of the outcomes to medical practice. The three-circle model used (see Figure 1) is based on the three dimensions of the work of the doctor.

The inner circle represents what the doctor is able to do, e.g. the physical examination of a patient. This can be thought of as “doing the right thing”.

The middle circle represents the way the doctor approaches the tasks in the inner circle e.g. with scientific understanding, ethically, and with appropriate decision taking and analytical strategies. This can be thought of as “doing the thing right” and includes the academic, emotional, analytical and creative intelligences.

The outer circle represents the development of the personal attributes of the individual - “the right person doing it”. It equates with the personal intelligences.
The Dundee Doctor and the 12 Learning Outcomes

Twelve key learning outcomes have been identified for the Dundee curriculum. Students entering the first year of the course in September are introduced to the expected learning outcomes in the Dundee curriculum. As they progress through the curriculum the contribution of each course and curricular phase towards achievement of the learning outcomes is identified. Whether students have achieved the stated learning outcomes or not is the basis for their final assessment at the end of year five. Study guides in the different phases of the curriculum identify the learning outcomes for each block of teaching and for individual educational opportunities.

Outcomes 1-7 correspond to the inner circle and describe the competent doctor in terms of what he or she will be able to do.

1. Competence in clinical skills

The doctor is competent to take a comprehensive, relevant medical and social history and perform a physical examination. He or she will be able to record and interpret the findings and formulate an appropriate action plan to characterise the problem and reach a diagnosis.

2. Competence in practical procedures

The doctor is able to undertake a range of procedures on a patient for diagnostic or therapeutic purposes. This usually involves using an instrument or some device, e.g. suturing a wound or catheterisation.

3. Competence in investigating a patient

The doctor is competent to arrange appropriate investigations for a patient and where appropriate interpret these. The investigations are carried out on the patient or on samples of fluid or tissue taken from the patient. The investigations are usually carried out by personnel trained for the purpose e.g. a clinical biochemist or radiographer, but may in some instances be carried out by the doctor.

4. Competence in patient management

The doctor is competent to identify appropriate treatment for the patient and to deliver this personally or to refer the patient to the appropriate colleague for treatment. It includes interventions such as surgery and drug therapy and contexts for care such as acute care and rehabilitation. It includes an awareness of complementary medicine approaches.

5. Competence in health promotion and disease prevention

The doctor recognises threats to the health of individuals or communities at risk. The doctor is able to implement, where appropriate, the basic principles of disease prevention and health promotion. This is recognised as an important basic competence alongside the management of patients with disease.

6. Competence in communication skills

The doctor is proficient in a range of communication skills including written and oral, both face-to-face and by telephone. He or she communicates effectively with patients, relatives of patients, the public and colleagues.

7. Competence in handling and retrieval of information

The doctor is competent in recording, retrieving and analysing information using a range of methods including computers.
Outcomes 8-10 correspond to the middle circle and describe how the doctor approaches the seven competencies described in the first category.

8. With an understanding of basic, clinical and social sciences and underlying principles
The doctor understands the basic, clinical and social sciences that underpin the practice of medicine. He/she is able not only to carry out the tasks described in outcomes 1-7, but to do this with an understanding of what he/she is doing, including an awareness of the psychosocial dimensions of medicine. The doctor can justify his/her actions.

9. With appropriate attitudes, ethical understanding and understanding of legal responsibilities
The doctor adopts appropriate attitudes and ethical behaviour consistent with the professional practice of medicine and conforms with the legal aspects of clinical practice. This includes issues relating to patient-centredness, informed consent, confidentiality, weighing up the risks and benefits of medical interventions, and the practice of medicine in a multicultural society.

10. With appropriate decision making skills, clinical reasoning and judgement
The doctor applies clinical judgement and evidence-based medicine to their practice. They understand research and statistical methods. They can cope with uncertainty and ambiguity. Medicine requires, in some cases, instant recognition, response and unreflective action, and at other times analysis, decisions and action following a period of reflection and deliberation. This outcome also recognises the creative element in problem solving that can be important in medical practice.

Outcomes 11-12 relate to the outer circle and are concerned with the personal development of the doctor as a professional - the “personal intelligences”.

11. An understanding of the doctor's role in the health service
The doctor understands the healthcare system within which they are practising and the roles of other professionals within the system. They appreciate the role of the doctor as physician, teacher, manager and researcher. It implies a willingness of the doctor to contribute to research even in a modest way and to build up the evidence base for medical practice. It also recognises that most doctors have some management and teaching responsibility.

12. An aptitude for personal development and a demonstration of appropriate transferable skills
The doctor has certain attributes important for the practice of medicine. He or she is a self-learner and is able to assess his or her own performance. Self-awareness and reflective ability are crucial attributes for life-long learning. The doctor takes responsibility for his or her own personal and professional development, including personal health and career development.

In all 12 learning outcomes for the Dundee doctor, performance is underpinned by a number of cognitive and behavioural skills. The approach encourages the holistic view of medical practice with the outcomes in the middle and outer circles acting through the outcomes in the inner circle. The outcome model offers a framework for teaching and learning. It is a powerful tool for teachers designing and implementing the curriculum, for examiners assessing the students’ performance and not least for students who ultimately have responsibility for their learning.

The ‘Tomorrows Doctors’ Outcomes
Tomorrow’s Doctors 2009 also contains expected “outcomes for graduates”. These set out what the GMC expects medical schools to deliver and what employers of new graduates can expect to receive. Dundee’s 12 learning outcomes have been carefully scrutinised to ensure that our graduates are meeting the Tomorrow’s Doctors standards.
Educational Philosophy

The curriculum has been designed to give students increasing responsibility for their own learning. The General Medical Council recommended that learning through curiosity, the exploration of knowledge, and the critical evaluation of evidence should be promoted and should ensure a capacity for self-education. This approach to learning is reflected in the Dundee learning outcomes and in the core and SSC courses.

To assist students in the curriculum's move from teacher-centred to student-centred, extensive use has been made of study guides. The study guides for each course play a crucial role in informing students of the available educational opportunities and helping them to identify those appropriate for their individual approach to their studies.

A feature of the Dundee student-centred curriculum is an attempt, wherever possible, to match the learning experiences to the needs of the students. About one third of the curriculum is allocated to SSCs giving students more opportunity to choose the area they wish to study in more depth. It is recognised also that not all students may master the core at the same rate. Students who take longer to master the core to the standards set will undertake directed SSCs. All students, however, must pass the required number of SSCs to graduate.

People learn best in different ways. Some students may prefer small group discussions; some prefer individual study using books in the library whilst others prefer online learning (e-learning) methods. To accommodate various learning preferences a wide range of teaching and learning methods has been provided throughout the course. These methods include: small group discussions, clinical teaching, lectures, e-learning, clinical skills sessions, text books and journal articles, integrated teaching sessions, laboratory work and practicals.
Integrated Teaching
From 1993, The General Medical Council has emphasised a move towards integrated teaching, with extensive recommendations for basic medical education included in the first edition of Tomorrow’s Doctors.
Their most recent guidance states:
“The structure and content of courses and clinical attachments should integrate learning about basic medical sciences and clinical sciences. Students should, wherever possible, learn in a context relevant to medical practice, and revisit topics at different stages and levels to reinforce understanding and develop skills and behaviours.”
Tomorrow’s Doctors, 2009
Integrated learning is provided in Phase 1 and Phase 2 of the medical curriculum through a system-based approach and in Phase 3 in clinical practice using a task-based approach around a framework of core clinical problems. The advantage of this type of approach is that it enables students to develop and build a flexible professional knowledge base for practice.
The teaching approaches adopted, the study guides for each course and the support facilities such as the Clinical Skills Centre and the Integrated Teaching Area, reflect both the vertical and horizontal nature of the curriculum.
As students progress through the curriculum these approaches help them access the right knowledge in the right context and promote reflective practice.

The Educational Approach

Problem-Oriented Learning
There has been a lot of interest in the problem-based style of learning in undergraduate medical education in recent years. In problem-oriented learning students are presented with a problem or problems and, usually working in small groups facilitated by a tutor, work to address the problem and identify any future learning needs.
As students progress through the curriculum they are given opportunities which focus on integrating clinical experience with their new-found knowledge, and are expected to take increasing responsibility for their own learning in relation to the 12 learning outcomes. The school has developed a systematic approach to clinical practice to try to ensure that students gain the necessary breadth and depth of clinical experience in order to practise as a junior doctor.

Systems-based teaching
In Phase 2 of the curriculum a body-systems approach is used to integrate students’ learning around a number of written patient problems. The learning outcomes provide a systematic framework for approaching each problem.

Task-based Learning
In Phase 3 of the curriculum, students progress to a task-based learning (TBL) approach where they utilise their experience from clinical practice, to learn not only how to carry out the task but why the task is being carried out and how it is affected by the clinical context. Clinical practice is by its very nature unpredictable and the TBL approach has been developed to help students maximize their learning on each of their attachments in Year 4.
TBL has been adopted as the key educational strategy in this phase of the Dundee curriculum and is used as the basis for integration and problem-oriented learning in the clinical context. Specified ‘tasks’ undertaken by doctors (known as core clinical problems), such as the management of a patient with abdominal pain, provide the focus for the learning. Students are expected to take responsibility for integrating their learning as they move through ten clinical attachments in the individual disciplines. Students should look, in each attachment, at the tasks from the perspective of the attachment. For example, acute abdominal pain in surgery, medicine, gynaecology, child health and primary care may have different presentations and learning outcomes for the doctor. Students are expected to learn not only about the task or core clinical problem, but also acquire the necessary understanding of the basic and clinical medical sciences, in addition to generic competencies such as prioritising and problem solving. A study guide relating to each of the core clinical problems supports students’ opportunistic experience of practice by providing a systematic breadth of problems they should be aware of.

**Use of Study Guides**

Study guides play an important role in facilitating the students’ learning (Phase 2 and Phase 3). These, together with the curriculum documents, provide for staff and students a full description of the course including the learning outcomes, the course content, the learning opportunities available, the timetable and the assessment procedures.

The guides are designed to encourage independent learning. Some are problem-based. The guides vary in their style and format for different parts of the course, and are available electronically.

The guides in general:

- provide some key content information
- help students to manage their learning by indicating what they should be learning and the opportunities available
- direct the student to meaningful activities through which they can understand and apply what they have learned

Throughout the study guide are key issues which are related to the learning outcomes. A glossary of terms is listed to cover any new terminology which is to be mastered. A self-assessment section exists to allow students to assess progress.

