1.1 AN OVERVIEW

This is a time of innovation in medical education when changes in health care delivery systems have profound implications for teaching and learning. There is public and professional demand for more relevance in educational programmes with funding bodies and government requiring accountability and quality in education. The National Committee of Inquiry into Higher Education in the UK recommended in 1997 "that institutions of higher education begin immediately to develop or seek access to programmes for teacher training of their staff". Health service doctors too make an enormous contribution to undergraduate teaching and postgraduate training and the GMC emphasised the educational duties of all doctors in "The Doctor as a Teacher". Throughout the world there is increasing recognition of the need for doctors who work in the health care system to obtain training for their teaching roles.

The postgraduate certificate, diploma and Masters programme in medical education has been designed to meet the teacher training needs of health professions’ teachers at a range of levels.

1.1.1 THE POSTGRADUATE CERTIFICATE COURSE IN MEDICAL EDUCATION

The Postgraduate Certificate Course in Medical Education has been designed to provide participants with an overview of key issues in medical education and to enable them to develop a basic level of educational competence and professionalism. The aim of the Postgraduate Certificate is to equip health professionals to practise across the range of domains of teaching and learning in their own settings.

The core content of the course consists of learning opportunities in curriculum development, assessment, teaching and learning, and includes generic skills in teaching and facilitating learning in health professions. The integrated unit requirements are intended to enhance participants’ understanding of, and capability to reflect upon, the choices of teaching and learning models relevant to their students, subjects and situations. This includes the ability to:

• teach and support learning
• contribute to the design and planning of learning activities and/or programmes of study
• assess students and trainees and give feedback to learners
• develop effective learning environments and learner support systems
• carry out reflective practice and personal development
• self-evaluate and evaluate the programmes they teach
• understand the processes of quality assurance and the professional values required of a teacher.

In addition to the core, participants must also select areas of study from a wide range of options.

The course was first offered in its present form in 1994 and leads to the award of a Postgraduate Certificate in Medical Education. It is designed both for health professionals new to teaching and for existing staff wishing to improve their educational expertise. The Higher Education Academy (HEA) was established by the UK government to accredit staff development programmes for teaching and recognise individual achievement through either associate or full membership of the Institute. The Postgraduate Certificate Course has been accredited by the HEA for full membership.
In their accreditation report the HEA highlighted the course’s strengths, which included:

- A clearly articulated philosophy for the course and clear design principles
- A commitment to developing student-centred approaches to teaching
- Explicit attention to the linking of theory and practice including encouragement from early in the course for course members to identify issues and ideas that can be applied and investigated through their own teaching
- An emphasis on reflective practice.

1.1.2 THE POSTGRADUATE DIPLOMA COURSE IN MEDICAL EDUCATION

Participants who wish to study the key issues further and to increase their educational expertise can after completion of the Postgraduate Certificate Course undertake the Postgraduate Diploma Course in Medical Education.

Two areas of study have been identified that all diploma participants must undertake after completion of the Postgraduate Certificate Course. These are Research Awareness and Best Evidence Medical Education. They are then free to customise their studies to meet their individual needs by selecting material from a wide range of options. Participants may choose to study one or more aspects of medical education in greater depth or to expand their expertise across the range of topics in medical education. Either way they will increase their educational competence and professionalism.

1.1.3 THE MASTERS DEGREE IN MEDICAL EDUCATION

Participants who wish to develop expertise in one aspect of medical education may progress, after Postgraduate Diploma level studies, to a taught Masters degree. This involves in-depth study of one aspect of medical education, the completion of a project and written submission of the research project as a dissertation. Acceptance of Masters proposals is dependent on satisfactory progress at Postgraduate Certificate and Diploma levels.

1.2 METHOD OF STUDY

Most participants study by distance learning although between 10 and 30 participants attend the Centre for Medical Education premises at Tay Park House in Dundee each year for face-to-face teaching. On-site workshops are also provided in those institutions where there is sufficient participant demand.

1.3 CONTENT

There are five main themes within the medical education programme of courses:

- Curriculum development
- Assessment
- Teaching and learning
- Research
- Special options.

There are several units within each theme, some of which are designated core for specified levels of the programme. The remainder contribute to a wide menu of options from which participants select those most appropriate to their needs.
1.4 EDUCATIONAL STRATEGY
A task-based learning approach is adopted, with activities suggested throughout the learning materials that encourage participants to link educational theory to their every-day practice as health professions’ teachers and to reflect on that practice. This approach enables participants to individualise their learning and produces a student-centred programme of courses that can, in part, be implemented in the work place. Reflective practice is emphasised in three ways through:

- think points and activities in the units that ask participants to apply specific parts of the learning material to their own practice
- unit assignments that ask participants to apply the educational principles and concepts presented in the unit to their own teaching practice and to critique what they have developed
- feedback from tutors which not only encourages participants but also prompts them to further update/improve their practice.

1.5 ASSESSMENT
Each unit is assessed by a written assignment or practical exercise that normally requires participants to apply educational principles to their own situation and reflect on the result.

1.6 MANAGEMENT AND ORGANISATION
Course tutors keep in contact with participants by face-to-face meetings, telephone, fax or e-mail as appropriate. A newsletter provides participants with information regarding new developments, graduations and individual achievements. Tutors for each theme are members of the board of studies that is responsible through the medical school board of studies to the University of Dundee senate for the academic management and development of the courses. There is a full-time administrator for the Centre’s medical education courses who is responsible for day-to-day administration.

1.7 MEETING TRAINING NEEDS
The programme of courses in medical education has been designed to meet a need for training in education for health care professionals institutionally, nationally and globally.

1.7.1 INSTITUTIONAL
The mission of the University is “to provide education of the highest quality coupled with a leading contribution to the advancement of knowledge, thereby developing in our students the imagination, talents, creativity and skills necessary for the varied and rapidly changing requirements of modern life. Building on the long and admirable tradition of higher education in Scotland, the University will enhance further its international and national standing and will contribute significantly to social, cultural and economic well being and to improvements in the quality of life”.

As part of this vision, the University of Dundee has made a strong commitment to the development of its staff. Much of the responsibility for staff development has been devolved to colleges and other administrative groupings, while still providing a programme of appropriate centrally funded activities to complement the college or school programmes. Staff from all parts of the University of Dundee are welcome to attend the short courses held annually in the Centre for Medical Education premises at Tay Park House and places are reserved specifically for them. The Centre for Medical Education has developed a seven-unit module for new lecturers. This seven-unit module has been accredited by the HEA for Associate Membership status. The Dundee Schools of Medicine and Dentistry use this module for teacher training for new lecturers and there is increasing use of this module by other health professions to gain Associate Membership of the HEA.

Participants in the MSc in Primary Care Course complete material from the medical education programme as part of their studies. The MSc in Primary Care is offered by the following partner institutions: the University of Dundee, the University of Aberdeen, Queen Margaret University
College, Glasgow Caledonian University, Robert Gordon University and the University of Edinburgh. The purpose of the partnership is to give students the widest choice of subjects and modes of study in pursuit of the MSc. By using the Scottish credit accumulation and transfer (SCOTCAT) framework each module, whenever and wherever accredited to the student, has an intrinsic stand-alone value in terms of the overall qualification. Modules can be taken from different universities and by different modes of study. The programme allows individuals to follow specific interests. Teaching units from the Postgraduate Certificate, Diploma and Masters programme in medical education are available to participants on the MSc in Primary Care under the general theme of educational development.

1.7.2 NATIONAL

Within the UK, individual health care professionals with responsibilities for educating others enrol on the Dundee medical education programme to meet their training needs. Relationships have been established with other institutions such as royal colleges and universities and these institutions use course material to meet their members needs in education.

In conjunction with the Royal College of Anaesthetists in the UK, a Postgraduate Certificate Course in Medical Education has been designed specifically to meet the need of anaesthetists who teach other anaesthetists. Participants study the core Postgraduate Certificate material and their additional areas of study comprise material specifically written for them by members of the Royal College of Anaesthetists. The course has been accredited by the HEA for full membership.

The Royal College of Anaesthetists has adopted the Postgraduate Certificate Course for training its members as teachers. These participants enrol through the Royal College. Successful participants are awarded the University of Dundee Postgraduate Certificate in Medical Education for Anaesthetists.

The Royal College of General Practitioners has collaborated with the Centre for Medical Education in the development of a distance learning course in medical education for general practitioners. Participants complete the core units for the Postgraduate Certificate in Medical Education. They may then select optional units that include some specially written for the course by members and fellows of the Midland Faculty of the Royal College of General Practitioners in collaboration with Centre staff.

The Association of Surgeons of Great Britain and Ireland (ASGBI) has collaborated with the Centre for Medical Education to provide a Postgraduate Certificate in Medical Education customised for its members. Participants complete the core units for the Postgraduate Certificate in Medical Education and may then select optional units from the menu of options specifically for surgeons. These units were written by a working group of ASGBI members with educational qualifications in collaboration with Centre for Medical Education staff.

The seven-unit module for Associate Membership of the HEA is used by Scottish GPs in their programme for trainers.

1.7.3 WORLD WIDE

Individual teachers from every continent have enrolled on the medical education programme. We also have groups of participants in Kenya, India, Denmark, Iran, Kuwait, Thailand and Sri Lanka. Some of these participants have come to Dundee for face-to-face teaching, but most study by distance learning. Some of the distance learners have set up group meetings in their own countries to provide participant support with issues such as language translation. Staff from the Centre for Medical Education have, when requested, run overseas workshops for distance learners, similar to the face-to-face courses provided in Dundee.
1.8 **EDUCATIONAL PHILOSOPHY**

An outcome-based approach underpins the medical education courses (Harden et al, 1999a). It ensures that a holistic approach to teaching/training is adopted by the learners – one that ensures that the personal and professional attributes necessary for teaching excellence are recognised.

The emphasis in outcome-based education is on the product of the education rather than the process. The product (an effective teacher) can be defined as a professional able to undertake the necessary teaching tasks in an appropriate manner. The three-circle model for classifying learning outcomes is shown in Figure 1.

The inner segment of the diagram represents the tasks teachers might undertake as part of their teaching role. These tasks, however, are only part of the picture. It is recognised that other internalised abilities and personal qualities play a considerable role in distinguishing between an excellent teacher and one who merely fulfils the tasks. The middle and outer segment relate to these other attributes and abilities.

The middle segment relates to the approach adopted by the teacher in carrying out the tasks in the inner segment. The outer segment relates to the professionalism and self-development of the individual as a teacher. Both the middle and outer segments reflect the ability of the healthcare professional to think and act as a teacher.

This approach has been used to identify and classify the broad base of learning outcomes for the courses. The learning outcomes for the effective teacher/trainer based on this three-circle model are summarised overleaf.

1. **Outcomes related to the performance of teaching tasks**
   - Teach in large and small groups
   - Teach in a clinical setting
   - Facilitate and manage learning
   - Plan learning
   - Develop and work with learning resources
   - Assessment and evaluation
   - Research

2. **Outcomes related to the approach adopted by the teacher to the performance of tasks**
   - Application of an understanding of the principles of education
   - Incorporation of appropriate attitudes, ethics and an understanding of legal responsibilities
   - Application of appropriate decision making skills and best evidence education

3. **Outcomes related to professionalism**
   - Role of the teacher within the Health Service/University
   - Personal development with regard to teaching

See Figure 2 (page 6) which identifies an expansion of each outcome.

The medical education programme spans this broad set of outcomes with each unit contributing learning outcomes to the overall outcome, in order that the participant can work towards teaching excellence.

How the programme units contribute to the outcomes is shown in Figure 3 (page 7).

Increasing emphasis will be placed on Best Evidence Medical Education (BEME) (Harden et al, 1999b) as the programme of courses develops. BEME is the implementation, by teachers in their practice, of methods and approaches to education based on the best evidence available.
## THE EFFECTIVE TEACHER

### What the doctor as a teacher is able to do

**“doing the right thing”**

<table>
<thead>
<tr>
<th>Technical Intelligences</th>
<th>Plan/Develop</th>
<th>Assess</th>
<th>Evaluate</th>
<th>Principles of Education</th>
<th>Attitudes, ethical &amp; legal aspects</th>
<th>Decision making skills &amp; BEME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teach in a large and small groups</td>
<td>Teach clinical and practical skills</td>
<td>Teach appropriate attitudes</td>
<td>Teach decision making skills</td>
<td>Teach in the ward, theatre and related areas</td>
<td>Teach in the clinic</td>
<td>Teach in the community</td>
</tr>
<tr>
<td>Learn</td>
<td>Facilitate and manage learning</td>
<td>Plan learning</td>
<td>Develop/work with learning resources</td>
<td>Assess trainees</td>
<td>Evaluate courses &amp; undertake research</td>
<td>Principles of education</td>
</tr>
<tr>
<td>Choose appropriate small group teaching methods</td>
<td>Run a small group teaching session</td>
<td>Organise and manage multimedia resources</td>
<td>Act as a role model</td>
<td>Undertake an assessment of learners’ needs</td>
<td>Choose appropriate assessment techniques</td>
<td>Use a range of tools for evaluating courses</td>
</tr>
<tr>
<td>Carry out appraisal of learner and prepare report</td>
<td>Assist learners in achieving the stated learning outcomes</td>
<td>Assist learners to reflect on their experiences through questioning and feedback</td>
<td>Direct learners to appropriate information and human resources</td>
<td>Design instructional text including handbooks and protocols</td>
<td>Make appropriate use of study guides</td>
<td>Use a range of tools for evaluating teaching strategies</td>
</tr>
<tr>
<td>Assist learners to self assessment skills</td>
<td>Develop learning contracts</td>
<td>Motivate learners</td>
<td>Counsel learners on career</td>
<td>Counsel learners on personal matters</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Assist learners to organise their knowledge and experiences</td>
</tr>
<tr>
<td>Counsel learners on personal matters</td>
<td>Plan and advise learners on the effective use of learning resources</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Assist learners to make appropriate use of information technology</td>
<td>Implement planned course</td>
<td>Implement clinical simulations</td>
<td>Use evidence based medical education as the basis for teaching and learning strategies adopted</td>
</tr>
<tr>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners in accessing the stated learning outcomes</td>
<td>Counsel learners to make appropriate use of information technology</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
</tr>
<tr>
<td>Counsel learners to make appropriate use of information technology</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
</tr>
</tbody>
</table>