**List of Core Clinical Problems**

Criteria for inclusion of a problem in the list included the following:

- the problem is an important one facing a doctor
- the problem is likely to be encountered by students during their clinical attachments and usually in more than one attachment
- the problem can serve as an appropriate focus for learning clinical medicine, for reviewing the basic medical sciences, and for the development of the generic competencies expected of a doctor
• Abdominal distension
• Abdominal pain
• Abnormal / irregular vaginal bleeding
• Abnormal / unsteady gait
• Acute pain
• Alcohol abuse / dependence
• Alteration in weight / loss of appetite
• Altered mood
• Alternative and complementary therapies
• Anaemia
• Antenatal care
• Anxiety
• Back and neck pain
• Behavioural and personality disorders
• Bereavement
• Blocked nose
• Breast lump
• Change in bowel habit
• Chest pain
• Child abuse
• Chronic pain
• Cold extremities
• Collapse
• Confusion
• Cough
• Deafness
• Deterioration of intellect
• Difficulty in swallowing
• Dizziness
• Drug abuse and dependence
• Dying patient
• Ear ache
• Easy bruising
• Eating disorder
• Failure to thrive (Faltering growth)
• Falls and immobility
• Family planning
• Fever
• Fever and rash
• Foreign body in eye
• Generalised weakness
• Genetic concerns
• Growth and development
• Haematemesis
• Haematuria
• Haemoptysis
• Hair problems
• Headache
• Hoarseness
• Hyperlipidaemia
• Immunisation
• Incontinence of faeces
• Incontinence of urine
• Indigestion
• Infection control
• Infertility
• Itching
• Jaundice
• Joint pain
• Joint swelling
• Labour
• Large for dates pregnancy
• Learning disabilities
• Leg / foot ulcer
• Leg pain
• Loin pain
• Loss of vision
• Low birth weight
• Lump in groin
• Lump in neck
• Muscle pain
• Numbness and tingling
• Obesity
• Painful red eyes
• Palpitations
• Paraplegia
• Peri-operative care
• Post-operative problems
• Prolapse
• Psychiatric disorders in childhood and adolescence
• Psychiatric disorders in the elderly
• Psychosis
• Raised blood pressure
• Rectal bleeding
• Respiratory distress
• Screening
• Sexually transmitted infection / genital discharge
• Shock
• Shortness of breath
• Sick child
• Skin lumps
• Skin rash
• Sleep problems
• Sore throat
• Squint
• Stridor
• Sudden death
• Suicide and deliberate self harm
• Swelling in scrotum
• Swollen ankles
• Thirst
• Tinnitus
• Tiredness
• Transplantation
• Trauma
• Travel advice
• Tremor
• Unconscious patient
• Urinary symptoms
• Vaginal bleeding in pregnancy
• Vomiting
• Wheezing
Learning Opportunities

Lectures

Lectures are used mainly in Phase 1 and Phase 2 teaching. The core content of each lecture is found in the study guides, and the majority of lectures will be posted on ‘My Dundee’ as revision aids. All lectures have aims and objectives, core content and further reading. Lectures may occasionally be on a theme not necessarily related to the system being studied.

Small Group Work

The small group discussion and tutorial sessions are very important learning opportunities. Students will be in the same small group (approximately 10-12 students) throughout Phases 1 and 2. In Phase 3 the majority of formal teaching sessions will be delivered in small groups as part of the clinical attachment.

The small group sessions will often adopt a problem-oriented learning approach. This allows the students and teachers to share system-based feedback and deal with any areas which are difficult or unclear.

Integrated Teaching Sessions

Integrated Teaching is used in Phases 1 and 2 to:

- enhance the development of critical thinking and clinical reasoning skills
- promote horizontal (i.e. across body systems) as well as vertical (across years of the curriculum) integration of the curriculum
- provide students with an opportunity to practise collaborative learning, by allowing them to work in groups to help each other to learn
- provide students with an opportunity to progress towards deep understanding (i.e. comprehensive learning beyond memorisation) via active (self) learning
- highlight the relationship between basic sciences (and basic principles) and patients’ presentations
- consolidate and supplement information delivered in other teaching sessions

During Phase 1, integrated teaching occurs through a longitudinal problem-based programme.

The integrated teaching sessions during the Phase 2 systems block (Semesters 2-6) are timetabled either throughout the week or at the end of each topic/theme. Many of the integrated teaching activities are centred on clinical problem-solving stations. Clinical photographs, models, pathological specimens, graphs, videos and e-learning activities support each station. Each system course structures the activities differently but a member of staff is present to give feedback at most of the sessions. Moreover, simulated patients and other healthcare professionals (for example nursing staff, dieticians, and other paramedical staff) are involved with doctors in the preparation and delivery of selected integrated teaching activities.

Dedicated support staff collaborate with the system groups to plan integrated learning. Each session provides a medium for face-to-face small group learning to bring together information taught in different courses and/or settings within one learning environment. The learning opportunities are closely related to the overall curriculum and to the other opportunities in the course.
Integrated activities are important because they give students the opportunity to bring together knowledge from lectures and small group teaching, skills from the wards, Doctors, Patients and Communities (DPaC) and the Clinical Skills Centre, and professional attitudes from small group teaching, theme lectures and clinical practice.

Clinical Skills Centre (CSC)
The Clinical Skills Centre has developed a structured, progressive, integrated programme for students, which prepares them for the reality of practice. In a safe, student-centred clinical setting there is the opportunity to rehearse technical skills e.g. physical examination, venepuncture, and non-technical skills e.g. situational awareness, communication and decision-making.

Each room is fully equipped with closed-circuit video recording, teleconferencing and examination facilities for groups of up to twelve students. These rooms are peripheral to a well-equipped seminar room which is flexible in its use. There are self-revision areas for students to drop into from time-to-time to revise or hone techniques.

In addition, equipment is available to permit students to practise common techniques such as fundoscopy, auscultation and pelvic examination. This provides students with secure, unpressurised surroundings in which to gain the capability and confidence in many basic and common clinical skills before going to the real situation in the wards or primary care environment.

The Centre is an exciting facility which offers a number of learning opportunities and encourages students to develop:

- communication and history taking skills using a patient-centred approach
- professional attitudes and awareness of the ethical basis of healthcare
- physical examination, procedural and clinical laboratory skills
- diagnostic and therapeutic skills
- resuscitation skills and a safe approach to the care of the acutely ill patient
- critical thinking, reasoning, and problem solving skills
- team-working, organisation and management skills
- information technology skills
A multidisciplinary team develops and co-ordinates delivery of the learning programmes in collaboration with the System Convenors. The teaching complements hospital and community-based clinical teaching.

Resources available in the Centre include:

- anatomical models and manikins
- diagnostic and therapeutic equipment
- resuscitation equipment
- HARVEY, the cardiac simulator
- videos of key examinations
- tele-medicine links within and beyond the campus
- simulated and real patients
- Computers and e-learning resources
- self revision rooms which can be booked

The formal teaching in Phase 2 is relevant to the system programme. Students in Phase 2 participate in a 4-weekly skills learning cycle with two sessions focusing on clinical skills, one session on communication skills and one session in the Ambulatory Care Teaching Centre. This builds and develops skills which can be transferred to the hospital and primary care practice settings. Access to the facilities is part of a scheduled curricular programme of activities. There is also the opportunity to book the Centre on an unscheduled, self-learning basis.

**Simulated Patients**

Links between the Centre and healthcare practices are greatly facilitated by the availability of ‘simulated patients’ - volunteers from the Tayside community who undergo specific training. The use of simulated patients offers many advantages, including:

- providing control over the complexity of the learning situation
- giving an opportunity to repeat consultations and clinical examinations
- allowing mistakes to be made within a safe environment
- encouraging direct feedback
- being independent of ‘real’ patient availability, enabling the student to focus on knowledge and skill development at the same time in the curriculum
- directly involving members of the local community in the healthcare learning process

**HARVEY (cardiology simulator) and SimMan (mid-fidelity human simulator)**

The cardiology simulator (HARVEY) produces a level of simulation of incomparable value to both undergraduate and postgraduate medical students / practitioners by providing a range of cardiology symptoms from the most basic blood pressure monitoring techniques to the most complex cardiology scenarios with truly life-like replication. SimMan can be programmed to mimic different emergencies on a real time basis and is invaluable in supporting learning from patient scenarios.
Hospital-based Teaching

Hospital-based teaching takes place both in the wards and in out-patient clinics throughout the undergraduate curriculum. The increased emphasis on community care has seen more patients treated in day-care and out-patient clinic settings; clinical teaching in the curriculum reflects this shift.

Ward teaching is an important part of hospital-based teaching, and students are introduced to it at the start of Phase 2. Students have the opportunity to observe the management of seriously ill patients and emergency admissions. Patients act as a focus for exploring a wide number of different learning issues. Students also experience how the latest technology is appropriately used in the management of patients.

Ward-based teaching takes place either at the bedside in small groups with a tutor or as a small-group discussion of a clinical problem in a side room. Opportunities are available for students to have independent access to ward patients when history taking skills and examination techniques can be practised using a parent ward system.

In Phase 3, students also attend routine outpatient clinics in the specialties to which they are attached. This provides the opportunity to see patients with similar types of disease presenting at different stages of the illness process. A ward teaching guide is sent to all ward tutors including NHS colleagues.

Community Based Teaching

Undergraduate Community Medical Education (UCME) contributes to teaching throughout all phases of the curriculum. Initially, 'Doctors, Patients and Communities' (DPaC) forms a core component of the curriculum in parallel with additional teaching throughout the pre-clinical phases. This includes a range of public health, primary care and other objectives as outlined below. In Phase 3 all students have primary care attachments in both years 4 and 5. The latter can be extended to 2 or 3 months if students wish.
DPaC

DPaC teaching takes place in the Tayside Centre for General Practice, local General Practice settings and patients’ homes. There is the opportunity to:

- learn and practise listening and consulting skills with real and simulated patients
- shadow professionals who are involved with patients in the community
- learn about the management of patients with clinical conditions in primary care
- learn about the public health and social issues which affect patients

In keeping with the General Medical Council’s recommendations in Tomorrow’s Doctors, DPaC teaching is integrated as far as possible with the systems teaching through simulated patient scenarios, problem-based learning topics, GP input to each systems component taught throughout the year, and tutorials on core clinical problems. DPaC teaching takes place in small groups of ten to twelve students. The DPaC course is delivered by a wide range of staff, with core support from thirty-two DPaC tutors, half of whom are General Practitioners (GP) and half non-GP (nurses, counsellors and others). The DPaC tutors provide a continuity which is not found elsewhere in the curriculum.

There is also significant input from members of UCME and other academic and clinical staff from across the Medical School. The learning experience is coordinated over the first three years to promote the transfer of thinking skills from one visit to the next.

A significant proportion of DPaC teaching is delivered within primary care premises in Tayside: one afternoon per week over the three years which corresponds to about 10-20% of the core curriculum. Interwoven with these sessions is a variety of modules, covering areas such as Public Health, Human Behaviour, Health Promotion and Evidence Based Medicine.

Further information about DPaC is available on request.

Medical Ethics and Law in the Curriculum

Medical ethics underlies the majority of doctor-patient interactions and is inherent to the practice of modern-day medicine. This teaching in the curriculum relates to Dundee Outcome 9, “Attitudes, ethical principles and legal understanding” and incorporates values-based medicine, professionalism and the legal aspects of medical care. Since ethical issues are relevant to almost every discipline in medicine, medical ethics is taught as a theme throughout the five-year curriculum. This means that teaching in Medical Ethics is not one discrete and separate course in the curriculum, but tends to occur wherever relevant in all five years.

In Phase 1, an initial lecture introduces the origins and scope of medical ethics, as well as outlining the importance of this field of education within the practice of medicine. A series of online modules, the “Fundamentals in Ethics and Law” course, provides a foundation of essential knowledge for students during Phases 1, 2 and 3, with formative assessment. This foundation is built upon through additional teaching within the DPaC course components, or via Clinical Skills, Consultation Skills and Systems teaching. During Phase 3, students learn through exposure to ethical issues relevant to real clinical situations.

Ethics-related topics are taught in a diverse variety of ways, including visits to an historical industrial building in Dundee and to a funeral parlour; also through continuing contact with patients through the DPaC “Patient Journey”, and the use of e-learning, mini-lectures, small group discussions with nursing students, self-study, student presentations, reflective exercises and the use of creative writing, film clips and a theatre presentation. Ethics teaching focuses on clinical scenarios, to stimulate both an awareness of ethical issues relevant to clinical practice/research and the development of practical skills in ethical reasoning and decision-making.
This teaching is complemented by guest speakers, a student-run Ethics Club and an informative, topical website on current ethical issues in health care.

Summative assessment of attitudes, knowledge and skills related to Outcome 9 is also integrated through-out the curriculum, incorporated within end-of-year exam questions, including OSCE exams, and within the Record of Clinical Experience evaluations.

**The Ambulatory Care Teaching Centre**

In recognition of the changes in healthcare practices with the increasing use of the outpatient or ambulatory clinic to both diagnose and deliver care and treatment, an Ambulatory Care Teaching Centre (ACTC) has been developed. This is closely allied to the Clinical Skills Centre, and provides a key opportunity for students to rehearse, putting together their knowledge and skills with a real patient who attends the ACTC. In Phase 2 students, with the help of their tutor, consult with the patient and have the opportunity to learn about keeping accurate records of the consultation.

**Medical Computing Suite**

A number of PCs are provided on-site for student use. These computers have the students’ standard operating environment which is available throughout the University. This enables students to access their email, the internet, the Blackboard VLE (‘My Dundee’), a wide range of software, and non-profit-making printing facilities. The software packages which are available include word processing, database systems, spreadsheets, programming languages, graphics software, statistical software, reference management software and communication packages.

Wireless internet access is available in a number of areas including the library, enabling students to access the internet using their own laptops. A number of laptop lockers are located in the library, allowing laptops to be charged and stored securely when not in use. Support is available by contacting Computing and Media Services on Ext 32564 or by email medsupport@dundee.ac.uk

**Library**

In addition to the main library facilities on campus, the Medical School has its own library and learning centre hosting a range of medical and nursing textbooks and periodicals. A suite of new teaching rooms have recently been added and these can be booked by students for independent study when not in use for teaching. Multiple copies of recommended texts are available, and these are supplemented by a wealth of electronic books and journal subscriptions which can be accessed online from anywhere using University login details.

The library also offers support for both students and staff to access the facilities, and a range of tutorials covering study skills, information handling skills and accessing subject-specific resources. More details are available by visiting the website: [http://www.dundee.ac.uk/library/](http://www.dundee.ac.uk/library/) or contacting the dedicated liaison librarian: a.z.jackson@dundee.ac.uk
**Private Independent Study**

At least one afternoon and two hours during the morning sessions per week are allocated to private independent study. This encourages students to develop their time management skills and prioritise their life / work deadlines.

This is time for students, either alone or in small groups, to consider the course material, prepare for a tutorial or simply to do some background reading and reflect on the course. This time is for learning and should be used constructively - it is not time off. It is envisaged that by having study time in the working day students will have more time in the evenings and at weekends to enjoy university life in its widest aspects.

Facilities to help students make the most of private study include the library, the computer suites and the Integrated Teaching Area which are available outwith designated sessions. Small rooms used for tutorials may be used for individual impromptu group work. The Clinical Skills Centre is also open, allowing students to book self-revision areas and keep up-to-date with their skills.
Assessment to a Standard

An overall approach to assessment has been adopted throughout the core curriculum, in recognition that the core standard is one which all students must achieve - a basic minimum standard. Flexibility in curriculum design has been introduced through the relationship between core and student selected components to ensure that students who need longer to demonstrate mastery of the core have time allocated within the undergraduate programme for this. This approach is called *assessment to a standard* and it is applied in different ways in each phase of the curriculum. It ensures that all students achieve a satisfactory standard in the core course and that all students complete the required number of student selected components.

An examination blueprint is produced for each examination to reflect teaching and curriculum outcomes. Students must reach an appropriate standard in both the written and practical elements of course core material. Certain elements of the OSCE are given special consideration - for example, resuscitation skills and communication skills. If a student’s performance of resuscitation or communication skills in the exams does not meet the standards expected, they will have to attend extra teaching on these skills, irrespective of whether they passed or failed the exams overall. The extra teaching for communication skills takes place in the week immediately after the second block of SSCs. If a student does not meet the standards required in communication skills they will not be allowed to progress to the next year unless they attend this extra teaching.

The Undergraduate Medical Education Committee (UMEC) has overall responsibility for designing the assessment cycle and for planning student examinations. The Phase sub-committees have delegated responsibility for assessment within each Phase.

Key Principles of Assessment

Student assessment is based on the 12 Dundee learning outcomes and the core clinical problems. The core curriculum, Student Selected Components (SSCs) and electives are all assessed in relation to the 12 curriculum outcomes. As far as possible, assessment is integrated like the teaching and learning, and oriented towards clinical relevance rather than theoretical aspects.

Assessment informs staff and students, with the aim that students will be fit to practise as Foundation doctors. A range of appropriate assessment instruments are used to enable assessment of the 12 learning outcomes at the level required at each stage of the curriculum. These are selected to allow assessment of knowledge, its application, competence and performance.

It is recognised that assessment inevitably drives learning, and it is both formative, enabling students to identify their strengths and weaknesses in terms of the 12 learning outcomes, and summative, allowing individual students to demonstrate achievement of the outcomes at a level appropriate for each year of the course, before being allowed to progress to the next stage.
Formative assessments take place during each module, block of teaching or clinical attachment, and are the responsibility of the organizer of each module / block of teaching. Summative assessment takes place towards the end of each academic year to enable the students to demonstrate that they have achieved the appropriate standard for progression / graduation, and is carried out by both internal and external examiners. All assessments provide students with feedback on their performance to allow improvement in areas of weakness.

The assessment process is subject to quality assurance procedures by the Medical School, the university and external bodies.

A range of prizes and awards are given for performance in various aspects of the course, a list of which is available from the Medical School Office. Students are identified by those tutors responsible for the aspects of the course to which the prize relates.

Students should be aware that assessment of core material is rigorous. Students who fail to reach the appropriate assessment standard at the first diet will be required to participate in further remedial study and re-assessment. A student failing to reach the appropriate standard on the second occasion will be deemed to have failed the year and will be referred to the Academic Review Committee.

Range of Assessments used in Dundee

This section provides an outline of the various types of assessment which are used at different stages in the course. It does not include in-depth discussion of either the process or content of the summative course assessment. This information can be found in the appropriate Phase or module handbook.

**Formative Assessment**

Students gain experience of their summative examinations by undertaking formative assessments. In Phase 1, for example, these include the online exam and the anatomy practical exam. Questions included in these formative assessments are representative of the style of question found in the summative examination and are done under examination conditions. Students receive feedback on their performance in these exams. The students also undertake formative Objective Structured Clinical Examinations (OSCEs) and receive feedback on their performance.

**Anatomy Practical examination**

The Anatomy Practical in Phase 1 is conducted in a similar manner to the OSCE (see below) but the stations involve answering core anatomy questions on anatomical specimens and radiographs.

**Written Assignments**

Students may be asked to complete a reflective essay, case report or other piece of written work as part of either formative or summative assessment. This assessment method is particularly likely to be used in SSCs or clinical attachments and may form a component of the student's portfolio.

**Verbal reports and presentations**

Students may be assessed either formatively or summatively on a verbal report or presentation, for example of a patient case or research findings. As with written assignments this method frequently forms part of assessment of SSCs or clinical attachments.
Online examinations
Online examinations include Multiple Choice Questions, Extended Matching Item (EMI) questions, Numerical Questions and Drag and Drop Graphical Questions. Many of these are used formatively to provide students with feedback on their progress within the teaching block, and for Years 1-4 there is a summative EMI online exam.

EMI questions generally consist of a lead-in question setting the topic (e.g. management of stroke patients), followed by series of clinical scenarios (each with a single best answer) and a range of answers to select from (in this case a selection of management options). This type of assessment is preferred to the standard MCQ exam as it assesses not only knowledge but its application.

Progress Test
At the end of each year students sit an online progress test. In years 1-4 this is formative and provides detailed feedback on strengths and areas for development. The same test is taken each year to enable monitoring of progress throughout the course and in Year 5 a report is generated for inclusion in the portfolio, forming part of the summative assessment process.

OSCE
The Objective Structured Clinical Examination (OSCE) is used in Phase 2 and Phase 3 to measure competence in skills such as communication, clinical examination, practical procedures / prescribing, clinical reasoning and interpretation of results. Students rotate through a series of stations at which they are required to undertake a variety of tasks. Stations are weighted so that it is not possible to pass without reaching an acceptable level of competence – e.g. in resuscitation. The OSCE in the early years consists of shorter task-based stations, and in the later years of longer, integrated stations.

RoCE and Portfolio
A portfolio is a collection of work that can be used to demonstrate progress and learning. Whilst the written and practical exams can measure what the student knows, how they can apply this knowledge and a demonstration of their skills, the portfolio attempts to capture how they behave in actual practice.

In Phase 1, the portfolio is stored electronically within ‘My Dundee’ and is called “myPDP”. Within this portfolio, students submit a report on the ‘Introduction to Outcomes’ course and undertake a learning styles questionnaire and a personal reflection.

In Phase 2, students complete a Record of Clinical Experience (RoCE), which includes a Patient Record Book (patient histories and examinations, therapeutic reports and patient presentations), outcome activities, outcome summaries and work the student has undertaken as part of DPac. The RoCE is designed to demonstrate that students have undertaken work in clinical practice towards achieving competency in the 12 learning outcomes. This will assist in the development of a portfolio in Phase 3.