### How the doctor approaches their teaching

**“doing the thing right”**

<table>
<thead>
<tr>
<th>Intellectual Intelligences</th>
<th>Emotional Intelligences</th>
<th>Analytical/Creative Intelligences</th>
<th>Personal Intelligences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand teaching responsibilities</td>
<td>Maintain an acceptable balance between service commitments, research and teaching</td>
<td>Use evidence based medical education as the basis for teaching and learning strategies adopted</td>
<td>Reflect upon and be aware of own strengths and weaknesses as a teacher</td>
</tr>
<tr>
<td>Accept and respond to evaluation comments, constructive criticism etc from others</td>
<td>Accept appropriate personal attributes for teachers</td>
<td>Encourage a multidisciplinary approach to clinical teaching</td>
<td>Accept and respect colleagues</td>
</tr>
<tr>
<td>Keep abreast of new teaching and learning techniques</td>
<td>Build an effective learner-teacher relationship</td>
<td>Assess learners’ self assessment</td>
<td>Familiarity with teaching recommendations &amp; requirements of the GMC, the specialties and the university</td>
</tr>
<tr>
<td>Develop practical, hands-on skills</td>
<td>Counsel learners in accessing the stated learning outcomes</td>
<td>Make appropriate use of computers in assessment</td>
<td>Assist learners in the construction of a positive learning environment</td>
</tr>
<tr>
<td>Design instructional text including handbooks and protocols</td>
<td>Make appropriate use of study guides</td>
<td>Assess learners’ self assessment</td>
<td>Counsel learners in accessing the stated learning outcomes</td>
</tr>
<tr>
<td>Design effective study guides</td>
<td>Make appropriate use of study guides</td>
<td>Make appropriate use of computers in assessment</td>
<td>Develop practical, hands-on skills</td>
</tr>
<tr>
<td>Develop learning contracts</td>
<td>Plan and advise learners on the effective use of learning resources</td>
<td>Plan and advise learners on the effective use of learning resources</td>
<td>Develop learning contracts</td>
</tr>
<tr>
<td>Motivate learners</td>
<td>Counsel learners on personal matters</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
</tr>
<tr>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners in accessing the stated learning outcomes</td>
<td>Counsel learners in accessing the stated learning outcomes</td>
<td>Counsel learners in accessing the stated learning outcomes</td>
</tr>
<tr>
<td>Counsel learners to make appropriate use of information technology</td>
<td>Counsel learners to make appropriate use of information technology</td>
<td>Counsel learners to make appropriate use of information technology</td>
<td>Counsel learners to make appropriate use of information technology</td>
</tr>
<tr>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
</tr>
<tr>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
</tr>
<tr>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
<td>Counsel learners on aspects of learning and study skills</td>
</tr>
</tbody>
</table>

### Doctor as a professional teacher

**“the right person doing it”**

<table>
<thead>
<tr>
<th>Role of teacher or trainer</th>
<th>Personal development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand teaching responsibilities</td>
<td>Reflect upon and be aware of own strengths and weaknesses as a teacher</td>
</tr>
<tr>
<td>Maintain an acceptable balance between service commitments, research and teaching</td>
<td>Accept and respond to evaluation comments, constructive criticism etc from others</td>
</tr>
<tr>
<td>Use evidence based medical education as the basis for teaching and learning strategies adopted</td>
<td>Keep abreast of new teaching and learning techniques</td>
</tr>
<tr>
<td>Familiarity with teaching recommendations &amp; requirements of the GMC, the specialties and the university</td>
<td>Counsel learners in accessing the stated learning outcomes</td>
</tr>
</tbody>
</table>

---

Hesketh et al (2001). A framework for developing excellence as a clinical educator. Medical Education

**FIGURE 2**
The QUESTS criteria are used to assess the strength of evidence:

- Quality of the research evidence available – how reliable is the evidence?
- Utility of the evidence – can the methods be transferred and adopted without modification?
- Extent of the evidence
- Strength of the evidence
- Target or outcomes measured – how valid is the evidence?
- Setting or context – how relevant is the evidence?

The move away from opinion-based education towards BEME is designed to provide teachers with the justification for their educational activities.

1.9 SPECIAL FEATURES OF THE COURSE

The medical education programme has a number of special features that together contribute to its unique flavour.

- **Outcome-based approach**: The outcome-based approach provides a useful framework for the courses. It emphasises the technical aspects of the teachers’ responsibilities at the same time as the scholarship and professionalism of teaching. It identifies what the teacher should be able to do and also highlights that the teachers should reflect on and take responsibility for their professional development. The robust, three circle model for classifying the programme outcomes provides a framework that encourages good teaching.

- **Design of course materials**: Reflection is encouraged through the design of the course materials with activities to encourage interaction with the material, self-assessment exercises and “think points”. Readings and references at the end of each unit encourage further learning about teaching. The unit assignments are designed to ensure participants reflect on the relevance of the underlying educational concepts and principles to their own situation.

- **Linking theory with practice**: The task-based learning strategy employed in the programme encourages on-the-job learning as a health professions’ educator. The design of the unit assignments encourages linking theory with the individual participant’s teaching practice.

- **Flexibility**: The majority of participants study by distance learning with no need ever to visit Dundee, which makes for a convenient method of study. The potential for mixed-mode delivery of the courses with a combination of distance learning, face-to-face teaching and easy availability of tutor support provides flexible learning designed to fit in with the busy schedule of the health professions’ educator.

- **Credibility**: The course has been developed by a group of practising teachers many of whom are innovators in medical education. This not only gives the course credibility but also ensures that the course material is at the cutting edge of developments in health professions’ education.
1.10 OTHER SOURCES OF INFORMATION

Information about the courses is provided by the Centre for Medical Education for applicants through:

- A poster
- Brochures that include information about the Postgraduate Certificate, Diploma and Masters courses by face-to-face study and distance learning
- The CME web site [http://www.dundee.ac.uk/meded/frames/courses.htm](http://www.dundee.ac.uk/meded/frames/courses.htm)
- A newsletter.

REFERENCES


THE PROGRAMME THEMES

2.1 COURSE DESIGN

A spiral design has been adopted for the curriculum development, assessment, and teaching and learning themes.

The first unit in each theme deals with the trends and provides an advance organiser for the theme. Some students use these units as summaries and complete them at the end of their studies. The second unit deals with basic educational principles and underlying concepts. The third unit introduces the tools or approaches used in the theme; for example, models of curriculum planning or assessment methods.

Subsequent units in each theme explore individual topics in greater depth; for example, problem-based learning. These subsequent units together with the units from the research and special options themes are the optional units. From this menu of options participants select units of particular interest and relevance to their own situation to complete the required 20 units for the Postgraduate Certificate Course.

In addition to the 20 units for the Postgraduate Certificate Course, Diploma participants complete a further two core units on issues in medical education: best evidence medical education and research awareness. They then select 18 units from the menu of units to complete the 40 units (20 Postgraduate Certificate units, plus a further 20) required for the award of the Postgraduate Diploma in Medical Education.

To obtain the taught Masters degree, participants must, in addition to the Diploma requirements, complete a project and write a project report or dissertation. The project is usually carried out in the participant’s work place and involves the application of educational principles and concepts to the individual participant’s practice. Most are applied projects; for example "Using needs assessment to develop a new staff development course in the faculty of medicine, Chiangmai University, Thailand" or "Evaluation of the clinical skills course at the Mayo Medical School". Where in exceptional circumstances an applied project is not feasible, a conceptual dissertation may be undertaken.

2.2 DESIGN OF UNITS

Individual units incorporate:

- Presentation of key educational principles and concepts and any adaptations to meet the needs of the health care professions;
- Provision of examples of the educational principles, concepts and approaches as applied in the healthcare professions at undergraduate, postgraduate and continuing education levels;
- Activities to help participants apply the concepts, principles or approaches to their own specific situation whether in Dundee, elsewhere in the UK or overseas.

While most participants come from the medical profession, others have a background in nursing, the professions allied to medicine or administration. It is not always possible to provide examples appropriate to all of these contexts and professional groupings but where good examples are available these are included in the text, in the readings or as references.

The units aim to provide participants with the best available evidence to inform their judgements regarding their educational practice, i.e. to answer questions such as:

- What is the best way to facilitate learning of a particular topic in my situation?
- What is the best assessment method to use for my students?
- What is the most effective educational strategy to employ in my course?

The units will be updated in line with information available from the BEME (best evidence medical education) initiative.
2.3 CURRICULUM DEVELOPMENT

The curriculum development theme introduces a range of strategies at the forefront of educational developments in the healthcare professions. Concepts such as educational environment, educational strategies and the curriculum are also explored, and basic models of curriculum development are introduced. Participants also have the opportunity to select appropriate topics from the range of optional units provided that are of relevance to their own situation. The range includes key topics at the forefront of developments in medical education such as integration of the curriculum and problem-based learning. Participants are expected in their assignments for this theme to:

- demonstrate knowledge of the subject matter that they are teaching;
- select appropriate methods for teaching and learning in the courses that they plan;
- make use of what is known about how students learn in their planning;
- identify appropriate learning technologies for their situation;
- demonstrate a reflective approach to the courses for which they are responsible;
- evaluate and improve their courses.

2.4 ASSESSMENT

The importance of assessment in medical education cannot be overemphasised. It contributes significantly to the effectiveness of learning whether one is a student, a teacher, a trainer or directly involved with continuing professional development. The units in this theme cover a wide range of topics. Course participants receive grounding in the basic principles underlying any assessment. In addition they are shown the key methods to adopt when assessing knowledge, skills or attitudes. Innovative techniques are described as well as those more commonly used. Concepts such as validity, reliability, standard setting and criterion and norm referenced testing are dealt with in a way that balances theory with practice. Topics such as self-assessment and work-based assessment are explored in considerable depth and participants are encouraged to create their own tools for use in their workplace. Advice is also given on coping with common problems and pitfalls. The range of units covers outcomes in relation to: developing assessment strategies for courses; devising assessment criteria for different types of evidence of student learning; implementing a valid and reliable assessment system; reviewing student progress through the assessment process and creating mechanisms for quality student feedback.

2.5 TEACHING AND LEARNING

All the units in this theme are based on a cognitive/constructivist understanding of the learning process and of knowledge acquisition. The different approaches to teaching and learning are seen as ways of facilitating learning of knowledge, skills and attitudes, of building up competencies, and of encouraging the development of professional approaches to teaching in the health professions. Essentially, the focus of the theme is on shifting teachers’ concepts of teaching from teacher-centred/content-oriented, to student-centred/learning-oriented. Within the teaching and learning theme there is a group of units dealing with instructional materials development. These units integrate the concepts and principles of communication, visual communication, attributes of the media, learning theory and instructional design to provide a basis for the design and development of instructional materials. The units explore how the attributes of the respective media can be exploited to trigger cognitive processing and, thus, learning, and require the students to apply this understanding in the design of materials to facilitate achievement of specified learning outcomes.

2.6 RESEARCH

The units contained in this theme help participants understand the importance of educational research and its significance within medical education. Introductory units explore key components of research design and provide a sound platform for studying individual areas of interest. A range of methods is described and the differences between quantitative and qualitative research are explained. Practical advice is given on issues such as sampling and questionnaire design. It is crucial for any researcher
to understand the different approaches available; for example, experimental research, correlational research, descriptive research and causal comparative research. Various research problems are used to highlight areas of particular importance. The skills of writing a relevant literature review, developing a rigorous research design, using data gathering tools and of collecting and interpreting data are all discussed. Key elements of the research units contribute to outcomes in relation to the review and evaluation of teaching and course design. The ability to successfully develop an effective set of data gathering tools is essential in order to provide efficient teaching programmes. The theme is based on the research awareness unit, which introduces the student to the important concepts, while the approaches unit describes the practical techniques involved and follows on from the former. The remaining topics look at some of the main elements in greater depth.

2.7 SPECIAL OPTIONS

The special options units require the participant to design a series of strategies for research and implementation by working from generic principles in each topic area to the specific requirements of the individual participant. They involve a process of self-evaluation and reflection on the personal and institutional requirements to be addressed, including an analysis of the learning needs of the target groups. They are intended to enhance the professional development of the participant in both specific and generic skills areas and as reflective practitioners. The special options in combination with the core units are intended to equip the participants with a broad range of competencies as educators in the health care professions as part of their own continuing professional development.