Evidence of this work will be by:

- submission of a record of 17 patients seen in Phase 2 (Patient Record Book)
- year 2 – five patient records
- year 3 – twelve patient records
- completion of activities relating to the learning outcomes (RoCE)

Students are required to hand in their completed Record of Clinical Experience for the year towards the end of the core teaching. It will be checked for progress in Year 2 and completeness in Year 3.
In Phase 3 students build on the RoCE adding additional patient cases, reflection on the 12 curriculum outcomes and evidence of additional activities they have been involved in.

**Year 4 Portfolio**
The Year 4 portfolio consists of:
- 10 patient presentations
- Record of Clinical Experience (consisting of a signature book and an electronic RoCE)

Further information is available in the document “Year 4 Portfolio Assessment: Instructions to examiners and marking guide”

**Year 5 Portfolio**
The Year 5 portfolio is an extensive piece of work which builds on the components of the previous years and includes an in-depth analysis and reflection on each of the 12 curriculum outcomes.

The Year 5 Final Examination includes an oral “portfolio examination” where students meet with two examiners to discuss the contents of their portfolio in depth.

Further information can be found in the document “Final Year Assessment: Notes to Examiners and Students”

**Clinical In-course Assessment**
An outcome assessment form is completed by supervisors at the end of each attachment in Year 4. This is designed to give students feedback on performance with respect to the 12 outcomes. Students with consistent problems in one or more outcomes are interviewed to identify ways of helping their progress. In addition, the Year 4 outcome assessment forms are used to identify any concerns of supervisors which may indicate the need for a further attachment as a Directed Study Module at the start of Year 5.

In Year 5 the outcome assessment form is completed for each block. These are included in the portfolio.

**Workplace-based Assessment Tools**
With the growing use of the portfolio as a summative assessment, there is a need for more objective ways to measure student performance in clinical placements. A range of tools have been developed for use in postgraduate medical education and these are now being incorporated into undergraduate assessment. They include Direct Observation of Procedural Skills (DOPS; a measure of competence in practical procedures), mini-Clinical Evaluation Exercise (mini-CEX; can be used for observations of patient interactions) and case-based discussions (CBD; used to assess clinical reasoning and judgement). Many of these tools are being piloted in Phase 3 clinical attachments and it is likely that their use will expand over time.

**Ward Simulation Exercise**
The Ward Simulation Exercise is an innovative assessment developed by the Clinical Skills Team. Students complete this during the final academic year, ideally after one of the Pre-Registration (Foundation) Apprenticeships. Students take on the role of a Foundation doctor in a ward with simulated patients and nursing staff in order to experience coping in this situation, and are given feedback on their performance. The exercise is recorded and students receive a copy of the DVD for reflection.
The Core Curriculum

A key feature of the curriculum is the concept of a ‘core’ and ‘student selected components’ as originally advocated by the General Medical Council (GMC).

The need for identification of a ‘core’ curriculum arose from perennial concerns about information overload in the undergraduate medical curriculum. The GMC undertook a major review of undergraduate education in 1993, recommending that students should graduate with the essential knowledge and skills they would require to practise immediately following graduation and the lifelong-learning skills necessary to acquire the more specialist knowledge they would need as their careers progressed. While ‘Tomorrow’s Doctors’ has evolved, this concept continues to underpin the delivery of undergraduate education:

“The overall curriculum must allow students to meet the outcomes specified in the first part of Tomorrow’s Doctors. This is to ensure that graduates have the necessary knowledge, skills and behaviours to practise as a provisionally registered doctor.”

(Tomorrow’s Doctors, 2009)

The original recommendations stated that “Completion of the core syllabus and demonstration of proficiency in its outcomes will be mandatory for all; the core, as its name suggests, will represent a distillate of essential knowledge and skills from all fields of medicine.” This continues to apply, and students are not permitted to graduate unless they can demonstrate competence in all 12 outcomes.

We have designed the core curriculum to: ensure breadth of coverage; allow integration of basic and clinical sciences; align theory with practice; and to ensure students have adequate opportunities to achieve the learning outcomes. An overview of the core curriculum in each phase is provided below; more information on each can be found in the relevant ‘Phase Handbook’
Introduction

Phase 1 is a one semester course giving an introduction to the basic principles underlying the practice of medicine. These basic principles are Anatomical Principles, Biomedical Principles, Principles of Disease Mechanisms, Principles of Safe Medical Practice and Psychosocial Principles. The 12 Curriculum Outcomes, Basic Emergency Care (BEC), the problem-oriented approach to learning and the principles of Medical Ethics are also introduced in this phase. Clinical relevance is emphasised throughout and early patient contact is achieved utilising primary care teaching. Students consider the safe practice of medicine in regular clinical skills sessions. Self-directed learning is well represented in the timetable and established as a significant component of this part of the curriculum. The Phase 1 Student Selected Component (SSC) is timetabled and runs parallel to the core from early in semester 1 until the fifth week of semester 2.

Aims

The aims of this phase are to:

• develop in the student an understanding of the basic principles of normal structure, function, disease mechanisms and behaviour on which they will be able to build their study of the core clinical problems
• introduce students to approaches to study and learning including the understanding of their learning style, the use of self directed learning, problem solving and the use of new technologies and e-learning
• introduce students to the practice of medicine in hospitals and in the community
• establish a safe approach to the practice of medicine
• introduce students to the professional attributes expected of medical learners and doctors
• give students basic emergency care skills
• prepare students for entry to Phase 2 of the curriculum
Overview of Teaching and Learning in Phase 1

Semester 1 is an integrated course covering a wide range of basic and clinical science topics. It includes a range of teaching methods as indicated below.

**Principles of Anatomy**

Students become familiar with the clinically relevant, core anatomy of most of the human body by means of practical dissection and a lecture course. All regions of the body are covered except the nervous system and the limbs which are covered in Phase 2. Anatomy is revisited and expanded in the systems teaching of Phase 2.

**Biomedical Principles**

This principle includes the study of the core knowledge of biochemistry, physiology and pharmacology. Teaching includes lectures and clinically relevant laboratory-based practicals, and these principles are revisited and expanded in the systems teaching of Phase 2.

**Principles of Disease Mechanisms**

This principle includes the study of the core knowledge of genetics, immunology, microbiology and pathology. Teaching includes lectures and clinically relevant laboratory-based practicals and as with all the principles teaching is revisited and expanded in the systems teaching of Phase 2.

**Principles of Safe Medical Practice**

Lectures and sessions in the Clinical Skills Centre enable students to start to acquire knowledge and experience in gathering information from patients and other essential clinical skills emphasising patient safety. Simulated patients contribute to this programme.

**Psychosocial Principles**

Year 1 introduces the Doctors, Patients and Community (DPaC) course. The course begins with early patient contact, where students 'sit in' with a GP for one afternoon. This provides the student with an opportunity to observe a GP at work, see patients in the community and gain some insight into primary care.

Following this, students are introduced to the patient-centred model and the psychological principles underpinning this model. Subsequent sessions then focus on understanding the patient in context. This involves the student visiting a patient with a long-term condition in the patient’s own home. Students explore matters relating to family, local area, housing, occupational background, and illness experience. Students visit their patient once in the first year and twice in the second and third years, and are encouraged to maintain communication over the course of the year.
Teamwork and collaboration are reflected throughout the sessions in the DPaC group process and sharing of tasks. Personal and professional development relates to the student reflecting upon the patient visits, discussion of ethical issues such as patient confidentiality, patients’ use of health services in general, and patients’ views of what makes a good doctor. In addition, modular teaching provides a basic introduction to Public Health, defining and explaining the concepts which will be central to the students’ understanding of population-level health data and interventions. The understanding of Human Behaviour is introduced as an essential part of the patient-centred approach, for example, teaching on the issue of stigma associated with skin conditions. The concepts of Evidence Based Medicine are introduced, and threaded through the teaching in other areas.

An online module, “What Makes us Tick- the Importance of Values in Medicine” introduces students to key fundamental aspects of Medical Ethics during Phase 1.

**Longitudinal Problem-Based Learning Programme**

A longitudinal PBL programme runs through Phase 1. This provides opportunities for early problem-oriented, collaborative and self-directed learning. The programme is structured around exemplar core clinical problems and the learning is split into five PBL cycles; each is delivered over a period of two weeks. The first cycle aims to introduce the curriculum outcomes and the remaining four cycles emphasise the application of basic principles to understand and solve patient problems. The learning involves studying clinical scenarios, small group work, structured tutorials, sessions in Clinical Skills and the Integrated Teaching Area (ITA).

**SSC**

Note: the Year 1 SSC is a longitudinal SSC, running throughout Phase 1 and the second half of Year 1. Please see the SSC section for further details.
Phase 2 – Systems in Medical Practice

Introduction
Semester 2 of Year 1 together with Years 2 and 3 make up Phase 2. It is based on the various organ systems of the body and is an integrated course that focuses on normal and abnormal structure, function and behaviour, basic science and clinical science, and hospital and community perspectives. Problem-oriented learning (where learning is structured around examples of clinical problems) is employed wherever appropriate.

Each year is made up of a period of system-based teaching (three systems are covered in Semester 2 of Year 1, five in Year 2, and six in Year 3), a one-week consolidation / revision block, a week of examinations and Student Selected Components (SSCs).

Aim
The aim of Phase 2 is to build on the basic principles that were introduced in Phase 1, and to apply those principles to specific normal and abnormal body structures, functions and behaviours.

Overview of Teaching and Learning in Phase 2
Phase 2 consists of 13 blocks covering the various body systems:

- dermatology
- haematology
- cardiovascular
- respiratory
- endocrine
- gastrointestinal
- musculoskeletal
- renal
- nervous
- ophthalmology
- ENT
- systems in childhood
- systems in ageing
- reproduction

In addition to the systems-based teaching, the DPaC course covers a range of subjects in Phase 2:

**Accessing medical evidence** - Students learn how to access evidence from medical databases and the internet, in collaboration with Tayside Audit Resource for Primary Care (TARPC).

**Complementary and alternative medicine/therapies** - Students investigate a range of complementary and alternative medicines and therapies in general and in relation to their patient.

**Ethics** - Students discuss ethics topics within the context of primary care.

**Global healthcare** - Students gather information on the healthcare systems of other countries and then compare and contrast these with Scotland.
Health promotion and screening - Students explore health promotion and screening within the context of primary care. Specific attention is paid to controversial areas, such as the success of community screening and immunisation programmes. Some issues surrounding self-care are considered, both as medical students and when qualified as doctors. Students learn how to assess medical evidence in published papers and how to apply it to clinical practice. The focus is on how to communicate the risks of disease and treatment to patients. Students also visit the Verdant Works museum in Dundee to learn about social and environmental factors affecting the health of communities, comparing and contrasting these in the past and present.

Consultation skills (giving information to patients)
The students engage in a consultation with actors which is recorded on DVD, and receive feedback from tutors and peers regarding their patient centred approach. Consultation skills are also a feature of clinical skills afternoons.

Clinical reasoning
The students are given an opportunity to develop skills in diagnosing conditions and decision making.