A complete list of available units is included as Figure 4 overleaf.
<table>
<thead>
<tr>
<th>Theme: CURRICULUM DEVELOPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD1  Trends in curriculum development</td>
</tr>
<tr>
<td>CD2  Principles of curriculum development</td>
</tr>
<tr>
<td>CD3  Approaches to curriculum development</td>
</tr>
<tr>
<td>CD4  Aims, objectives and competencies</td>
</tr>
<tr>
<td>CD5  Problem-based learning / task-based learning</td>
</tr>
<tr>
<td>CD6  Community-oriented medical education</td>
</tr>
<tr>
<td>CD7  Integrated teaching</td>
</tr>
<tr>
<td>CD8  Core curricula, electives and options</td>
</tr>
<tr>
<td>CD9  Needs analysis</td>
</tr>
<tr>
<td>CD10 Educational environment</td>
</tr>
<tr>
<td>CD11  Curriculum evaluation</td>
</tr>
<tr>
<td>CD12  New inter/multidisciplinary and emergence of the poly-professional</td>
</tr>
<tr>
<td>CD13  Quality assurance **</td>
</tr>
<tr>
<td>CD14  Outcome-based education</td>
</tr>
<tr>
<td>CD15  Task-based learning</td>
</tr>
<tr>
<td>CD16  Teaching, learning and assessing professionalism</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme: TEACHING AND LEARNING</th>
</tr>
</thead>
<tbody>
<tr>
<td>TL1  Trends in teaching and learning **</td>
</tr>
<tr>
<td>TL2  Principles of teaching and learning **</td>
</tr>
<tr>
<td>TL3  Teaching methods **</td>
</tr>
<tr>
<td>TL4  Small group teaching **</td>
</tr>
<tr>
<td>TL5  Mentoring and student support</td>
</tr>
<tr>
<td>TL7  Clinical teaching</td>
</tr>
<tr>
<td>TL8  Reflection and reflective practice</td>
</tr>
<tr>
<td>TL10  Distance learning</td>
</tr>
<tr>
<td>TL11  Co-operative learning</td>
</tr>
<tr>
<td>TL12  Learning styles **</td>
</tr>
<tr>
<td>TL13  Portfolio building</td>
</tr>
<tr>
<td>TL14  Clinical teaching (ward-based teaching)</td>
</tr>
<tr>
<td>TL15  Life-long learning</td>
</tr>
<tr>
<td>TL16  Clinical teaching (ambulatory care teaching)</td>
</tr>
<tr>
<td>TL17  Personal development planning</td>
</tr>
<tr>
<td>TL18  Structured Learning In Clinical Ethics (SLICE)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme: RESEARCH</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1  Research awareness ++</td>
</tr>
<tr>
<td>R2  Approaches to research</td>
</tr>
<tr>
<td>R3  Sampling</td>
</tr>
<tr>
<td>R4  Designing and administering questionnaires</td>
</tr>
<tr>
<td>R5  Interpretation and presentation of data</td>
</tr>
<tr>
<td>R6  Ethics of research in medical education m</td>
</tr>
<tr>
<td>R7  Developing a research proposal m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme: SPECIAL OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>O1  Issues in medical education: Best evidence medical education ++</td>
</tr>
<tr>
<td>O2  Educational innovation and change</td>
</tr>
<tr>
<td>O3  Continuing education</td>
</tr>
<tr>
<td>O5  Study skills courses</td>
</tr>
<tr>
<td>O8  Staff development for health professions education</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme: ANAESTHETISTS UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>An1  Clinical teaching in the operating theatre</td>
</tr>
<tr>
<td>An2  Learning from experience</td>
</tr>
<tr>
<td>An3  Assessment of anaesthetists in the workplace</td>
</tr>
<tr>
<td>An4  The educational role of simulators in anaesthesia</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme: GENERAL PRACTICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP1  Doctors in difficulty</td>
</tr>
<tr>
<td>GP2  Principles of medical audit as applied to general practice</td>
</tr>
<tr>
<td>GP5  Appraisal of doctors in NHS general practice</td>
</tr>
<tr>
<td>GP6  Quality in general practice</td>
</tr>
<tr>
<td>GP7  Learning &amp; teaching cultural competence in general practice</td>
</tr>
<tr>
<td>GP8  Teaching communication skills</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Theme: SURGERY</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1  Assessment in surgery: designing an assessment system</td>
</tr>
<tr>
<td>S2  Teaching and experiential learning in the operating theatre</td>
</tr>
<tr>
<td>S3  Working in a surgical team</td>
</tr>
<tr>
<td>S4  Teaching practical skills</td>
</tr>
<tr>
<td>S5  Teaching role of surgeons</td>
</tr>
<tr>
<td>S6  Assessment of surgical technical skills</td>
</tr>
</tbody>
</table>

** Core unit for certificate
++ Additional core unit for diploma
m Core unit for Masters
3.1 COURSE DELIVERY

All units can be studied by distance learning and this is the main delivery mode. Participants can start their studies at any time during the year and need never attend face-to-face teaching or assessment in Dundee. The result is a convenient and flexible programme that participants can work through using an approach and at a rate that is suitable to their needs and work commitments. Face-to-face teaching is offered in Dundee from September until December each year for those participants who opt for full-time Postgraduate Certificate level study and from September until April for Postgraduate Diploma level study. Participants wishing to combine the face-to-face approach with distance learning can arrange to study at the Centre for Medical Education for either the Certificate or Diploma stages by contacting the Course Administrator. On-site workshops are also provided where there are sufficient numbers of interested participants.

Distance learning participants receive learning materials by postal mail. On enrolment the five introductory units are mailed to the participant (TL1, TL2, TL3, TL4 and TL12).

Once the introductory units have been successfully completed participants are sent the remaining five core units (A2, A5, A7, A8, A11). Once these units are completed, participants are asked to select the final ten units from the list of options. Those participants wishing to continue to Postgraduate Diploma level studies are sent the further two core units and asked to select a further eighteen units, which are mailed in two instalments.

Those participants who wish to be considered for progression to Masters must also complete units R6: Ethics of research in medical education, and R7: Developing a research proposal.

PROCEDURE FOR R6 AND R7 SUBMISSION

1. R6 and R7 will be sent out to all those intending to do the Masters as part of their last tranche of units. (They may be sent out earlier under special circumstances).

2. The completed assignments (to be sent in together as a double unit) for R6 and R7 will be reviewed by all the members of Dissertation Review Group (DRG) and subsequently discussed at the following DRG meeting.

3. If the proposal is acceptable, a supervisor will be appointed who will be responsible for marking both assignments, taking on board the DRG feedback.

4. If the proposal is unacceptable, a member of staff will be appointed to provide suitable feedback and the participant will be asked to resubmit either or both units. Stages 2 and 3 will then be repeated.

Participants in the Postgraduate Certificate Course in Medical Education for anaesthetists receive ten core units, plus a unit on Clinical Teaching (TL7). Once these are completed participants may select four units from the list of options, followed by the four specialist anaesthetist units. Participants complete nineteen units including one double-credit anaesthetist unit.

Assignments must be submitted via the University of Dundee Virtual Learning Environment (VLE), Blackboard. Instructions for submitting assignments are included as a separate document in the Introductory pack, or are available by emailing: c.m.e.assignments@dundee.ac.uk.

Anaesthetists’ assignments (An1, An2, An3 and An4) may be submitted by:

<table>
<thead>
<tr>
<th>Method</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>postal mail</td>
<td>to Barbara Sladdin, Education Support Officer, Anaesthetic Training Department, Royal Victoria Infirmary, Victoria Wing, Newcastle-upon-Tyne NE 1 4LP.</td>
</tr>
<tr>
<td>electronically</td>
<td>emailed to <a href="mailto:Barbara.Sladdin@nuth.nhs.uk">Barbara.Sladdin@nuth.nhs.uk</a></td>
</tr>
</tbody>
</table>

Assignments are normally returned to participants with tutor feedback within three weeks of submission.
3.2 THE PROGRAMME UNITS AND THEIR OUTCOMES

TEACHING AND LEARNING

TL1 TRENDS IN TEACHING AND LEARNING:
On completion of this unit, the participant will be able to:
• Identify current developments in teaching and learning;
• Analyse the situation in his/her own institution with respect to evidence of these trends having been adopted.

TL2 PRINCIPLES OF TEACHING AND LEARNING
On completion of this unit the participant should be able to:
• Formulate guiding principles on which his/her teaching can be built;
• Formulate guiding principles on which students can be encouraged to build their learning skills.

TL3 TEACHING METHODS
On completion of this unit the participant should be able to:
• Design instruction from which students will be able to learn concepts, principles and problem solving;
• Design instruction from which students will be able to learn skills or procedures;
• Design instruction from which students will be able to learn attitudes;
• Evaluate the potential of a range of teaching methods to facilitate the learning of specific types of outcome.

TL4 SMALL GROUP TEACHING
On completion of this unit the participant should be able to:
• Apply prior knowledge gained from the units TL1, TL2, & TL3 to the design and delivery of small group teaching;
• Describe the aims of small group teaching;
• Describe the characteristics of small group teaching;
• Describe the stages which small groups may display when working together;
• Explain why small group teaching is an important educational strategy;
• Determine when small group teaching is appropriate;
• Describe five different methods of small group teaching and when it is appropriate to use these methods;
• Define the task and maintenance functions of a ‘facilitator’;
• Explain the difference between the role of a facilitator and the traditional role of a teacher;
• Express the possible dislikes of small groups that may be encountered and consider strategies to address these dislikes.

TL5 MENTORING AND STUDENT SUPPORT
After completing this unit the participant should:
• Be familiar with the various activities involved in the role of the mentor;
• Have an understanding of the mentoring process and the ground rules for mentoring relationships;
• Recognise the skills needed to supply good student support;
• Show a practical understanding of what is good practice in terms of student support.

TL7 CLINICAL TEACHING
After completing this unit the participant should be able to:
• Demonstrate an understanding of the trends in clinical teaching identified;
• Relate the trends in clinical teaching to principles of teaching and learning;
• Recognise the extent to which the trends are applicable to a course/session for which you are responsible.
**TL8 REFLECTION AND REFLECTIVE PRACTICE**

Unit objectives:
- define the commonly used terminology
- demonstrate an understanding of the adult learning theory underlying the concept of reflection
- describe the place of reflection in the education of health professionals
- take part in a reflective activity

**TL10 DISTANCE LEARNING**

On completion of this unit the participant should be able to:
- Define distance learning and explain how it differs from other forms of traditional and non-traditional education;
- Demonstrate an awareness of the key features of the distance learning approach;
- Design activities for distance learning;
- Embark on producing their own material for distance learning purposes.

**TL11 CO-OPERATIVE LEARNING**

On completion of this unit the participant should be able to:
- Understand the concept and underpinning principles of co-operative learning;
- Identify a range of practical approaches and opportunities for co-operative learning and appropriate environments in medical education for their implementation;
- Implement the above approaches;
- Evaluate the effectiveness of co-operative learning.

**TL12 LEARNING STYLES**

On completion of this unit the participant should be able to:
- Give an accurate definition of the concept of learning style and identify the major classifications of learning styles;
- Demonstrate the importance of learning styles for learning processes in health professions education;
- Gather accurate information on learning styles from medical undergraduates, postgraduates and lifelong learners;
- Use information about students’ learning styles to design appropriate teaching strategies, instructional techniques and learning materials.

**TL13 PORTFOLIO BUILDING**

On completion of this unit the participant should be able to:
- construct a portfolio;
- understand portfolio learning;
- understand the links between adult learning and portfolio learning.

**TL14 CLINICAL TEACHING (WARD-BASED TEACHING)**

On completion of this unit the participant should be able to:
- demonstrate an understanding of educational principles of clinical teaching;
- apply the principles described to your own teaching practice;
- recognise opportunities for using the various resources and examples for clinical teaching described.

**TL15 LIFE-LONG LEARNING**

After completing this unit the participant should be able to:
- to introduce the concept and principles of lifelong learning
- to introduce the concept and principles of reflective and critically reflective practice
- to examine critically the evidence of their effectiveness
- to develop practical strategies for lifelong professional learning and reflective practice
TL16  CLINICAL TEACHING (AMBULATORY CARE TEACHING)
On completing this unit you should be able to:
• demonstrate an understanding of the educational principles of teaching in the ambulatory care setting.
• understand the issues to be considered when developing new venues for ambulatory care teaching.
• employ a variety of strategies and teaching models to help to make the most of teaching and learning opportunities in ambulatory care teaching.
• devise a structured programme for use in an ambulatory care teaching centre.
• judge whether ambulatory care teaching is appropriate for you.

TL17  PERSONAL DEVELOPMENT PLANNING
On completion of this unit you should:
• be able to devise an effective PDP for yourself
• be able to facilitate the development of a colleague’s or learner’s PDP
• be able to use a range of strategies to identify learning needs
  - for yourself
  - for a learner
• be able to evaluate the content and outcomes of a PDP.

TL18  STRUCTURED LEARNING IN CLINICAL ETHICS
On completion of this unit you should be able to:
• clarify the type of curriculum outcomes you expect your learners to attain from their health ethics education
• identify appropriate teaching strategies to promote this learning
• identify appropriate assessment strategies to check the learning achieved.

Instructional Materials Development
in the Teaching and Learning theme

IMD1  TRENDS IN INSTRUCTIONAL MATERIALS DEVELOPMENT
This module looks at three trends in instructional materials development that impact on learning resources and identifies what we will call the ‘Digital Shift’ (Wilson, 2001) in learning design. As IMD1 is a distance learning module it seems appropriate to use examples of instructional materials development in distance learning but trends will apply to all types of educational resource.
The goal of this module is not to make you an instructional designer but to help you become better informed and more aware of the trends influencing the design of instructional materials in the 21st century.

IMD2  PRINCIPLES OF INSTRUCTIONAL DESIGN
By the end of this unit you should be able to:
• describe the FAIR model of learning design principles.
• identify how FAIR principles influence the overall effectiveness of a learning resource.
• demonstrate how FAIR principles can be used in practice.
• critically evaluate the contribution of the FAIR principles to the design techniques underpinning learning resources.