Study Guides in Phase 2
The study guides are designed to help students manage their learning. Each study guide has a detailed timetable. The study guides are based around clinical case studies or scenarios where appropriate. Related to each scenario is a series of learning issues where relevant prerequisites are detailed. These indicate the aspects of work which should be revised from Phase 1.

The study guides give a list of the learning opportunities which enables the learning issues to be achieved.

Throughout the study guide are key issues which are related to the learning outcomes. A glossary of terms is listed to cover any new terminology which is to be mastered. A self-assessment section exists to allow students to assess progress.

There is a topic for every week of the systems-based courses. For example, in the Haematology system, the topics are:

- Week 1: Red cell disorders and anaemia
- Week 2: Haematopoiesis, white cells and their disorders
- Week 3: Haemostasis
- Week 4: Immunologically based diseases and blood in systemic disease

All teaching for a particular week is structured around a clinical example of the week’s topic.
Transition Block

Introduction

The transition block is designed to enable students to recognise the need to integrate the knowledge, skills and attitudes that they have learned in the systems-based learning in the previous three years to the more realistic setting of managing a patient presenting with a core clinical problem. This should prepare them for learning in the clinical environment by enabling them to elaborate, reorganise and refine their learning.

Aims

At the end of this block the student should be able to:

• consult in a patient-centred manner and carry out an appropriate clinical examination
• demonstrate a safe approach to developing a differential diagnosis
• search for evidence to inform decision making
• recognise the role of other professionals in the healthcare team in the delivery of evidence based patient care
• recognise when to use health promotion and prevention strategies most effectively
• be aware of the effects of different healthcare settings on the process of care
• recognise the diversity of investigative and therapeutic options available
• continue to develop a strategy for identifying their own learning needs / self awareness
• demonstrate an awareness of individual and population health issues
• understand the meaning of medical professionalism and be able to demonstrate attitudes and behaviours consistent with the General Medical Council’s expectations of a medical professional
Overview of Teaching and Learning in the Transition Block

The transition block is split into two separate sections, the first of three weeks and the second of two weeks towards the end of Year 3 plus one week at the start of year 4.

**Section 1: What is wrong with the patient? (Weeks 1-3)**

The aim of Section 1 is to integrate the knowledge, skills and attitudes that students have learned in the systems-based learning. The core components of the block are key topics which span the systems, re-enforced by introducing the students to 5 core clinical problems. The problems have been chosen as they link into different areas (cross systems / clinical sciences / investigations / therapeutics) and will be used to highlight key generic principles:

- how core problems can be used to link information across the systems
- common causes: the pathological basis that provides a common mechanism to different diseases (e.g. genetic basis of disease, atheroma for CHD or stroke)
- basic science: core principles and practical applications to diagnosis, investigation and management

**Section 2: What do I need to do for the patient and how can I make sure it gets done? (Weeks 4-6)**

Section 2 is intended to introduce new concepts that will be encountered in Phase 3:

- clinical teams
- preparation for clinical practice
- patient safety and quality improvement
- differential diagnosis, clinical decision making and risk management
- communicating benefits and risks of investigation and treatment
- organisational behaviour and culture
- ethical challenges and expectations of professional behaviour
- teaching skills
Introduction

Phase 3 consists of years 4 and 5 of the undergraduate medical course. The systematic approach to learning about normal and abnormal structure, function and behaviour, and to developing clinical skills in Phase 1 and Phase 2 provides a springboard to take advantage of a wide range of clinical learning opportunities in Phase 3.

Aims

This phase aims to provide the medical student at graduation with:

- the knowledge and skills necessary to fulfil the responsibilities of a Foundation Doctor
- sound professional attitudes towards patients and colleagues
- an understanding of the obligations of the medical professional
- the ability to take responsibility for self-directed continuing medical education

The aims of Phase 3 are achieved through progress towards the 12 Curriculum Outcomes within the context of clinical practice.

In achieving these outcomes, students:

- use study guides to underpin the development of the competencies and the approach to practice and to encourage self-directed learning
- take responsibility, under supervision, for simple clinical tasks
- undertake problem solving exercises
- study a range of topics in depth and present their work orally and in writing, within SSCs
- gain experience of group learning and the role of other health professionals
- participate in programmes of continuing medical education
- create an individual portfolio of work, reflecting all of the 12 Curriculum Outcomes
Overview of Teaching and Learning in Phase 3

Year 4

In Year 4, the development towards the 12 Curriculum Outcomes takes place within the framework of approximately 100 core clinical problems. Students are expected to organise their learning around these common problems / concerns with which patients present, each problem being supported by a study guide. These guides provide an integrated and broad view of medical practice. Students will link the core clinical problems to their clinical experience within a variety of different hospital and primary care contexts represented by the ten 4-week blocks through which they rotate during Year 4. They are encouraged to develop a wealth of clinical experience of patients and their problems, to master the competencies relating to the core clinical problems outlined in the study guides, and to learn to look at the patient as a whole rather than from the perspective of a disease entity. This strategy is aimed at enabling students to pursue a career in medicine where patients' concerns and problems are central to their practice.

Structure of Year 4

In Year 4, there are ten clinical attachments, each of four weeks in duration.

<table>
<thead>
<tr>
<th>Medicine I</th>
<th>Surgery 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Medicine in or out of Dundee</td>
<td>1 week Urology</td>
</tr>
<tr>
<td></td>
<td>1 ½ weeks Ophthalmology</td>
</tr>
<tr>
<td></td>
<td>1 ½ weeks Otolaryngology</td>
</tr>
<tr>
<td></td>
<td>Ninewells/Fife</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Medicine 2</th>
<th>Surgery 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 weeks General Medicine;</td>
<td>1 week Orthopaedics</td>
</tr>
<tr>
<td>Infectious Diseases/Wards 3/4 or 42</td>
<td>1 week Rheumatology</td>
</tr>
<tr>
<td>2 weeks Neurology/Neurosurgery</td>
<td>1 week Anaesthesia</td>
</tr>
<tr>
<td>Ninewells</td>
<td>1 week Accident &amp; Emergency</td>
</tr>
<tr>
<td></td>
<td>Ninewells/Perth Royal Infirmary</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Medicine 3</th>
<th>Surgery 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 weeks Ageing &amp; Health</td>
<td>General Surgery in or out of Dundee</td>
</tr>
<tr>
<td>2 weeks Dermatology</td>
<td></td>
</tr>
<tr>
<td>In Dundee: Ninewells, Royal Victoria and Roxburgh House</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary care</th>
<th>Obstetrics &amp; Gynaecology</th>
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<tbody>
<tr>
<td>In or out of Dundee</td>
<td>In or out of Dundee</td>
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<tr>
<th>Child Health</th>
<th>Psychiatry</th>
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<tbody>
<tr>
<td>Dundee / Fife</td>
<td>In or out of Dundee</td>
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</tbody>
</table>
In addition to the study guides, student learning is supported by problem-oriented tutorials in therapeutics (which run throughout the year). There is also the opportunity to undertake workshops in the Clinical Skills Centre in relation to patients with acute care problems.

In 4th year, each student spends four weeks in a GP teaching practice in an urban environment under the supervision of an approved tutor. Usually this is in Dundee, but some students may go to Perth or other towns in the Central Belt.

While in the practices they are expected to consult with patients under supervision, and also study a number of core clinical problems. They are also expected to spend time with all members of the practice team and so get a broad understanding of primary care.

**Study Guides for Core Clinical Problems**

A study guide is provided for each of the clinical problems which define the core clinical curriculum. The guide indicates the lead attachment for each core clinical problem. The lead attachment takes a prime responsibility for ensuring that the specific tasks and competencies stated in the guide are achieved, for example Surgery 1 shown in Table 2. However, students are encouraged to use the guides during any attachments in which they may encounter the core clinical problem. For other attachments, see individual study guides, available in the Year 4 section of ‘My Dundee’.

<table>
<thead>
<tr>
<th>Surgery 1</th>
<th>Problem as Seen by Doctor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urology 1 week</td>
<td>Haematuria</td>
</tr>
<tr>
<td></td>
<td>Loin pain</td>
</tr>
<tr>
<td></td>
<td>Swelling in scrotum</td>
</tr>
<tr>
<td></td>
<td>Urinary symptoms</td>
</tr>
<tr>
<td>ENT 1.5 weeks</td>
<td>Blocked nose</td>
</tr>
<tr>
<td></td>
<td>Deafness</td>
</tr>
<tr>
<td></td>
<td>Hoarseness</td>
</tr>
<tr>
<td></td>
<td>Tinnitus</td>
</tr>
<tr>
<td>Ophthalmology 1.5 weeks</td>
<td>Foreign body in eye</td>
</tr>
<tr>
<td></td>
<td>Loss of vision</td>
</tr>
<tr>
<td></td>
<td>Painful red eyes</td>
</tr>
<tr>
<td></td>
<td>Squint</td>
</tr>
</tbody>
</table>

It is emphasized that the likelihood of seeing patients with particular underlying causes, as well as the state of the disease, will be influenced by the nature of the particular clinical attachment. The extent to which underlying problems / health concerns are analysed will also vary with the context of the attachment. As a result, students see different approaches to the investigation and management of patients with the same core clinical problems.
Year 5

There is a change of emphasis in Year 5 to the development of experience provided by a particular speciality, and final preparation for practise as a Foundation doctor. Students maintain and further develop their achievements in relationship to the curriculum outcomes. These developments now take place within a framework of Student Selected Components and Pre-registration (Foundation) Apprenticeship blocks: the former provide an opportunity for in-depth study in selected areas and the latter for integrating theory and practice in preparation for the Foundation appointments the following year.

Structure of Year 5

Year 5 contains seven modules each of 4-weeks duration:

Foundation Apprenticeship blocks

Students undertake two foundation apprenticeship blocks (4-weeks medicine, 4-weeks surgery). In these blocks they ‘shadow’ year 1 Foundation doctors.

The ethos of these apprenticeships is to link theory and practice in relation to the students’ future role in service delivery. Students are supported by the combination of the Phase 3 study guides for the core clinical problems and an individual learning plan developed with their supervisor. They are expected to participate in the delivery of patient care as part of the healthcare team.

Student Selected Components

Students undertake five 4-week SSCs - two theme-based, two clinical and one in primary care.

Directed Study Components

Students who are required to take the Year 4 resit examination or who require further experience in a particular attachment will be directed to a core revision module in the first block of Year 5. This will replace one theme SSC.

Foundation Preparation Block

This one-week programme is held at the end of final year after the 5th year portfolio review and assessment, and its purpose is to ease the transition from medical student to competent and effective doctor. Students are required to attend a common core in the mornings, and in the afternoons to determine their own learning pathway (supported by the Clinical Skills Centre) which reflects their individual Foundation learning needs. The design and delivery of the course reflects the maturity of the students and places a heavy emphasis on participation and interaction.
In Tomorrow’s Doctors (1993) the GMC stated that:

“...the greatest educational opportunities will be afforded by that part of the course which goes beyond the limits of the core that allows students to study in-depth in areas of particular interest to them, that provides them with insights into scientific method and the discipline of research and that engenders an approach to medicine that is constantly questioning and self-critical. This part of the course we refer to in terms of ‘special study modules.’”