IMD4  DESIGN AND PRODUCTION OF PRINTED MATERIALS
After studying this unit the participant will be able to:
• identify various educational strategies used in printed instructional materials and incorporate some of them in any printed materials he/she wishes to produce;
• critically analyse printed materials in terms of readability, legibility and printability;
• produce clear, readable and effective written text for educational purposes.
IMD5 POSTERS AND EXHIBITIONS
On working through this unit participants should be better equipped to:
• Prepare effective posters incorporating good layout and design principles;
• Mount posters in such a way as to gain maximum impact on exhibition browsers;
• Recognise some of the pitfalls which lead to poor poster displays;
• Select the most suitable exhibition sites for posters and displays.

IMD8 OVERHEAD TRANSPARENCIES
For a chosen topic and identified learning outcomes, the participant should be able to design and produce, utilising instructional design principles, overhead projector transparencies exploiting the overlay and masking attributes of overhead projector transparencies to support a teacher-led presentation of the topic.

IMD9 STUDY GUIDES
On completion of this unit and using the ‘TRACKER’ mnemonic the participant should be able to design a study guide on an aspect of their own teaching.

CURRICULUM DEVELOPMENT

CD1 TRENDS IN CURRICULUM DEVELOPMENT
On completion of this unit the participant should be able to:
• Demonstrate an understanding of the trends in curriculum development identified in this unit;
• Reflect on the extent to which they are applicable to a course for which they are responsible.

CD2 PRINCIPLES OF CURRICULUM DEVELOPMENT
On completion of this unit the participant should be able to:
• Distinguish the formal and informal curriculum;
• Identify the hidden curriculum and null curriculum;
• Develop appropriate educational strategies for curriculum development in their situation.

CD3 APPROACHES TO CURRICULUM PLANNING
On completion of this unit the participants should be able to:
• Identify different approaches to curriculum planning;
• Identify different patterns of staff involvement in curriculum planning;
• Analyse a course with which they are involved in terms of Harden’s 10 Questions.

CD4 AIMS, OBJECTIVES AND COMPETENCIES
By the end of this unit participants should be able to identify aims, objectives, competencies and outcomes for their course or curriculum.

CD5 PROBLEM-BASED LEARNING
This unit reviews the principles of problem-based learning and provides a practical guide to the topic. At the end of this unit the participants will be able to develop a problem-based or task-based teaching course appropriate for use in their own institution.

CD6 COMMUNITY ORIENTATED MEDICAL EDUCATION
On completion of this unit the participant should be able (within context of own curriculum) to:
• Decide whether community orientation is an appropriate philosophy for their college/department/course/class;
• Discern principles of community orientation in practice;
• Reflect on the salient features of a community-oriented curriculum that are applicable to their own situation.
CD7 INTEGRATED AND MULTIDISCIPLINARY PROGRAMMES
On completion of this unit the participant should be able to demonstrate an understanding of different methods of achieving interdisciplinary and multiprofessional integration and assess their suitability for use in their own institution.

CD8 CORE CURRICULA ELECTIVES AND MODULES
On completion of this unit the participant should be able to plan a core course for implementation in their own setting with appropriate optional topics, electives or special study modules.

CD9 NEEDS ANALYSIS FOR CURRICULUM DEVELOPMENT
On completion of this unit the participant should be able to:
• Review quantitative and qualitative strategies for needs analysis for curriculum development;
• Design appropriate strategies for diagnosis of curriculum development needs.

CD10 EDUCATIONAL ENVIRONMENT AND CLIMATE
On completion of this unit the participant should be able to:
• Review the development of ways of measuring educational environment and climate;
• Evaluate the usefulness of different methodologies for different levels and types of health professions education;
• Interpret data on educational environment and climate in relation to other dynamics of health professions teaching and learning;
• Select and apply an appropriate measure for your teaching situation.

CD11 CURRICULUM EVALUATION
At the end of this unit you should be able to:
• understand the difference between assessment and evaluation
• outline the steps in conducting a curriculum evaluation
• formulate a curriculum evaluation plan
• identify evaluation questions
• identify the tools available for collecting evaluation material
• select appropriate methods of evaluating specific curricula.

CD12 NEW INTER/MULTIPROFESSIONALISM & EMERGENCE OF THE POLY-PROFESSIONAL
On completion of this unit you should be able to:
• analyse the levels of uni-, inter-, multi- and poly-professional delivery of health care in your country/specialty;
• identify appropriate strategies to teach learners in systems other than uni-professional education and training.

CD13 QUALITY ASSURANCE
On completion of this unit the participant will be able to identify principles of quality assurance in medical and other health care professions education and, on the basis of these, outline an approach to quality assurance that could be adopted in his/her institution.

CD14 OUTCOME-BASED EDUCATION
On completion of this unit the participant should be able to:
• define an outcome
• define outcome-based education
• identify appropriate outcomes for your professional group
• identify the advantages and disadvantages of outcome-based education
• evaluate outcome-based education for use in your own situation
CD15  TASK-BASED EDUCATION  
On completion of this unit the participant should be able to:
• define task-based learning
• identify the list of tasks for your own situation
• identify differential diagnoses for each task
• evaluate the appropriateness of the task-based learning approach for your own situation.

CD16  TEACHING, LEARNING AND ASSESSING PROFESSIONALISM  
On completion of this unit the participant should be able to:
• formulate your own definition of professionalism
• identify the advantages of integrating the learning about professionalism throughout the curriculum
• evaluating approaches for teaching and learning professionalism in your context.

ASSESSMENT

A1  TRENDS IN ASSESSMENT  
The participant should be able to demonstrate a basic knowledge of the trends described in the unit, and to be able to apply this knowledge by developing a relevant assessment tool.

A2  PRINCIPLES OF ASSESSMENT  
After studying this unit the participant should be able to:
• Construct clear instructional objectives;
• Differentiate between facts, procedures, concepts and principles in the context of assessing student learning;
• Describe the differences between formative and summative assessment;
• Distinguish between norm-referenced assessment and criterion referenced assessment;
• Describe the characteristics of content, predictive, concurrent and construct validity;
• Use three methods to determine test viability.

A3  ASSESSMENT INSTRUMENTS  
At the end of this unit the participant should be able to choose an appropriate assessment method, which takes account of what it is their students are expected to have learnt and also why they have learned it.

A4  THE OBJECTIVE STRUCTURED CLINICAL EXAMINATION (OSCE)  
At the end of this unit you should be able to:
• understand where the OSCE fits into an assessment process
• identify what can and cannot be tested in an OSCE
• identify what is best tested in an OSCE
• appreciate the need for different types of OSCE stations and formats (e.g. linked stations, double stations, manned stations, unmanned stations)
• design OSCE stations
• organise and implement an OSCE in your own situation
• evaluate an OSCE

A5  STANDARD SETTING  
At the end of this unit you should be able to:
• understand why standard setting for assessments is necessary.
• understand the rationale behind the norm and criterion referenced standard setting.
• understand why and how conjunctive and compensatory standards are applied.
• identify existing standard setting methods.
• select an appropriate standard setting method for a given exam, giving reasons for your selection.
• Determine the pass mark by applying a suitable standard setting method for an assessment(s) with which you are involved.

A7 SELF-ASSESSMENT IN THE TEACHING PROCESS
After studying this unit the participant should be able to:
• Reflect on his/her teaching, understand the key components of the self-assessment process;
• Construct a self-assessment tool which has practical benefits;
• Describe the advantages of self-assessment for both the student and the teacher;
• Understand the value of feedback and its role in quality self-assessment.

A8 SELF-ASSESSMENT
On completion of this unit the participant will be able to:
• Identify the three stages of self-assessment and be aware of the variations;
• Prepare two self-assessment components to illustrate mastery of a topic, and to interest learners in a topic.

A9 WORK-BASED ASSESSMENT
On completion of this unit the participant should be able to:
• Identify the defining features of work-based learning and the special issues raised for assessment in this area;
• Link assessment criteria and methods to performance outcomes, as jointly agreed by tutor and trainee and stated in personal learning plans or learning contracts;
• Design work-based assessments, which are supportive of self-directed and lifelong learning;
• Select appropriately from a range of assessment procedures those which will provide valid results in work-based learning environments, and meet standards of reliability.

A11 GIVING AND RECEIVING FEEDBACK
On completion of this unit the participant will be able to:
• Examine the role of feedback in your own tutorial setting;
• Identify a variety of modes of feedback;
• Examine each of these for their advantages and disadvantages;
• Demonstrate their skills in each of these modes;
• Assess their suitability for use in their own situation.

A12 PORTFOLIO ASSESSMENT
At the end of this unit the participant should be able to:
• define portfolio learning and portfolio assessment
• identify reasons for the current interest in portfolio assessment and reflect on whether these reasons are applicable to your situation
• list different types of portfolio and evaluate their usefulness in your own situation
• identify material your students/trainees might include in their portfolio as evidence of achievement of learning outcomes
• identify criteria for assessing different types of material included in a portfolio.
RESEARCH

R1 RESEARCH AWARENESS
After studying this unit the participant should be able to:
• Describe the scientific method;
• Identify the key questions to ask in problem selection;
• Describe the advantages of a research plan;
• Write directional and null hypotheses that relate to a research problem;
• State and explain the reasons for conducting a literature search before commencing a research project;
• Describe the differences between primary and secondary sources and give examples of each.

R2 APPROACHES TO RESEARCH
After studying this unit, the participant should be able to:
• Explain the differences between qualitative and quantitative research;
• Describe the circumstances in which experimental, historical, descriptive, correlational, causal-comparative and action research approaches are used;
• Clearly distinguish between the procedures/designs used in each method;
• Identify the advantages and disadvantages of each approach.

R3 SAMPLING
After studying this unit, the participant should be able to:
• Describe the procedure for selecting (a) simple random sample, (b) a stratified sample, (c) a systematic sample, and (d) a cluster sample;
• Explain when it is appropriate to consider sampling techniques;
• Identify common mistakes used in sampling;
• Understand the possible differences between volunteer and non-volunteer samples.

R4 DESIGNING AND ADMINISTERING QUESTIONNAIRES
After studying this unit, the participant should be able to:
• Carry out the key stages in questionnaire design;
• Construct questionnaire items;
• Write both open and closed questions;
• Distinguish between postal and interview type questionnaires;
• Design an effective questionnaire on a given topic;
• Identify when the questionnaire method is appropriate.

R5 INTERPRETATION AND PRESENTATION OF DATA
After studying this unit the participant should be able to:
• Distinguish between inferential and descriptive statistics;
• Understand the reasons for using common statistical tests;
• Carry out basic data presentation techniques;
• Present research findings in a concise and coherent fashion.

R6 ETHICS OF RESEARCH IN MEDICAL EDUCATION
On completion of this unit learners should:
• Understand the ethics of research in medical education
• Be able to identify the ethics issues within a research proposal
• Be able to submit a completed application form and research proposal for submission to the University of Dundee Research Ethics Committee (UREC) or relevant Research Ethics Committee (REC).
R7  DEVELOPING A RESEARCH PROPOSAL
After studying this unit, the participant should be able to:
• Understand why a research proposal is necessary
• Identify a research topic/problem
• Systematically analyse the research topic/problem to identify the key steps of developing the research project
• Identify the issues surrounding each step of developing the research and evaluate their implications
• Make changes to the original thought process of developing the research, depending on the issues identified in bullet-point 3 above
• Write a brief, but comprehensive research project proposal to be submitted to the Board of Studies of the Masters programme in Medical Education.

SPECIAL OPTIONS

01  ISSUES IN MEDICAL EDUCATION: BEST EVIDENCE MEDICAL EDUCATION
On completion of this unit participants should be able to develop critical thinking in issues relating to medical education.

02  EDUCATIONAL INNOVATION AND CHANGE
After studying this unit, participants should be able to:
• Review the principles of educational innovation and change;
• Relate them to their professional situation.

03  CONTINUING EDUCATION FOR THE HEALTH PROFESSIONS
After studying this unit, participants should be able to:
• Assess the strategies for continuing education in the continuum of learning of health professions;
• Design appropriate continuing education for their professional situation.

05  STUDY SKILLS COURSES
After studying this unit, participants should be able to:
• Review the strategies required for effective learning in different professional situations;
• Design supportive strategies for study skills in your professional situation.

08  STAFF DEVELOPMENT FOR HEALTH PROFESSIONS EDUCATION
After studying this unit, participants should:
• Become familiar with strategies for staff development to achieve professionalism in health professions’ education;
• Be able to design appropriate strategies to achieve staff development in their situation.

ANAESTHETIST UNITS

AN1  CLINICAL TEACHING IN THE OPERATING THEATRE
On completion of this unit the participant should be able to demonstrate the application of the principles described in the text to his or her personal theatre teaching by developing the materials described in the assignment.

AN2  LEARNING FROM EXPERIENCE
On completion of this unit the participant should be able to demonstrate the application of the principles of learning from experience to his or her personal theatre teaching by developing the materials described in the assignment. He or she should also understand the different ways in which doctors make clinical decisions and to be able to plan teaching in ways in which help trainees to understand their practice.
AN3  ASSESSMENT OF ANAESTHETISTS IN THE WORKPLACE
By further developing the materials associated with this module, the participant should develop an overall understanding of the principles of assessment for anaesthetists in the workplace, the processes involved and the interrelations of the various interested organisations. They should understand that good performance depends upon knowledge, skills and professional behaviour. They should understand some of the difficulties of making assessments in each of these areas.

AN4  THE EDUCATIONAL ROLE OF SIMULATORS IN ANAESTHESIA
On completion of this unit the participant should be able to demonstrate the application of the principles described in the text to his or her personal theatre teaching by developing the materials described in the assignment.