(Please note: several years ago the GMC advocated that the term ‘special study module’, or SSM, be replaced by the term “student selected component” or SSC).

SSCs provide, in some cases, the opportunity to study areas of the student’s choice in depth; in others a taster of topics or disciplines that will be covered in more detail subsequently. In addition, they allow students to develop generic skills that are essential to their professional development. Through SSCs, students can achieve core learning outcomes not relating to specific fields of knowledge but concerned with transferable skills such as information handling skills, computer literacy, critical thinking and independent learning. So SSCs are not optional – they are a very important part of the curriculum.

The relation between core and SSCs varies in different parts of the curriculum. In Phase 1 there is a concurrent model with SSCs running throughout the year while in Phase 2 there is a sequential model with SSCs following periods of core. Both concurrent and sequential models are found in Phase 3.

In Tomorrow’s Doctors (2009) the GMC recommends:

“The curriculum must allow for student choice for a minimum of 10% course time.”

“SSCs must be an integral part of the curriculum, enabling students to demonstrate mandatory competences while studying an area of particular interest to them.”

“The purpose of SSCs is the intellectual development of students through exploring in depth a subject of their choice.”

SSCs confer many benefits, including:

For the school
- effective use of available resources and personnel
- attractive prospectus with self-learning
- turn out a better ‘product’; more competitive in postgraduate life

For the student
- opportunity to study an area in greater depth
- option of studying topics not found in standard curriculum
- broader educational experience
- better links between basic science and clinical subjects
- chance to explore different career options
For the teacher

- subjects included which otherwise may be omitted
- rewarding and invigorating
- an opportunity to participate in in-depth teaching in small groups

Topics to be covered by SSCs

SSCs fall into different categories.

Related to core

- more in-depth study of core, e.g. more detailed anatomy, biochemistry, pathology beyond the core
- related topic e.g. sports medicine, musculoskeletal system and orthopaedics, clinical application of core and basic sciences
- exploring the ‘cutting edge’ of a discipline both clinically and in basic sciences - a variety of basic medical science topics, some offering laboratory experience; experimental drugs and treatments

Medical topics not related to core, e.g.

- presentation skills
- history of medicine
- medical computing
- health politics

Not directly related to medicine, e.g.

- foreign language e.g. Medical French
- law/business studies
- the doctor as an engineer

Topics may be integrated, covering several departments or disciplines, or speciality-based.

In the development of SSCs the following are avoided:

- re-introduction of material left out when the core was planned, without consideration of its appropriateness for an SSC
- superficial cramming of a new topic - instead topics should emphasise generic competencies of in-depth study and critical thinking
- the expectation that all students will study the content of the SSC – only a proportion of the class may choose to do so
Gaining a place in an SSC

Guidance is given to students to ensure they do not take inappropriate combinations that may lead to over specialisation or take them away from medical areas for too long. Students are encouraged to study a mixture of SSCs including hospital-based, community-based, basic science or research subjects. They may however wish to select SSCs around a theme to develop a portfolio of related SSCs.

Not all students gain entry into their first choice of SSC. The Medical School tries to ensure that student expectations are realistic and that a fair distribution of topics is made to students in order to provide the maximum opportunity of achieving individual choice.

Self-Proposed SSCs (SPSSCs)

In addition to the range of choices provided by the Medical School, students are also given the opportunity to propose their own SSC. Students are responsible for contacting the supervisor, and ensuring the proposal is submitted to the School for approval. Proposals will only be approved if it can be demonstrated that the student is making progress towards the curriculum outcomes. This option is a good choice for students with very specific career plans and allows potential supervisors to take on SSC students without having to commit to offering an ongoing SSC.

Time allocated to SSCs in Dundee curriculum

**Year 1:**

The Year 1 SSC is longitudinal and comprises a project (literature review) through the course of the year, accounting for approximately 10% of teaching time for year.

**Years 2 & 3:**

SSCs in Years 2 and 3 are offered in two separate four-week blocks in January and May, and make up approximately 25% of teaching time for year. The Phase 2 SSC Student Guide is available on ‘My Dundee’. It contains all the information students need to know about Student Selected Components (SSC), Self-Proposed Student Selected Components (SPSSC) and the selection process.

**Year 4:**

In Year 4 an assignment is completed. This equates to four weeks’ work, but is spread over the year as a half-day each week, and is equivalent to 10% of teaching time for year. The aims of the assignment are to:

- develop personal interest and ownership of learning, encourage self-management skills; and facilitate deep learning
- enhance research and reasoning skills

Students develop the project proposal in Year 3 and identify a supervisor to enable any ethics / Caldicott approvals to be in place for Year 4.
Year 4 / 5:
Between Year 4 and Year 5 students complete an elective period of six weeks. The purpose of electives is to enable students in the final year of the medical course to follow studies entirely of their own choosing, either at home or abroad. The only requirement is that the proposed studies are relevant to the practice of medicine. Students are expected to make their own arrangements, but to keep the Medical School Office regularly informed of plans as they develop. All programmes of electives must have the formal approval of one of the Advisers of Studies for Electives before they can be considered as an approved part of the final year course.

Written reports on these SSCs are assessed in relation to the curriculum outcomes and are an integral part of the student’s portfolio of work.

Year 5:
In Year 5, students select two clinical SSCs, two theme SSCs and one primary care SSC, each of four weeks: approx 60% of teaching time.

Clinical SSCs
Clinical SSCs are either selected from a centrally-provided menu, or students may submit a pro forma detailing a self-proposed SSC. The latter must be approved by the Clinical SSC co-ordinator. They provide students with an opportunity to experience specific areas of medical practice. The clinical attachments contribute to the development of the twelve outcomes identified for the curriculum.

Theme SSCs
Each student completes two of the sixteen Theme SSCs offered. These SSCs combine seminar and project work (including audit of practice) and specifically highlight the relationship of the basic sciences to clinical practice. Examples of modules available include ‘New Drugs’ and ‘Sense and Science in Clinical Investigation’.

Primary Care SSCs
These are arranged directly by Tayside Centre for General Practice and allow students to extend their experience of primary care while undertaking allocated project work. There is a range of opportunities, e.g. 1, 2 or 3 month blocks in a wide range of practices throughout Tayside, Angus, NE Fife, Highlands, and beyond. Occasionally students will be directed to a particular practice to aid specific learning. It is possible to arrange an attachment in rural Scotland with a practice that is not already approved by Dundee University, but this must first be cleared by the Phase 3 SSC Co-ordinator.

The students build on their fourth-year experience with more consultation experience and by covering further core topics. They are also required to complete a short project on getting evidence into practice, which has been developed in collaboration with Tayside Audit Resource for Primary Care (TARPC). Some attachments look specifically at the Primary / Secondary care interface and the patient journey. Attachments may look at provision of medical care on islands or in the rural Ambulatory Diagnostic Treatment Centre.
Intercalated Year

Students who have performed well in both the core and the student selected components are offered the opportunity to take an intercalated year during which they study for a Bachelor of Medical Science (BMSc) Honours degree. There is a choice of courses, each of two semesters in duration. The intercalated year is normally taken between Phase 2 and Phase 3 of the curriculum (between Years 3 and 4).

At present courses are available leading to an Honours BMSc Degree in Anatomy with Forensic Anthropology; Applied Orthopaedic Technology; Biochemistry; Clinical Research; Forensic Medicine; Human Genetics and Experimental Medicine; Human Reproduction, Assisted Conception and Embryonic Stem Cells; International Health; Medical Psychology; Neuroscience; Pharmacology; Physiology; Sports Biomedicine; or Teaching in Medicine. Some of these courses can also be taken by selected dental students at the end of their second year. ([https://secure.dundee.ac.uk/facmedden/bmsc/](https://secure.dundee.ac.uk/facmedden/bmsc/)).

Students taking the BMSc course in a department where there is a BSc honours course usually join those students for most of their teaching. Special BMSc courses are run by other departments. In both cases, the courses involve formal teaching provided by lectures, tutorials, problem solving sessions etc and a substantive research project of 1-2 semesters giving the students an opportunity for in-depth study of an important research topic under the direct supervision of a research-active member of staff in the discipline of interest. At the end of the course, the research is presented as a bound dissertation. The knowledge gained by the student from both the formal teaching and the research project is assessed in written and oral examinations where an external examiner is present.

In certain circumstances the College Board may authorise a candidate to pursue part or all of the studies for the degree elsewhere than in the University.

Students who perform exceptionally well in the BMSc or graduate students with a good first degree may be encouraged to pursue a joint MBChB/MSc or MBChB/PhD award.

Management and Organisation of the Intercalated Year

The BMSc courses are overseen by the Intercalated Year Committee. The committee comprises the Chairman, who is a member of UMEC, the respective BMSc course leaders and a representative from the Dental School (the early phase co-ordinator). All courses are monitored by University Academic Standards procedures.
section three

Additional Information

Academic Standards

The Medical School has in place a robust mechanism for collecting information from students and staff to quality assure the teaching provision.

A single data set is collected and is used for internal monitoring by the School / University; to inform the GMC Quality Assurance of Basic Medical Education (QABME) process; and by NHS Tayside / NHS Education for Scotland (NES) to provide accountability for funding.

Collection of data

Students are asked to complete an anonymous online questionnaire at end of each block or module. Because of the diversity of the course this can range from 1 week to 12 weeks. The generic part of the form contains 22 questions rated on a 5-point Likert scale with optional free text responses. The questions relate to seven domains: facilities, organisation, delivery of teaching, opportunities for learning, assessment, IT and an overall rating for the block plus two additional free text questions to allow comments on overall positive and negative aspects of block.

As students are expected to take a professional approach to completing feedback they will be asked to include a record of completed forms in their portfolio at the end of Year 5. The completed forms are accessed by both the system conveners / block organisers and phase conveners when completing their own reporting processes.

The Medical School QA process

Student questionnaires are screened and any urgent issues dealt with immediately. Staff contributing to teaching are asked to complete a feedback form. A combination of student and staff feedback is then used by system conveners / block organisers to complete their module reports.

Supervisor reports

All Principles Leads, System Conveners, Phase 2 SSC Conveners and Phase 3 Supervisors are required to complete a report for their individual block of teaching. This allows evaluation of any changes implemented in the block and identification of any problems which may need to be addressed.

Phase meetings

The information from students and supervisors is discussed at Phase meetings with both academic and NHS clinical staff. These meetings provide a forum for sharing aspects of good practice and identification of any recurrent issues within the Phase which may need to be dealt with at School level.
Phase Convenor reports

Following this meeting, each phase convenor is required to complete a pro forma report form (module monitoring report) with particular reference to the following:

- student numbers
- student performance
- feedback on the phase from students
- evaluation of any phase changes
- action plan to address problems

Course Convenor

The Teaching Dean is required to complete an annual programme monitoring report form with particular reference to the following:

- student numbers, achievement and progression
- feedback and observations from students and staff
- changes to the programme
- any other issues not covered by these headings

The reporting process informs the Undergraduate Medical Education Committee on the previous year’s teaching, highlighting any problems and showing how they can be addressed. After approval from UMEC the reports are discussed at the School Board and then the University Academic Standards Quality Assurance Committee.

NES QA process and ACT accountability

The Director of Medical Education (DoME) for NHS Tayside is accountable for the delivery of clinical teaching provided by NHS staff, and the spending of Additional Costs for Teaching (ACT) funding to support this, reporting to the Board, the local ACT group and NHS Education for Scotland (NES).

The School and NHS Tayside jointly comply with NES requirements to report on NHS Board teaching performance. Information from the student feedback forms is used to produce reports by specialty for NES which are collated and circulated via the DOME to ensure that issues of performance are discussed by specialty teaching leads and relevant clinical staff. Areas of best practice are highlighted and support provided for areas that are not performing to their full potential. The Phase meetings described above allow these reports to be discussed with academic colleagues.
Phase 1 QA process

Student feedback forms

Collated system feedback

- Written report for students posted to blackboard
- Areas for immediate action

Phase 1 convenor & all teaching staff

Phase 1 committee

Principles Leads teaching report

- Phase 1 convenor
- Report for UMEC

Staff feedback forms

Phase 1 convenor
Phase 2 QA process

- Student feedback forms
  - Collated system feedback
    - System / SSC convenors
      - Teaching report
      - Areas for immediate action
        - IT, Administration, Staff Development
      - Phase 2 committee
        - Phase 2 convenor
        - Report for UMEC
      - Group feedback
        - Principle Leads
Phase 3 QA process

Student feedback forms

Collated site feedback

Site/SSC supervisors

Supervisor’s report

Joint Phase 3 meeting to discuss QA issues

NES report

DOME and Teaching Leads

Areas for immediate action

Block organizers / SSC co-ordinators

Phase 3 convenor

Teaching report

Report for UMEC

Report for ACT groups / NES

Executive Summary to NHS Tayside Board

Summary Report to Directorate Managers

IT, Administration, Staff Development
E-Learning Team

A dedicated e-learning team within the Medical School assist academics, students and NHS teachers in creating media-rich content using various web tools and open source software. Academic staff are supported and encouraged to create and manage content within their specialty using blogging platforms, providing a centralised resource for students across all years to access. The team works closely with the Computing and Media Services department to ensure IT systems and processes continue to meet the needs of an expanding area of interest.

‘My Dundee’

‘My Dundee’ is the University’s Learning & Teaching portal. The underlying software is the Blackboard Academic Suite, which has been in use since December 2001, supporting students at all levels of study. The online nature of the system enables students who are on-campus and students who are work-based or distance learners to engage with course materials and assessments at a time and place of their choosing. In addition they are able to participate in a wide range of interactions with their tutors and with each other. The system is flexible, regularly updated, and integrates with wider University systems and third-party tools to enhance learning. It is also able to support many models of delivery from blended to fully online.

The Curriculum Map

Curriculum mapping can help both staff and students by making the curriculum more transparent - the map displays key elements of the curriculum and the relationships between them. Dundee’s evolving mapping project can help both students and staff identify what, when, where and how they can learn. The scope and sequence of student learning is made explicit and links with assessment are clarified.

The key to a really effective integrated curriculum is to get teachers to exchange information about what is being taught and to co-ordinate this so that it reflects the overall goals of the school, while at the same time providing a view of the big picture. In Dundee, this is achieved through CMAP, a web-based comprehensive management system developed and continually evolved at Dundee Medical School.

How can ‘My Dundee’ be accessed?

Access to the system is secure and is only accessible by registered students and staff. Registration is achieved on-line and permits access to information from anywhere in the world (https://my.dundee.ac.uk/)
**Staff**

Access by staff includes honorary clinical academic staff within Ninewells Hospital and Medical School, externally associated hospitals, and primary care centres. A ‘Resources for Clinical Teachers’ module is available on ‘My Dundee’, which contains information on staff development and documents relating to both the Dundee curriculum and generic teaching skills.

A generic guest staff login provides immediate access to ‘My Dundee’ whilst individual accounts are being set up.

**Students**

Current students can access information concerning their course and personal information / records using their own ID and password.

**Developments**

Both ‘My Dundee’ and CMAP continue to evolve and features are being regularly added or enhanced to ensure the information system continues to achieve the goals that are intrinsically linked with the schools informatics and teaching and learning strategies. Special attention is paid to the detailing and linkage of assessment.
The Student Support Scheme

The student support scheme consists of the tutor scheme and various support services which can be accessed as required.

Tutor scheme

This is the core of the support scheme. In Semester 1 (Phase 1) students are allocated a personal tutor from the Phase teaching staff or Life Sciences teaching staff. Students are also assigned in Phase 1 to pairs of tutors from Undergraduate Community Medical Education for the group work component of the DPaC course. As well as acting as teachers these tutors are also prepared to offer general advice and support to their groups throughout Phases 1 and 2.

At the start of Phase 2 (January of 1st year) when students move to Ninewells, groups of 3 or 4 students are assigned to a Ninewells-based personal tutor. The personal tutor meets with his/her students formally on 3 occasions: the start of Semester 2, near the start of year 2 (Semester 3), and near the start of year 3 (Semester 5). Students remain with the same personal tutor for the remainder of the course and are encouraged to seek advice on any issue at any time throughout the course from their tutor. At the meetings at the start of 2nd and 3rd Years personal tutors enquire about the student’s progress with the Record of Clinical Experience and offer guidance with this.

Online guides with information about the scheme are available for both students and tutors.

Peer Tutor Scheme

Dundee Medical School has run a highly successful peer-tutoring scheme since 1999. Senior students run body-system-based revision sessions for their more junior peers. The sessions are highly valued by both tutors and tutees and the scheme has seen a consistent, year-on-year increase in the number of student tutors involved.

Academic Mentor

The role of the Academic Mentor is to provide extra help to medical students who are finding difficulty in achieving their full academic potential. Barriers to learning can be due to a wide range of factors including academic, professional, social and emotional issues.

Mentoring involves providing feedback, coaching, advice, guidance and support. This may be provided on a one-to-one basis or in small groups if the need arises. The role of academic mentor is entirely supportive, mentoring is confidential and the post-holder is not involved in any assessment of students.

The role involves taking time to listen, to provide feedback and to work with students to resolve their academic issues and to complement existing support services. Some students may be referred for extra help by their personal tutors and some may self-refer for advice.
Voicing Concerns

The General Medical Council requires that qualified doctors raise concerns about unprofessional behaviours and encourages students to behave in a similarly professional manner. The Medical School fully supports this requirement and encourages students to report serious concerns when they have witnessed poor professional practise regarding standards of clinical care, teaching practise or ‘fitness to practise’ through the 'Voicing Concerns' policy and service. This commitment also reflects the School’s support for high standards of openness, probity and accountability, and the NHS Quality Improvement Strategy.

The School recognises that medical students may encounter episodes which distress and concern them but may lack the confidence to raise these, be unsure about normal standards of practice, who the relevant body might be, or have concerns their progress may be jeopardised. The Voicing Concerns policy and service are designed to encourage students to raise concerns in a supportive, confidential and informal environment.

The service is facilitated by Sally Bradley (sally.bradley2@nhs.net). Initial concerns should be raised and discussed with her and she will advise on the next steps, normally in close consultation with at least one other senior Medical School or NHS staff member.

Options are:

- Discuss and resolve with student concerned
- Investigate further internally (for instance contacting other students for their accounts)
- Refer on to other more relevant channels (e.g. if clearly relates to a substantive failure in clinical care)

At each stage students will be kept informed of what is to happen next, who is responsible and the likely timeframe.

Following any investigation a report will be made identifying the issues and actions taken. This will be retained by the facilitator and copied to the student, as well as the subject of the complaint, if relevant and appropriate.

Responsibility for discussions with any member of University or Health Service staff will rest with their immediate manager, Medical School Teaching Dean or the NHS Director for Medical Education.

This policy compliments the existing university and NHS formal policies for reporting complaints about the teaching and facilities, public interest disclosure, unprofessional behaviour and compromised standards of care.
Careers Information, Advice & Guidance

The Medical Careers Adviser is available to respond to the initial career needs of undergraduate medical students and Foundation trainees and to act as a signposting forum for more complex career related requirements; this role ensures the provision of a full, impartial career advice service for medical students and Foundation trainees throughout their training. Access to the Medical Careers Adviser can be through 1:1 appointments, lunch time drop-in sessions, or by email or telephone as appropriate.

The Medical Careers Adviser develops and delivers careers-related workshops and interventions that will act to progressively enhance the career management skills of undergraduates and Foundation trainees. She is also available to provide awareness training in guidance skills to those in educationally supportive roles.

The Medical Careers Pod information kiosk, situated in the promenade area of the Medical School, is an innovative one-stop information resource for medical careers information.

For more information regarding careers in a specific discipline, the Eastern Regional Postgraduate Medical Education Advisory Committee has appointed, in each of the areas of medicine, a specialty adviser, part of whose responsibility is the counselling of medical students regarding career advice. This is also a responsibility of the Postgraduate Dean. A full list of specialty advisers can be found in the Useful Contacts section.

Students with Disabilities

Students with any form of disability that may impact on their ability to study medicine can contact the Disability Services unit in the Ewing Annexe on the Main Campus. They will meet with the student to discuss their needs and make recommendations to the School of Medicine as to appropriate support for the student in their studies and examinations.

More details are available at http://www.dundee.ac.uk/disabilityservices/
Medical Student Professionalism and Fitness to Practise

The School takes issues related to professionalism and fitness to practise very seriously and has a number of methods in place to deal with professional misconduct on the part of students. The Student Support and Progress Committee deal with all concerns of this nature.

Serious allegations will always be fully investigated, however in addition to the School’s formal ‘Fitness to Practise’ procedures we have introduced the ‘yellow card’ scheme to act as an early warning system or identify numerous small incidents which might serve as indicators for deeper concerns.

The intention of the yellow card system is to enable healthcare practitioners, tutors and supervisors to flag any concerns identified in student’s professional behaviour in the clinical environment during the undergraduate programme.