GENERAL PRACTICE

GP1  DOCTORS IN DIFFICULTY
On completion of this unit the participants should be able to:
• describe and categorise reasons for doctors getting into difficulty
• differentiate between: personal conduct; professional conduct; competence and performance issues; health and sickness issues
• describe what we mean by a “teacher-student” mismatch
• describe appropriate interventions under each of these headings
• describe a range of educational interventions for competence and performance issues
• distinguish between competence and performance

GP2  PRINCIPLES OF MEDICAL AUDIT AS APPLIED TO GENERAL PRACTICE
On completion of this unit the participants should be able to:
• understand the principles of the audit cycle
• apply the audit cycle to clinical practice
• show how the application of the audit cycle can improve clinical practice
• understand and use a framework for significant event audit
• be aware of the differences between audit, research and performance management.

GP5  APPRAISAL OF DOCTORS IN NHS GENERAL PRACTICE
On completion of this unit the participants should be able to:
• define GP appraisal
• understand the differences between appraisal, performance management, revalidation and assessment
• describe the GP appraisal process and its requirements
• review an appraisal folder, and select issues for discussion
• develop a system, a method and the necessary skills for appraising colleagues in general practice
• develop and agree a personal development plan with an appraisee
• identify poor performance issues and how to progress these

GP6  QUALITY IN GENERAL PRACTICE
This unit looks at some of the principles involved in assessing and improving quality of primary care. The unit is designed to be of relevance to general practitioners, primary care staff and primary care organisations. The unit covers these areas:
• What is quality?
• How do we assess quality?
• Can we explain variation?
• How can we improve quality?
GP7  LEARNING AND TEACHING CULTURAL COMPETENCE IN GENERAL PRACTICE

Understanding of the concepts of culture, cultural self awareness, and cultural competence:
• Awareness of unequal patterns of disease, health experience and access to health care in ethnic minority populations, and their possible causes.
• Understanding of the special challenges of cross cultural consultation
• Understand the need for and the challenges involved in working with interpreters, cultural brokers and link workers
• Recognise the existence of racism in individuals, societies, and health care institutions.
• Understand how racism may negatively affect health care.

Development of teaching strategies:
• Develop strategies for teaching learners how to work with interpreters
• Reflect on use of literature to stimulate discussion among learners
• Knowledge of some available educational resources.
• Reflection on how to take forward into teaching practice.
• Develop strategies for helping learners to explore difficult issues in a safe environment.

GP8  TEACHING COMMUNICATION SKILLS

Objectives:
• An understanding of a variety of models of communication.
• An ability to analyse an episode of professional dialogue.
• An ability to provide feedback to a learner on how communication professional context might be improved.

SURGERY

S1  ASSESSMENT IN SURGERY: DESIGNING AN ASSESSMENT SYSTEM

At the end of this unit you should be able to:
• Identify the basic assessment principles underpinning an assessment system for surgery at either undergraduate or postgraduate level
• Identify appropriate exams for inclusion in an assessment system for surgery
• Develop a blueprint for one surgical exam
• Evaluate assessment instruments using the utility formula for use in your situation

S2  TEACHING AND EXPERIENCIAL LEARNING IN THE OPERATING THEATRE

This unit will:
• Increase your awareness of training possibilities in theatre
• Inform your design of training sessions
• Support a critical review of your training approaches
• Identify change strategies for your training curriculum
• Illuminate the complexity of the training role and the interactions between trainer and trainee

S3  WORKING IN A SURGICAL TEAM

After completing this unit you should:
• Recognise the importance of team work in the surgical context particularly in the operating theatre
• Be familiar with the various skills required for good teamworking
• Be aware of various methods of assessment of teamworking skills
• Recognise ways of encouraging development of teamworking skills
• Identify the need for further research into training and development of teamworking skills
• Identify the need for further work into assessment of teamworking skills
• Demonstrate your own capability as a team worker
S4 TEACHING PRACTICAL SKILLS
At the end of the unit you should be able to:
• understand the need for new strategies in teaching and learning practical skills in surgery
• be aware of theories underpinning acquired practical skills
• analyse the stages in teaching practical skills
• apply the principles of cognitivism in teaching and surgical skills
• make appropriate use of technical skills learning materials
• recognise the different learning environments for practical skills
• understand the role of simulators in teaching practical skills
• know the different types of simulators currently available to teach technical skills

S5 TEACHING ROLE OF SURGEONS
At the end of the unit you should be able to:
• understand what the students and trainees see as a ‘surgical role model’
• identify attributes required of a surgeon
• develop and apply problem based surgical teaching
• deal with ethical issues involved in teaching practical skills in surgery
• be aware of basic concepts of decision making in surgical practice

S6 ASSESSMENT OF SURGICAL TECHNICAL SKILLS
At the end of the unit you should be able to:
• understand the need for a change in the way we currently assess surgical technical skills
• select the appropriate type of assessment for different purposes
• critically assess the usefulness and limitations of the different assessment tools
• crucially select and apply the most appropriate tool for assessment of surgical technical skills in different contexts
• evaluate the usefulness of the newly emerging tools for assessment of surgical technical skills
• know the ongoing research and developments in assessment of surgical technical skills
4.1 ASSESSMENT METHODS

Each unit is assessed by a single assignment. These assignments take the form of written responses (essays of approximately 1200 words), PowerPoint presentations or practical exercises such as poster presentations. They require the synthesis of theory and practice with worked examples from the participant’s own professional experience.

Learning outcomes are stated for each unit. These outcomes must be met in the assignment. The participant is required to demonstrate mastery of the concepts and principles introduced in the unit and their application to the participant’s own teaching and learning situation. Together with the specific learning objectives and outcomes of the subject matter in the units, there is a range of generic competencies that must be demonstrated throughout the course in identifying and responding to learners’ needs, and enhancing professional reflection and development. A criterion-referenced approach is employed. Grades are not awarded and a pass/fail result is provided. Assignments are, however, also used as opportunities to provide individual feedback.

The unit assignments are designed to assess participants’:

- Understanding of the principles and concepts;
- Ability to apply appropriately the concepts and principles in their own situation;
- Analytical ability regarding the application of the principles and concepts to their own situation;
- Evaluation by asking them to reflect critically and analyse the approach they have developed.

Assignments require the achievement of the higher order levels in keeping with the Masters level ratings that are applied to all units in the programme of courses.

If an assignment does not meet the standard it may be re-submitted once. If the resubmission fails to meet the standard a new assignment is provided.

Resubmissions are intended to enable tutors to give feedback and advice when an assignment has not met the pass level. They are part of the teaching and learning process, but if a candidate has been requested to resubmit 6 times or more over the course of the PG Certificate or Diploma his/her work will be reviewed by a Progress Committee of the Board of Studies. The Board will discuss whether further support can be provided or if the candidate should be advised to exit from the course with the PG Certificate or Diploma.

The course director must be satisfied that the work submitted is that of the participant, in keeping with the University of Dundee’s policy on plagiarism and cheating.

4.2 MARKING CRITERIA

A marking team approach is employed for marking assignments. Teams comprise those members of the Board of Studies who have participated in the generation of the course materials and in their teaching in both face-to-face and distance learning contexts.

Guidance is provided for both markers and participants through marking criteria. These criteria are intended to clarify for participants what they are expected to do for each assignment and to improve inter rater reliability.

Every tenth unit in each theme is double marked in a further step to improve reliability of marking.
4.3 PLAGIARISM AND DISHONESTY

Plagiarism is a specific form of academic dishonesty involving the presentation of the work of another as one’s own. Examples of plagiarism are:

- Direct copying from textbooks, journals etc without full acknowledgement of the true author
- Paraphrasing someone’s work without acknowledgement
- Copying the work of another.

Academic dishonesty can take the form of fabrication of data or falsification of data. Cheating is also included e.g. submitting work that has already been used in another course. A random selection of assignments submitted for marking will be scanned through the plagiarism software “Safe Assignment”.

The University of Dundee’s Code of Practice on Plagiarism and Academic Dishonesty can be viewed on its website. http://www.somis.dundee.ac.uk/academic/Plagiarism.htm

If you are unable to access this site and wish to receive a copy please contact the Course Administrator.

We wish to point out to all our students that the penalties for plagiarism and academic dishonesty can vary from:

- a departmental warning for a trivial or minor lapse
- a reduction in marks or a fail in a specific assignment
- the academic award being withheld.

Please ensure that you cite all appropriate sources relating to your assignments. This includes material from websites.

4.4 THE MASTERS DISSERTATION

The Masters dissertation is an assessed component of the taught Postgraduate Masters Course. It forms a fixed part of the overall assessment for the Masters award and has a rating of 60 SCOTCAT points.

4.5 WRITING A MASTERS DISSERTATION

Although there is no specific format for the writing up of the project there are some general guidelines which may be of help. Firstly, the subject matter of the study will determine to a large extent how it is presented on the page. It is important to draw up a plan and discuss the intended format with your supervisor. The following is one common approach to layout which is frequently adopted.

- **Title Page** – provide a clear and informative title.
- **Contents Page** – should give a list of all the main sections and sub-sections and their page numbers.
- **Abstract** – approximately 250-350 words explaining what the project was about, how it was carried out, a summary of the results and the implications of the work.
- **Introduction** – this may explain the general topic area and justification for the study. Background information may be included. This chapter should answer the question “Why am I writing this dissertation?”
- **Literature Review** – this is a key part of the project and should involve a comprehensive and critical review of the published work in the research area. Move from the general to the specific. This chapter should end with your research questions or hypotheses. There is no set length for reviews but normally they are about 6000 words (30 pages). The literature review should answer the question “What has already been found out about this research area?”
- **Methods** – This chapter should focus on the design of the study and the procedures carried out. It should clearly describe the subjects and any sampling methods used and provide good reasons for selecting the study method. If there are different possible ways of carrying out the project you should say what they are and why you chose the method you used. This chapter should answer the question “What did I do?”
• **Results** – A clear and logical display of your findings is necessary. Tables and Figures must be labeled and accompanied by relevant descriptive text. Present sufficient details so that inferences can be drawn. Do not discuss the significance of the results leave that for the discussion. This chapter should answer the question “What did I find out?”

• **Discussion** – This chapter should look at the findings and discuss their significance especially in relation to what has already been published. Move from the specific to the general. This is the opportunity to explain how you have answered your research questions and how they are linked to previous studies. The discussion should be rich in analysis and may be broken into logical segments using subheadings. It should answer the question “How do my findings relate/add to what is already published?”

• **Conclusions/Recommendations** – It is quite common, but not essential, to have a final chapter on the way ahead or plans for future studies. This is usually not as lengthy as the Discussion. It should answer the question “What is the way ahead?”

• **References** – This should contain full references of all works cited in the text. Use the Harvard style of referencing.

• **Appendices** – Include additional relevant data in the Appendices.

NB. Please refer to Letman’s paper in R7 ‘Notes on Writing Papers and Theses’. It provides many useful tips on dissertation writing.

### 4.6 REFERENCES – HOW TO CITE AND LIST

• **Citations in the text:** Cite all text, data or ideas that are not your own. If the author’s name is part of the text cite the year only, e.g. According to Smith (2002) thesis writing is easy. If it is not, cite surname and year, e.g. It is important to cite all references alphabetically (Smith, 2002).

  Separate multiple references with a semi colon, e.g. (Smith, 2002; Jones, 1989).

  Cite double author references by the surnames of both, e.g. (Smith & Jones, 1996).

  With three or more authors cite the surname of the first author followed by et al. e.g. Sue, Grabitt & Runn would be Sue et al. (1997).

• **Listing references:** In the Reference section at the end of the dissertation list all the cited works in alphabetical order. It is important to remain consistent throughout. Fictitious examples of how to write the main kinds of reference are given.


The following web sites give more details on how to reference:


• [http://www.liv.ac.uk/hgc/Eve/part3ref&foot.htm](http://www.liv.ac.uk/hgc/Eve/part3ref&foot.htm)


• **Referencing – copyright:** The British Library’s website provides helpful guidance on all copyright questions regarding your dissertation [http://www.bl.uk/services/information/copyrightfaq.htm](http://www.bl.uk/services/information/copyrightfaq.htm).
4.7 CRITERIA FOR TAUGHT MASTERS AWARD

Demonstration of an awareness and understanding of issues relating to teaching and learning, assessment and curriculum development as applied to a health care profession plus demonstration of an in-depth applied knowledge and understanding of one specific area of health professions’ education as evidenced by a written dissertation, is required for the Masters’ award. The subject breadth in medical education is acquired at Postgraduate Certificate/Diploma level. The in-depth study is achieved at Masters level.

The Masters dissertation should show evidence of scholarship in one specific area. This will be assessed on the individual’s ability where appropriate to:

- Apply educational principles to individual practice;
- Write clearly and succinctly;
- Critique the relevant published literature;
- Show ability to analyse primary and/or secondary material;
- Argue and discuss clearly and coherently;
- Clearly define the topic under study;
- Clearly define the questions to be asked and investigated;
- Show evidence of critical thinking about the problem, assumptions, opinions and values encountered;
- Put the study into context;
- Show an understanding of appropriate research methods;
- Apply appropriate methodological approaches with rigour;
- Present the work undertaken including where appropriate the findings/data in an orderly and coherent fashion;
- Discuss the significance of the results/outcome as applied to the individual’s situation;
- Justify the conclusions in terms of the findings;
- Provide a complete and orderly bibliography/reference list properly cited;
- Ethical approval for reference to such approval being waived must be highlighted in the dissertation (usually inserted in the methods).

The Masters graduate will demonstrate a range of learning outcomes:

i Scholarship in health professions’ education: In addition to the comprehensive and up-to-date knowledge acquired in medical education through postgraduate certificate and diploma level studies, the Masters graduate will have a detailed knowledge and understanding of one or more specific topics. This includes developments in knowledge, theory and concepts at the forefront of the topic(s);

ii Methodological approaches: The Masters graduate will be competent in the design of sound research methodologies appropriate to medical education;

iii Application of knowledge and understanding: Through Postgraduate Certificate and Diploma level studies, the graduate has demonstrated the ability to apply a significant range of complex professional skills, practices and techniques (the learning outcomes listed on page 5 of this Handbook). The study guides and the assignments encourage reflection and where appropriate modification of educational practice. Through the Masters dissertation, the graduate will demonstrate competence in specialised, advanced and evolving practice, including research or diagnostic work in a topic that is new to the individual. Masters graduates will create new knowledge and understanding and make an original contribution to the development of practice. They will demonstrate an understanding of how the learning outcomes of the medical education programme may be applied to inform judgements and to develop and advance ideas and/or practice;
iv General skills: Masters graduates will be able to approach intellectual enquiry autonomously to analyse, synthesise, diagnose, design, plan, execute and evaluate at an advanced level. They will be able to do this to the extent necessary to critically review, consolidate and extend knowledge, skills, practices, and thinking. They will show, for example, the ability to critically evaluate new concepts, arguments and evidence from a range of sources and to recognise, define and analyse novel problems and to plan strategies for their solution. Masters graduates will be able to work in situations where evaluations have to be based on limited information and data or where the information or data comes from very diverse sources. They will also demonstrate an ability to deal with complex issues, and make informed judgements in the absence of complete data;

v Communication, numeracy and IT: Masters graduates will show an ability to practise a wide range of advanced and specialised skills both generally and in medical education. They will be able to communicate effectively with peers and more senior colleagues, including those versed in specialisms in medical education. They will be able to operate confidently numerically and graphically to the extent required by medical education and some of its specialisms;

vi Autonomy, accountability and working with others: Masters graduates will show the ability to work with very substantial autonomy in all or most of the professional activities associated with medical education. These might cover critical processes such as analysis, diagnosis, design, planning, execution and evaluation.

They will be able to take significant responsibility for the work of others, including managers, and for a range of resources. Masters graduates will be able to work effectively with qualified practitioners and demonstrate leadership in tackling and solving problems. They will be able to use these skills to determine and achieve personal and group outcomes.

For guidance the taught Masters dissertation should be approximately 10,000-15,000 words.

vii Guidelines for writing a Masters proposal: Writing a research protocol is a skill in itself and a good proposal requires a degree of effort. This is not time wasted. The planning and clarification process that takes place in the writing of any proposal allows you to focus on and define useful research questions which will contribute to the knowledge base of medical education.

In writing your proposal you must consider what you wish the proposal to achieve. In this case, you are trying to convince a group of academics that your project has the potential to offer something new to the literature of medical education. You are also trying to convince your readers that you are committed to the exercise and that you have the skills and knowledge with which to undertake the project. Your readers will also be looking for evidence of your ability to express yourself clearly and concisely.

Generally, the headings for the proposal should follow the outline below. There are no requirements regarding format other than legibility. However, reviewing the material for grammatical or spelling errors prior to submission is recommended. The proposal should not be too lengthy; the ideal is between 500-1000 words.

Members of the Board of Studies will consider whether you have answered the following questions when reviewing your proposal:

- is there a clearly identified Medical Education topic?
- is there enough substance to the project?
- is there an appropriate methodology identified?
- is there an accessible large population identified if appropriate?
- is the sample frame properly drawn?
- are there any ethical issues that need to be dealt with?

Ethics Approval – required at proposal stage – please refer to item 4.9
Layout

These are suggested headings for the various sections of the proposal.

• A working title

• The rationale underlying the research
  – why is it important
  – why does it need doing
  – what does it contribute to the knowledge base

• Details of the research question(s)

• An overview of the existing research in this area
  – If you have read insufficient literature in your area to enable your writing an overview, define the area of the literature search and the key words you would use to undertake your search.

• Methodology
  – the methods that might be used to address the research questions
  – the sources of information eg type of sample
  – the size of the sample required for useful data
  – how the data would be analysed

• Timeline – this should outline the timescale and sequence of the research

• Outcomes – a statement of what you anticipate the outcomes will be for example
  – a new course
  – a report to a higher authority
  – a new curriculum design

• Costings – if relevant

• Short Bibliography (Harvard style)

NB. All those intending to do the Masters must successfully complete R7 ‘Developing a research proposal’.

4.8 THE ROLE OF THE DISSERTATION SUPERVISOR

Each student undertaking the taught postgraduate dissertation will be allocated a supervisor to give guidance and support in terms of both content and presentation of your work. You are reminded, however, that the production of the dissertation is your sole responsibility whatever the level of support and advice that is offered.

It is only in exceptional circumstances that examiners will allow for the re-presentation of taught postgraduate dissertations. If allowed, a taught postgraduate dissertation or project can only be re-presented for examination on one further occasion (except with the permission of the Senate).

Your supervisor will be in touch with you once the Board of Studies has accepted your proposal in general terms.

Your supervisor will:

• guide you in focusing the study, and in drawing up a written plan or timetable and outline for the dissertation, to ensure that a manageable piece of work is envisaged;

• establish and record in writing effective means of communication with you;

• ensure that you have the resources required to complete the projected work;

• advise you on relevant literature, and, where appropriate, on methodology;
• monitor progress against the agreed plan and timetable for the work and take appropriate action as laid down in the Course Handbook if you do not keep in contact;

• read and comment on draft chapters of the dissertation where appropriate and applicable. It is generally preferable that this be done in stages with the supervisor seeing at least some draft chapters early on, as they are written, so that you can incorporate any feedback into subsequent writing;

• where relevant, advise on ethical and safety implications of the work.

If extracts from your Masters dissertation are to be submitted for publication it is expected that the supervisor will normally be a co-author. You should, however, discuss the paper in detail with your supervisor and agree how their contribution is to be acknowledged.

4.9 ETHICS ISSUES

The author must consider the ethical issues relating to their research and discuss how these will be addressed in their proposal. Educational researchers should review the SERA/BERA guidelines which offer useful advice.

  http://www.sera.ac.uk/docs/00current/SERA%20Ethical%20GuidelinesWeb.PDF
  http://www.bera.ac.uk/publications/pdfs/ETHICA1.PDF

Ethical approval is usually required for all research involving people and obtaining that approval is the individual’s responsibility, although your supervisor will assist as far as is possible. CME accepts that local procedures may apply, particularly for overseas participants, but requires the action taken to be detailed in the proposal.

Those working within the NHS must consult their Local Research Ethics Committee (LREC) if an NHS site is the site of any research and/or if any NHS employee is involved as a participant in the research. While purely educational research may be approved by an LREC by chairman’s action, in some cases the full procedure will be followed. This may require identification of a sponsor; this requires formal action by the University of Dundee and contact with your supervisor is required before you embark on your research.
5.1 REGULATIONS FOR POSTGRADUATE CERTIFICATE, DIPLOMA AND MASTERS COURSES IN MEDICAL EDUCATION (PG CERT MED ED/PG DIP MED ED/MMED)

GENERAL

1(1) All awards will be made on the basis of the accumulation of SCOTCAT (Level 11) credits. The Postgraduate Certificate requires 60 credits; the Diploma requires 120 credits and the MMEd requires 180 credits.

1(2) Each award must include successful completion of all the modules and other assessed work required for that award.

2 A candidate must undertake a course of instruction and research approved by the Faculty Board of Medicine, Dentistry & Nursing comprised of subjects listed from time to time in the syllabus of courses for the programme published in the Course Handbook.

ADMISSION

3(1) A candidate for admission to the programme must have attended a University, or other institution approved by the Faculty Board and must:

   a) have obtained a first degree in a healthcare discipline or other equivalent qualification acceptable to the Course Director; and

   b) in the case of an international applicant, demonstrate competence in English language at a level satisfactory to the University (IELTS 6.5 or TOEFL Paper 575 and TOEFL Computer 250 for postgraduate certificate and diploma level applicants, and IELTS 7, TOEFL Paper 600 and TOEFL Computer 263 for Masters level applicants).

3(2) A candidate shall be required to matriculate in each year of study and pay the required fee.

MODE OF STUDY

4 The course of study for each or any of the awards may be undertaken on a full-time or part-time basis or by distance learning.

PROGRESS

5(1) A candidate whose performance of the work of the course is deemed by the course director, in consultation with the examiners, to be unsatisfactory may be required to discontinue studies at any time during the programme.

5(2) No candidate may progress to the Postgraduate Diploma without having successfully completed the requirements for the award of the Postgraduate Certificate.

5(3) No candidate may progress to the MMEd without having successfully completed the requirements for the award of the Postgraduate Diploma at a level satisfactory to the Course Director.
GRADUATION
6(1) The University of Dundee holds two graduation ceremonies each year, one in June and one in November.
6(2) All candidates whose awards are confirmed at the May Senate of the University of Dundee will be invited to attend the graduation ceremony in June. All candidates whose awards are confirmed at the October Senate of the University of Dundee will be invited to attend the graduation ceremony in November.
6(3) Candidates may only attend the graduation ceremony to which they are invited.
6(4) All candidates will be required to pay a one-off graduation fee (currently £40) to the University of Dundee upon receipt of their first award. There will be no charge imposed for subsequent awards.

POSTGRADUATE CERTIFICATE IN MEDICAL EDUCATION

DURATION OF STUDY
6(1) A candidate must undertake a course of study equivalent to 600 hours of notional student effort or 15 weeks of full-time study.
6(2) The maximum period of study to complete the requirements for the award of the Postgraduate Certificate shall be four years.
6(3) In exceptional circumstances and with sufficient cause, the period of study may be extended by up to one additional year with the approval of the Board of Studies for the programme on the recommendation of the Course Director.

CURRICULUM
7(1) The course of study for the Postgraduate Certificate shall consist of a minimum of 20 units, each worth 3 credits, from the following themes: curriculum development; teaching & learning; assessment; research; special options.
7(2) A candidate must complete 10 core units and 10 optional units from those prescribed from time to time in the Course Handbook and approved by the Faculty Board.

ASSESSMENT
8(1) Each unit will be assessed on the basis of an assignment, the form of which shall be prescribed by the Board of Studies.
8(2) In order to complete the requirements for the award of the Postgraduate Certificate, a candidate must satisfy the examiners in all of the units for assessment.
8(3) A candidate will be required to satisfy the course director that each assignment submitted is his or her own work.

EXEMPTION
9 A candidate may be exempted from up to 6 units on the basis of the accreditation of prior learning with the approval of the Board of Studies.
POSTGRADUATE DIPLOMA IN MEDICAL EDUCATION

DURATION OF STUDY
10(1) A candidate must undertake a course of study equivalent to 1200 hours of notional student effort or 30 weeks of full-time study.
10(2) The maximum period of study to complete the requirements for the award of the Postgraduate Diploma shall be four years.
10(3) In exceptional circumstances and with sufficient cause, the period of study may be extended by up to one additional year with the approval of the Board of Studies on the recommendation of the Course Director.

CURRICULUM
11(1) The course of study for the Postgraduate Diploma shall consist of a minimum of 40 units, each worth 3 credits, from the following themes: curriculum development; teaching & learning; assessment; research; special options.
11(2) A candidate must complete 12 core units and 28 optional units from those prescribed from time to time in the Course Handbook and approved by the Faculty Board.

ASSESSMENT
12(1) Each unit will be assessed on the basis of an assignment, the form of which shall be prescribed by the Board of Studies.
12(2) In order to complete the requirements for the award of the Postgraduate Diploma, a candidate must satisfy the examiners in all of the units for assessment.
12(3) A candidate will be required to satisfy the Course Director that each assignment submitted is his or her own work.

EXEMPTION
13 A candidate may be exempted from up to 12 units on the basis of the accreditation of prior learning with the approval of the Board of Studies.

MASTER OF MEDICAL EDUCATION

DURATION OF STUDY
14(1) A candidate must undertake a course of study equivalent to 1800 hours of notional student effort or 45 weeks of full-time study.
14(2) The maximum period of study to complete the requirements for the award of the degree shall be six years.
14(3) In exceptional circumstances and with sufficient cause, the period of study may be extended by up to one additional year with the approval of the Board of Studies on the recommendation of the Course Director.

CURRICULUM
15(1) The course of study for the Masters degree shall consist of a minimum of 40 units, each worth 3 credits, from the following themes: curriculum development; teaching & learning; assessment; research; special options.
15(2) In addition, a candidate must undertake a research project on a subject approved by the Course Director and submit a dissertation, the nature and form of which shall be as prescribed in the Course Handbook and normally of a length of between 10,000 and 15,000 words.
SUPervision

16 Each candidate will be allocated an academic supervisor and shall report at such times and in such manner as the supervisor may require and academic progress will be monitored at regular stages during the research project.

Assessment

17(1) Each unit will be assessed on the basis of an assignment, the form of which shall be prescribed by the Board of Studies.

17(2) In order to complete the requirements for the award of the Masters degree, a candidate must satisfy the examiners in all of the units for assessment and the dissertation.

17(3) The degree may be awarded with distinction to a candidate whose performance is outstanding at the discretion of the Board of Examiners in consultation with the external examiner.

Exemption

A candidate may be exempted from up to 12 units on the basis of the accreditation of prior learning with the approval of the Board of Studies.
There are tutors for each of the five course themes:

- Curriculum development: Mrs Sue Roff
- Teaching and learning: Mrs Susie Schofield
- Assessment: Dr Sean McAleer
- Research: Dr Sean McAleer
- Special Options: Mrs Sue Roff

Tutors are available to advise distance learners by:

- Telephone: +44 (0)1382 381952
- Fax: +44 (0)1382 645748
- Email: n.z.brown@dundee.ac.uk

Information about the course tutors and teaching staff is provided below.