The scheme:

• Provides an early warning system to identify students with difficulties
• Provides an opportunity for staff to feedback on students in relation to individual clinical activities
• Provides an additional support system for students in their clinical attachments

It does not:

• Replace other forms of assessment or feedback already in place
• Normally stop students from progressing

It is expected that supervisors would normally raise their concern with the student, agree on action if required, and then send the form to the Medical School Office for information. It is important that the form is completed following the discussion as this may not be the first time concerns have been raised and the Medical School may need to take further action. In certain instances it may be more appropriate that the Medical School deals with the concern and this should be indicated on the form.
Introduction

This document represents a significant development in trying to capture the expectations and responsibilities of students and the University. All students are required to sign up to the charter upon embarking on the course.

The Dundee document has been developed from the principles set out in the Medical School Charter developed by the Council of Heads of Medical Schools and BMA Medical Students and should be read in conjunction with the GMC’s document Good Medical Practice:


Part 1: The responsibilities of the medical student

Medical students undertake a degree in medicine with the aim of becoming medical practitioners. Whilst students do not yet have the full duties and responsibilities that go with being a registered medical practitioner, they are already in a privileged position with regards to patients and those close to them. In recognition of this, students must maintain a good standard of behaviour and show respect for others. By awarding a medical degree, a university is confirming that the graduate is fit to practise to the high standards that the GMC has set in its guidance to the medical profession, Good Medical Practice. The GMC outlines the standards expected of a qualified doctor in Good Medical Practice and other guidance. Many of those standards apply to the medical student.

Part 2: The responsibilities of the Medical School

In accepting a place at medical school or university, the student is expected to comply with certain responsibilities which are outlined in Part 1 of the Medical School Charter. These responsibilities accord with GMC standards and take into consideration the requirement that medical schools are expected to graduate students who are fit to practise medicine.

The responsibilities of the Medical School relate to:

- education
- privacy and equal opportunity
- administration and support
- student representation

In identifying these goals the Medical School seeks to obtain the highest possible standard and work with students to ensure that this is consistently achieved.
Links to University Services

**Academic Affairs: [http://www.dundee.ac.uk/academic/](http://www.dundee.ac.uk/academic/)**
Links to important academic regulations and policies, including those related to examinations, discipline, complaints and appeals and termination of studies.

**Academic Standards: [http://www.dundee.ac.uk/qaf/](http://www.dundee.ac.uk/qaf/)**
Information and policies related to the University’s Quality Assurance Framework. Includes links to current Learning and Teaching Strategies, assessment policies and student representation on University committees.

**Information & Communication Services: [http://www.dundee.ac.uk/ics/](http://www.dundee.ac.uk/ics/)**
Support for students and staff with computing or technological issues. Also hosts the policy on use of University IT equipment and facilities.

**Library and Learning Centre: [http://www.dundee.ac.uk/library/](http://www.dundee.ac.uk/library/)**
Access to the library catalogue and a wealth of electronic books, journals and other online resources.

**‘My Dundee’: [https://my.dundee.ac.uk/webapps/portal/frameset.jsp](https://my.dundee.ac.uk/webapps/portal/frameset.jsp)**
Access to the University’s secure virtual learning environment.

**Student Services: [http://www.dundee.ac.uk/studentservices/](http://www.dundee.ac.uk/studentservices/)**
Aimed at both students and staff, provides information on a range of topics including childcare, finance, accommodation, disability and health and well being.

**Careers Service: [http://www.dundee.ac.uk/careers/](http://www.dundee.ac.uk/careers/)**
Support for both students and staff with career and personal development planning.

**Health & Safety Services: [http://www.dundee.ac.uk/safety/](http://www.dundee.ac.uk/safety/)**
The University’s Health & Safety Policy and information relating to occupational health, fire safety and accident reporting.

**University Campus: [http://www.dundee.ac.uk/general/unicampus.htm](http://www.dundee.ac.uk/general/unicampus.htm)**
Useful information about the various campus sites including maps and travel information.
Chaplaincy: http://www.dundee.ac.uk/chaplaincy/

Institute of Sport & Exercise: http://www.dundee.ac.uk/ise/
Information on the gym and sports facilities available to staff and students

Clubs and Societies: http://www.dundee.ac.uk/general/societies.htm
Full listing of clubs and societies which are open to both staff and students.

For Students:
Registry: http://www.dundee.ac.uk/registry/
Information about matriculation, examinations, graduation and tuition fees

Academic Achievement Teaching Unit: http://www.dundee.ac.uk/aatu/ug.htm
Support to develop vital academic and study skills.

For Staff:
Personal & Professional Development: http://www.dundee.ac.uk/ppd/
Links to a variety of training opportunities available to University staff, including support for teachers, managers and with developing IT skills.

Generic Skills: http://www.dundee.ac.uk/genericskills/
This site is aimed mainly at PG students and research staff, however some of the workshops covering e.g. communication or IT skills may be of interest to teaching staff.

Centre for Medical Education: http://www.dundee.ac.uk/meded/
The Centre for Medical Education offers a range of teaching qualifications tailored to clinical teachers.

Human Resources: http://www.dundee.ac.uk/hr/
Policies and information related to equality and diversity, bullying and harassment, sickness and absence and staff appraisal procedures. Within these pages you will also find up-to-date contact details for the Medical School’s HR officers.
Medical School Committees

This section contains details of the main committees operating within the Medical School. For a full list of committees and up-to-date membership, please consult the document ‘Committee Remits and Membership’ available through the Medical School Undergraduate Office.

Undergraduate Medical Education Committee (UMEC)

UMEC is the strategic group in respect of curriculum management, meeting on a monthly basis and incorporating the assessment committee.

Its remit is as follows:

• To advise the School Board on matters concerning undergraduate medical education.
• To set the strategic direction for the delivery and assessment of the undergraduate medical course and develop the Teaching and Learning Plan
• To plan, co-ordinate and oversee the administration of teaching, learning and assessment arrangements for undergraduates in medicine according to the Teaching and Learning Plan
• To manage the teaching budget
• To quality assure the undergraduate medical programme (including the BMSc) to meet the requirements of University QA, GMC QABME and NES
• To address and implement any required changes arising from the School or GMC curriculum reviews and Quality Assessment of Teaching

Phase sub-committees

In respect of the relevant Phase of the Undergraduate Medical Curriculum and under direction from UMEC the committee has responsibility:

• to manage curriculum implementation
• to design, implement and evaluate teaching and learning strategies for the delivery the curriculum;
• to design, implement and evaluate assessment strategies; this includes production of assessment questions and standard setting of examinations
• to act as the Board of Examiners
• for quality assurance
• to identify, develop and monitor placement areas
• to establish resource needs for the Phase
• to consider student welfare issues
• to report to the Undergraduate Medical Education Committee
Support and Progress Committee

The primary aim of the committee is the welfare (academic and health) of students to maximise the opportunities for students in difficulty to complete the medical course.

Specifically the committee will:

• advise the relevant Phase Convenor, when necessary, on remedial programmes of work for those students who are failing to meet the standard in any aspect of the undergraduate medical course

• advise the Teaching Dean and / or Dean in respect of potential fitness to practice (FtP) cases. Specifically the need to refer to a FtP investigation panel or recommend appropriate non-disclosable disciplinary action or student support

• provide advice on support for students with persistent or difficult problems which the tutor is having difficulty resolving or that is not being resolved by the tutor

• track students with persistent problems including those repeatedly flagged up by the ‘yellow card’ system

• review evidence for return after withdrawal for health reasons

• review progress of repeating/returning students

Additionally the Committee will:

• advise the Admissions Convenor on acceptability of students requesting inter-university transfer into the Medical School

Curriculum Management team (CMT)

CMT is the operational group for the ‘day to day’ management of the curriculum. It functions under the strategic direction of UMEC but provides a forum for executive decisions relating to operational and management issues (teaching delivery, planning and assessment) and student welfare.
Academic Review committee (ARC)

The Medical School’s Academic Review (Termination of Studies) Committee, acting under powers delegated to it by the Faculty Board considers the future studies of any students who fail to satisfy the requirements to proceed.

The Academic Review Committee may decide:

(i) to require a student to withdraw from the Course
(ii) to allow a student to continue medical studies by repeating a year of the Course

or

(iii) in exceptional circumstances to allow a student to proceed to the next phase of study “carrying” a component

The Committee may attach whatever conditions it thinks fit to any permission to continue studies: failure to observe any such conditions will render a student liable to be required to withdraw from the Course.

Medical Students Council (MSC)

The Dundee Medical Students Council (MSC) is a student body which acts as the main interface between students and the Medical School.

Remit:

• to lead the student body in participation with the necessary course developments and design, initiatives and discussion;
• to act as the frontline for feedback mechanisms between students and staff - positive and negative;
• to hold regular meetings with the Teaching Dean to discuss issues;
• to arrange student events (careers night, electives evening, symposium);
• to arrange and nominate student representatives for all other committees and events;
• to act as ambassadors and guides at admission events in provision of the perspective of the Dundee School of Medicine student
Further Reading

About the Curriculum and the Medical School
All of these publications are available in both print and electronic format. Email mn-staffdevelopment@dundee.ac.uk to request a copy.

General Information
• The Dundee Medical School Curriculum (leaflet)
• Learning Medicine in Dundee (booklet)
• Committee Remits and Membership (supersedes the documents ‘Medical School organisational and management structures’ and ‘Directory of Medical School committees and sub-groups’)
• Student Support Scheme: Tutor Guide
• DPaC study guides

Assessment
(Additional assessment information is located in the Phase Handbooks)
• Up Stethoscope: A user’s guide to medical student assessment in Dundee
• Phase 2 Record of Clinical Experience
• Patient Record Book
• Year 4 Portfolio Assessment: Instructions to examiners and marking guide
• Final Year Assessment: Notes to Examiners and Students
• Anatomy Practical Examinations: Regulations & Guidance for Students

Phase Information
• Phase 1 handbook
• Phase 2 handbook
• Phase 2 – Year 2: Practice of Medicine ward guide for tutors
• Phase 2 – Year 3: Practice of Medicine parent ward guide
• Phase 2 systems study guides
• Transition block study guide
• Phase 3 Year 4 student handbook
• Guide to teachers for the Year 4 block attachments
• Year 4 block study guides
• Phase 3 Year 5 student handbook
SSCs
- Student Guide: Student Selected Components, Year 1
- Student Selected Components: Guide for staff
- The 4th Year assignment
- Year 5 SSCs: Staff guide

Policy Documents
- School of Medicine learning and teaching plan
- Medical School Charter
- Memorandum of Understanding (MoU) between NHS Tayside and University of Dundee
- Service Level Agreement (SLA) between a clinical group / department and NHS Tayside

Contact mn-staffdevelopment@dundee.ac.uk for further information

GMC publications
- Tomorrow’s Doctors 2009
- Good Medical Practice
- Medical Students: professional behaviour and fitness to practise
- The New Doctor
- QABME report for Dundee University Medical School

Available online: http://www.gmc-uk.org/

Support for Learning and Teaching
Getting Started: A Practical Guide for Clinical Teachers Ed Dent & Davis
Contact mn-staffdevelopment@dundee.ac.uk for further information