### 6.1 Course Tutors and Teaching Staff

**Professor Charlotte Rees**  
BSc(Hons) MEd PhD CPsychol

Charlotte Rees is Director of the Centre for Medical Education and Professor of Education Research across the College of Medicine, Dentistry & Nursing, University of Dundee. Prior to joining the Centre in February 2010, she was Associate Professor in Medical Education and Director of Educational Research at the Sydney Medical School, University of Sydney, Australia (2007-2010) and Senior Lecturer and Foundation Academic Lead in Human Sciences, Communication Skills and Personal and Professional Development at Peninsula Medical School, Universities of Exeter & Plymouth, UK (2002-2007). At Peninsula she introduced numerous innovations in curriculum design, teaching, learning and assessment such as a 5-year longitudinal professionalism portfolio for undergraduate medical students and multi-source feedback of their professionalism behaviors.

For almost ten years, she has developed a program of research about patient-centred professionalism in medical education. Her current and future plans for research include exploring healthcare students’ professional identity formation and professionalism, student-patient-tutor interaction in the healthcare workplace, and health and social care service user involvement in education.

With well over 100 peer-reviewed journal articles, conference papers, and book chapters, she has published widely in a broad range of journals including Medical Education, Academic Medicine, Social Science & Medicine, Communication & Medicine and Qualitative Health Research. She is Deputy Editor for Medical Education, the highest ranked journal in its field.

Professor Rees chairs the board of studies for the Dundee medical education courses, and contributes to the curriculum design, teaching and assessment of research components of the course including supervising Masters students. She also runs workshops in medical education at local, national and international levels. She also supervises PhD students.

She is a Chartered Psychologist and fellow of the HEA.

**Dr Sean McAleer**  
BSc DPhil

Sean McAleer is the Course Director in medical education with a background in psychology. He has been active in medical education for over fifteen years. His specialist interests are in the areas of assessment and research methodology. Sean is currently exploring issues relating to learning environment, motivation and work-based assessment in both undergraduate and postgraduate education.

His main role at the Centre is teaching on the various courses, coupled with a major supervisory input at Masters and PhD level. He has particular expertise in questionnaire design, statistics and learning styles. He is a fellow of the HEA.
MRS SUE ROFF  BA(Hons) MA

Sue Roff is a social scientist who has worked in the fields of educational and medical sociology in Australia, the US and the UK. She is particularly interested in action research in educational settings and has co-developed educational environments instrument for undergraduate, postgraduate and specialties in the health professions that are widely used throughout the world. She also works in the area of educational innovation and change, particularly in relation to curriculum design, development and implementation. After teaching high school and in a postgraduate teacher training programme in Australia, she worked in New York as educational consultant to foundations specialising in designing appropriate programmes for teenage parents which were adopted by the New York City Board of Education. She co-wrote a high school resource book for social studies with master teachers from New York State, which relies on primary sources.

Since 2001 she has been a lay member of the Fitness to Practice Committee of the General Medical Council and since 2003 the Scottish lay member of the Postgraduate Medical Education and Training Board which will assume statutory responsibility for certification of postgraduate doctors in late 2005. She also serves on the Unrelated Live Transplants Regulatory Authority as deputy non-clinical scientist member of the Tayside Local Ethics Research Committee. She co-convenes a Special Study Module in the undergraduate curriculum on Ethics and Law in Medicine and has published in the area of human subject research.

MR JOHN DENT  MMed MD HEA FRCSed

John Dent is Reader in the University department of Orthopaedics and Trauma Surgery and a part-time contributor to the postgraduate courses taught at the Centre for Medical Education. Having a clinical appointment in which he also teaches on the Masters of Orthopaedics Surgery course he is especially interested in the clinical teaching units run by the centre. Although his interests are in practical teaching in general, he is particularly interested in clinical skills teaching where he has had extensive experience in the undergraduate medical curriculum.

John has been convenor of the phase II undergraduate programme committee, examinations convenor and, over the years, has been able to develop teaching initiatives in clinical skills, ambulatory care and day surgery settings. He is currently convenor of the undergraduate Musculoskeletal system programme in the medical school.

For the Royal College of Surgeons of Edinburgh John has been a tutor on Fellowship training courses in several centres overseas and has been an examiner for the College for many years for both Fellowship and Membership examinations. He is currently an external examiner in the new medical school at the University of East Anglia and at the School of Podiatry in Queen Margaret University College, Edinburgh.

With Professor Ronald Harden, John is co-editor of the successful, “A Practical Guide for Medical Teachers” a valuable resource book for the Centre’s courses in Medical Education.

MRS SUSIE SCHOFIELD  BSc PGCE MSc

Susie’s background is in computing, as developer, researcher and lecturer, in industry, the NHS and higher education. She joined the Centre in 2006, and has been working extensively with NHS staff supporting the Dundee undergraduate curriculum. Her interests are in staff development, the use of technology to support learning, and peer tutoring.

DR MADAWA CHANDRATILAKE  MBBS MMed

Dr Madawa Chandratilake joined the Centre for Medical Education in September 2008 to carry out research activities and to contribute to the programme of courses in medical education. He graduated with his Masters degree in medical education from the University of Dundee in July 2008 gaining distinction. Madawa graduated MBBS from the University of Colombo and is a lecturer in medical education at the University of Kelaniya, Sri Lanka. In his PhD project, he is looking at student performance in Student Selected Components in the undergraduate medical curriculum.
MR KEITH BAXBY  BSc MBBS FRC(Eng and Ed)
Keith Baxby was consultant Urologist at Ninewells Hospital and Medical School. He has had a special interest in undergraduate medical education for many years. He is involved in marking the units written specifically for surgeons.

MISS PETA DUNKLEY  MB BS MBA FRCs
After a clinical career in plastic surgery, Peta worked as a Senior Lecturer and Associate Director of the Surgical Skills Unit at Ninewells Hospital Medical School. This Unit was established in response to the introduction of minimal access techniques and developed to provide practical training across a range of disciplines. She has an interest in practical skills teaching and assessment and the use (and abuse) of simulation.

DR RONNIE GLAVIN  MBChB MPhil FRCA
Consultant Anaesthetist, Victoria Infirmary, South Glasgow University Hospitals Trust (since 1989) Educational Co-director, Scottish Clinical Simulation Centre, Stirling Royal Infirmary, Stirling (since 1997). Ronnie’s main areas of interest include workplace-based assessment, especially in the ‘softer areas’ such as attitudes, values, professionalism etc. He is also interested in how professionals utilise their abilities and process their knowledge and understanding.

DR DAVID GREAVES  MBChB MMed
David is Head of the Northern School of Anaesthesia and is Consultant Anaesthetist at the Royal Victoria Infirmary in Newcastle Upon Tyne. Previously he worked for over 15 years in a small district general hospital (Wansbeck Hospital, Northumberland) where he developed an interest in theatre teaching work with a small establishment of only first year SHOs.

DR SHIHAB KHOGALI  MMed (Distinction) PhD MB BS FHEA
Shihab is Clinical Senior Lecturer in Medical Education at the University of Dundee with a range of roles within the undergraduate medical curriculum. He has more than twenty years experience in teaching and learning; and more than ten years experience in curriculum design, development, implementation and management. He is currently Convener for the Cardiovascular Course, Coordinator for Phase 1 PBL programme, Academic Lead for Phase 1 OSCE, a tutor in Clinical Skills, and the Lead for Physiology teaching in the Dundee undergraduate medical curriculum. He is also the Representative for Teaching and Learning in the Undergraduate Medical Education Committee – UMEC (which sets the strategic direction for the delivery and assessment of the course and develops the Teaching and Learning Plan) at Dundee Medical School.

Presently, he’s an External Examiner for the MB BS Graduate Entry Programme at the Barts and The London School of Medicine and Dentistry. Queen Mary University of London. He is also a member of the Educator Development Group (EDG) of the ASME.

He previously led and developed the Integrated Teaching Unit during the implementation of a new undergraduate medical curriculum at the University of Dundee. He was also Co-Director for the Harvey Resource Centre and a Coordinator for the Cardiology Reusable Learning Objects during the feasibility study for the International Virtual Medical School (IVMEDS); and he led the implementation and the integration of IVMEDS e-resources into the Dundee undergraduate medical curriculum.

MRS JULIE MCDONALD  BDS MA(ED)
Julie’s background is in dentistry, educational technology and instructional design. Her special interest is in computer mediated learning, evaluation of computer mediated continuing professional development for health professionals and the delivery of education using mobile appliances.
DR GOMINDA PONNAMPERUMA  MBBS DipPsychology MMed PhD
Gominda has been working with the Centre for Medical Education’s face-to-face and distance courses for the past five years. He has research interests in assessment, course evaluation, and curriculum development. His PhD research is on designing and evaluating a medical school selection test for Dundee Medical School. Gominda is currently attached to the Faculty of Medicine, University of Colombo, Sri Lanka.

DR GORDON WATSON  PhD
Gordon has been working in undergraduate medical education for 25 years. He enjoys working across and exploring the boundaries of undergraduate and postgraduate studies. His interests are in curriculum development, assessment and clinical skills development. He has been working actively in the evaluation of teaching and learning, research and the development of new curricula with the NHS.

6.2 SUPPORT STAFF FOR THE MEDICAL EDUCATION COURSES

NAOMI BROWN  (Course Administrator)
Undertakes course administration and provides support for face-to-face course participants. Deals with course enquiries and applications.

ALISSA JONES NELSON  (Course Administrative Assistant)
Undertakes administration of matriculation procedures, payment of course fees, and enquiries.

SUSAN WALKER  (Course Secretary)
Deals with administration of course assignments, units, and enquiries.

ALISON CAMERON  (Print Room Assistant)
Undertakes the printing and distribution of course units and assignments to participants.

DON CATHCART  (Departmental Technician)
Supplies computing support for course participants and supports the face-to-face teaching.

LYNN THOMSON  (Print & Design / Web Administrator)
Designs the course units, teaching and advertising materials. Also maintains the Centre for Medical Education website.

6.3 RESOURCES
Participants are supplied with course materials that include essential reading for each unit. Recent copyright legislation has been adhered to, in the supply of learning material. We regret that copyright legislation precludes staff members photocopying journal articles for participants’ use.

Those participants however, who wish to undertake further study of a particular topic can access the University of Dundee’s library resources electronically.

Face-to-face participants have access to a range of resources in Tay Park House, the Centre’s base in Dundee, in the main University campus and in Ninewells Hospital and Medical School. Participants are introduced to these resources in an induction pack which is provided on arrival. There’s also an induction session to the Centre for Medical Education as well as one to the University of Dundee for postgraduate students which is held in association with matriculation every year.
TAY PARK HOUSE resources include:

- A study room, open weekdays 0845 until 1900 and thereafter and at weekends by special arrangement. Facilities include ten network computer terminals, two printers, a photocopier and lockers;
- The Centre’s library, accessible during the same hours as the study room. It houses an extensive selection of books, journals and videos. Books and offprints are catalogued on the Refman database, a useful tool for those undertaking a literature search;
- A coffee room providing catering facilities and housing magazines, periodicals, newsletters and reports;
- Two well equipped seminar rooms with a wide range of facilities that includes slide and overhead projectors and screens, white boards, flip charts, video recording and playback equipment and data projectors;
- Tay Park House itself provides an attractive and informal learning environment with close proximity to the University of Dundee botanical gardens for walks and informal dining.

NINEWELLS HOSPITAL & MEDICAL SCHOOL resources include:

- The medical library open daily from 0900-2200 and on Saturdays 00-1700. Students can also access the School of Nursing and Midwifery library at Ninewells;
- A computing suite where postgraduate students have access to network computer facilities;
- The Ian Low Centre, a staff/student recreational facility that provides a meeting place for students and refreshments to eat-in or take-away.

MAIN UNIVERSITY CAMPUS resources include:

- The main University library;
- The Centre for Applied Language Studies, which provides written and spoken English classes for overseas postgraduate students;
- Information Technology suit;
- Student Advisory Service, which runs an international students service publishing regular newsletters for overseas students;
- Sports facilities;
- Dundee University Students’ Association;
- University Student Health Service;
- University Chaplaincy Centre.

UNIVERSITY LIBRARY resources available to distance learners:

The University Library provides access to a selection of resources to support distance learners. Access to most of these resources is through UK Federation System. To set up your account, you will require a University of Dundee Username and Password which will be issued to you after matriculation.

- OVID Online, which allows you to search several key databases in nursing, midwifery and health. The databases available through OVID Online are CINAHL, Medline and British Nursing Index. These databases provide references to journal articles and other material published in thousands of journals across the world. Some of these articles may be available in full-text.
- Web of Knowledge, which provides access to Science Citation Index and Social Science Citation Index, two in-depth databases aimed at students and staff conducting research.
- Dialog Education@Site, a selection of databases providing links to articles in Education. The databases available are ERIC, British Education Index and Australian Education Index.
• **Netlibrary**, a collection of several thousand electronic books in a range of subjects. These can be 'borrowed' by reading them via the Internet.

• **Cochrane Library**, a source of regularly-updated evidence-based information on the effects of interventions in health care.

• **Science Direct**, a collection of several thousand electronic journals in science-based subjects. There are many electronic journals available in the subjects of nursing, health and medicine.

• **BMJ Journals**, another collection of electronic journals aimed at students of medicine and health.

• **Ingenta Full-text Journals**, another large collection of electronic journals in health & medicine.

**Additional services open to distance learning students include:**

• **UK Libraries Plus**, a co-operative service between higher education libraries, enabling distance learning students to borrow material from other HE libraries in the UK. Participants on the Certificate, Diploma and Masters in Medical Education can use UK Libraries Plus and may join up to three libraries as a borrower. Students may apply to borrow books from the general lending stock but the host library may restrict the range of materials that can be borrowed (eg audiovisual or short loan material). Distance learning students registering to borrow under UK Libraries Plus apply to their home library in person or by post stating which library or libraries (upto a maximum of three) they wish to use. A registration form can be downloaded from the UK Libraries Plus web site at: [http://www.uklibrariesplus.ac.uk/](http://www.uklibrariesplus.ac.uk/) or you can obtain copies at your home library. You need to complete one form for each library you wish to use. When each form is complete, half of it will be validated for individuals to take to the library they wish to use. The form will be exchanged for a library card by the host library who will require the home library card to be shown (ie University of Dundee matriculation card). They may also require you to complete their library registration form and may require you to supply a photograph.

• Support from Dundee University Library staff is available via email or telephone. Contact either Andy Jackson ([a.z.jackson@dundee.ac.uk](mailto:a.z.jackson@dundee.ac.uk)) or Margaret Forrest ([m.e.s.forrest@dundee.ac.uk](mailto:m.e.s.forrest@dundee.ac.uk)) for information on nursing & health-related resources, or Donald Orrock ([d.a.orrock@dundee.ac.uk](mailto:d.a.orrock@dundee.ac.uk)) for queries regarding medicine or related subjects.

• The University Library website contains a number of pages of information for distance learners. Go to [www.dundee.ac.uk/library](http://www.dundee.ac.uk/library) for more information.
7.1 QUALITY ASSURANCE

The medical education programme of courses is included in the University of Dundee’s quality assurance procedures. The course was first offered in 1994 and has recently undergone a five-year programme review. The review panel identified the following programme strengths:

- Flexible structure of the programme: units based on core and options;
- Practitioners can customise programme units to suit needs, professional circumstances and next steps;
- Courses easily accessible from home and abroad;
- Flexible entry and exit points clearly defined;
- Tutors easily accessible;
- Staff team enthusiastic, committed and endeavour to keep course under constant review;
- Course units under systematic review based on outcomes philosophy;
- International reputation of courses and course delivery approaches;
- Overall, course units and structure sound and well-tested;
- Sound success of overall course aims and objectives.

7.2 COURSE EVALUATION

Participants who complete the Postgraduate Certificate, Diploma or Masters courses are asked to participate in a course evaluation. Evaluation forms are sent out electronically or by postal mail. Taught components of the course and distance learning units are evaluated individually. The participant evaluation questionnaires are analysed on an annual basis and used for fine-tuning of distance learning material, changes in teaching methods for the face-to-face teaching and for developing additional course units and alternative unit assignments.

7.3 MONITORING THE IMPACT AND EFFECTIVENESS OF COURSE

A questionnaire survey of Masters graduates was carried out in the 1998-1999 academic year, to monitor the impact and effectiveness of the Masters course. The work was carried out by one of our participants for her Masters’ qualification.

<table>
<thead>
<tr>
<th>Satisfaction with course</th>
<th>Agree</th>
<th>Uncertain</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Met my needs</td>
<td>98%</td>
<td>2%</td>
<td>-</td>
</tr>
<tr>
<td>Cope better with educational aspects of job</td>
<td>92%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Recommend the course</td>
<td>92%</td>
<td>4%</td>
<td>4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Involvement in Undergraduate Teaching</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical practical teacher</td>
<td>76%</td>
<td>79%</td>
</tr>
<tr>
<td>Lecturer</td>
<td>70%</td>
<td>75%</td>
</tr>
<tr>
<td>Learning facilitator</td>
<td>58%</td>
<td>85%</td>
</tr>
<tr>
<td>Mentor</td>
<td>48%</td>
<td>77%</td>
</tr>
<tr>
<td>Student assessor</td>
<td>73%</td>
<td>79%</td>
</tr>
<tr>
<td>Curriculum evaluator</td>
<td>44%</td>
<td>72%</td>
</tr>
<tr>
<td>Curriculum planner</td>
<td>51%</td>
<td>89%</td>
</tr>
<tr>
<td>Course organiser</td>
<td>42%</td>
<td>70%</td>
</tr>
<tr>
<td>Study guide producer</td>
<td>33%</td>
<td>52%</td>
</tr>
<tr>
<td>Resource material creator</td>
<td>50%</td>
<td>68%</td>
</tr>
<tr>
<td>Student selector</td>
<td>57%</td>
<td>65%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Involvement in Postgraduate Teaching</th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical practical teacher</td>
<td>56%</td>
<td>69%</td>
</tr>
<tr>
<td>Lecturer</td>
<td>61%</td>
<td>76%</td>
</tr>
<tr>
<td>Learning facilitator</td>
<td>69%</td>
<td>84%</td>
</tr>
<tr>
<td>Mentor</td>
<td>50%</td>
<td>72%</td>
</tr>
<tr>
<td>Student assessor</td>
<td>57%</td>
<td>73%</td>
</tr>
<tr>
<td>Curriculum evaluator</td>
<td>47%</td>
<td>67%</td>
</tr>
<tr>
<td>Curriculum planner</td>
<td>55%</td>
<td>77%</td>
</tr>
<tr>
<td>Course organiser</td>
<td>53%</td>
<td>72%</td>
</tr>
<tr>
<td>Study guide producer</td>
<td>38%</td>
<td>44%</td>
</tr>
<tr>
<td>Resource material creator</td>
<td>48%</td>
<td>61%</td>
</tr>
<tr>
<td>Student selector</td>
<td>53%</td>
<td>67%</td>
</tr>
</tbody>
</table>
Impact of the Masters qualification: summary of results

- Careers benefited
- Management/organisational responsibilities increased
- Increased involvement in teaching
- Participated in educational research
- Produced publications in medical education
- Coped better with educational roles
- Enabled graduates to make an impact at institutional and national levels
- Enhanced self confidence
- Increased knowledge base

The 2007-2008 Evaluation

- A more recent evaluation was carried out in 2007-2008 which targeted graduates of both the postgraduate certificate and Masters between 1998 and 2006. Masters graduates cited increased involvement in the following undergraduate roles: Clinical Teacher, Lecturer, Learning Facilitator, Mentor, Student Assessor, Curriculum Evaluator, Curriculum Planner, Course Organiser, Study Guide Producer, Resource Material Creator, Student Selector, Role Model in Specialty, Role Model in Teaching. Similar significant changes were found in postgraduate roles
- Graduates claimed that the Masters offered them new opportunities and provided increased responsibilities in their careers
- Nearly two thirds of graduates felt that the degree allowed them to take on a more positive outlook towards their job and themselves. Ninety seven percent agreed that the course met their needs, 97% felt that the course content was relevant, and 98% were happy with the format
- At Postgraduate Certificate level fairly similar findings emerged.

<table>
<thead>
<tr>
<th>The Masters impact on personal and career development</th>
<th>Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouraged reflection as a teacher</td>
<td>92%</td>
</tr>
<tr>
<td>Increased confidence</td>
<td>88%</td>
</tr>
<tr>
<td>Increased credibility as a medical educationalist</td>
<td>89%</td>
</tr>
<tr>
<td>Increased credibility as a professional</td>
<td>74%</td>
</tr>
<tr>
<td>Offered new career opportunities</td>
<td>79%</td>
</tr>
<tr>
<td>Helped with promotion</td>
<td>51%</td>
</tr>
<tr>
<td>Increased level of responsibility</td>
<td>74%</td>
</tr>
</tbody>
</table>
MANAGEMENT AND ORGANISATION OF THE COURSE

8.1 THE BOARD OF STUDIES AND ITS REMIT

All staff who normally teach on the course are members of the Board of Studies. There is also a student representative and representatives of the Royal College of Anaesthetists. The members are:

- Professor Charlotte Rees (chair)
- Dr Sean McAleer
- Mrs Sue Roff
- Mr John Dent
- Mrs Susie Schofield
- Dr Madawa Chandratilake
- A student representative
- Dr David Greaves / Dr Ronnie Glavin from the Royal College of Anaesthetists

The Board of Studies is responsible for:

- Academic development of the courses;
- Approval of course material for submission to the Medical School Board of Studies through the Medical School Academic Standards Committee;
- Teaching and assessment issues;
- Academic standards;
- Planning face-to-face teaching in Dundee and on-site workshops;
- Decisions regarding acceptance of participants as appropriate.

8.2 THE BOARD OF EXAMINERS

The Board of Examiners comprises of the courses Board of Studies and the external examiners. It is responsible for decisions regarding the award of qualifications. It meets twice annually in May and October, and is attended by one and sometimes two external examiners.

NB. All assignments must be submitted and passed by April for a June graduation, or by September for a November graduation.

8.3 EXTERNAL EXAMINERS

8.3.1 THE ROLE OF THE EXTERNAL EXAMINERS

The external examiners have a key role in the ongoing development and direction of the courses. They advise on further developments, content areas, the quality of the feedback provided to participants, assessment methods and standards issues. Before the annual meeting of the Board of Examiners they are provided with the courses’ materials, assignment requirements and the completed assignments of all the participants who have completed the Postgraduate Certificate, Diploma and Masters courses requirements during the academic year both by distance learning and by face-to-face teaching. Examples of work regarded by the tutors marking the assignments as pass, borderline and failing to meet the standard are provided and read by the external examiners. The standards achieved by these participants are discussed at the examiners meeting. Random selections of the assignments are scrutinised and advice provided regarding the quality of the participants’ work, the feedback given to the participant by the tutor and the overall appropriateness of the standard achieved.
External examiners have three specific roles with regard to student assessment.

1. To advise on the appropriateness of the marking standard applied to Postgraduate Certificate and Diploma assignments. This is carried out annually at the Board of Examiners Meetings. Once a tutor has awarded a pass to an individual assignment, however, this cannot be revoked.

2. To assess the taught Masters dissertation. The external examiner allocates the appropriate category for each dissertation:
   i. the degree be awarded to the candidate;
   ii. the degree be awarded with distinction;
   iii. the dissertation be accepted for the degree of MMEd subject to minor corrections being made by the candidate and approved by the convenor of the examining committee;
   iv. the dissertation has not achieved the standard required.

   The decision of the external examiner is final. Should there be a difference in opinion between the internal and external examiners regarding the grading of a dissertation, the opinion of the external examiner supersedes that of the internal examiner. Where the external examiner wishes to make the Masters award with distinction, a second external examiner should be appointed.

3. To provide additional advice where appropriate and necessary, on the acceptance of individual applicants to the PhD programme, based on their Masters dissertations.

### 8.3.2 CURRENT EXTERNAL EXAMINERS FOR THE TAUGHT MASTERS AWARD

- **Professor Trudie Roberts**  (appointed October 2006)
  Professor of Medical Education, Head of School of Medicine, Leeds Hospital Trust

- **Professor Judy McKimm**  (appointed August 2007)
  Professor of Medical Education, The University of Auckland, New Zealand.

- **Dr David Taylor**  (appointed May 2008)
  Deputy Director of Medical Studies, University of Liverpool

- **Professor David Wall**  (appointed March 2009)
  Deputy Regional Postgraduate Dean, West Midlands Deanery

- **Professor John McLachlan**  (appointed March 2009)
  Associate Dean of Undergraduate Medicine, Durham University
8.4 ACCREDITATION OF PRIOR LEARNING

In keeping with the University of Dundee guidelines for accreditation of prior learning within the SCOCAT framework, applicants for the courses may submit evidence of participation in assessed courses, part qualifications and full qualifications obtained elsewhere for consideration as a partial contribution towards completion of the course for which they have applied.

The evidence submitted should provide documentary proof of prior assessed learning and should be sufficiently detailed for a sub-group of the Board of Studies to make a judgement as to whether the prior learning is acceptable as an element of the award. The sub-group comprises the Chairman of the Board of Studies and two members of the Board of Studies.

The documentary evidence should be submitted at the time of application to the course, and acceptance on to the course will be accompanied by a statement of the number of credits awarded for the prior learning.

A charge is made for accreditation of prior learning, currently £55 per participant, and participants may make only one submission.

All participants in the Postgraduate Certificate course must, however, complete all core units for the course. The maximum number of credits awardable under accreditation of prior learning is 18.

All participants in the Postgraduate Diploma course must complete all core units. The maximum number of credits awardable under accreditation of prior learning is 36.

All participants in the taught Masters must complete the requirements for the Postgraduate Diploma course as identified above. They must also complete their project under supervision by a member of the Medical Education Board of Studies.
PROGRESS THROUGH THE COURSES

Participants who undergo a change in their circumstances may apply for a suspension in their studies and opt out of the course for a period of time. Applications for a suspension should be made via the Course Administrator (by mail):

Course Administrator
Centre for Medical Education
Tay Park House
484 Perth Road
Dundee DD2 1LR
Scotland, UK

Tel: +44 (0)1382 381952
Fax: +44 (0)1382 645748
Email: c.m.e.courses@dundee.ac.uk
COURSE FEES: SESSION 2011/2012

Fees are set annually in line with University of Dundee guidelines and by discussion with the Registry and Admissions Office at the University of Dundee.

Distance Learning Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>UK/EU</th>
<th>Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate Certificate course</td>
<td>£ 2100</td>
<td>£ 2300</td>
</tr>
<tr>
<td>Postgraduate Diploma course</td>
<td>£ 4000</td>
<td>£ 4200</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>£ 5600</td>
<td>£ 5800</td>
</tr>
<tr>
<td>Postgraduate Certificate for General Practitioners</td>
<td>£ 1900</td>
<td>£ 1900</td>
</tr>
<tr>
<td>Postgraduate Certificate for Surgeons</td>
<td>£ 1900</td>
<td>£ 1900</td>
</tr>
<tr>
<td>Postgraduate Certificate for Anaesthetists</td>
<td>£ 1900</td>
<td>£ 1900</td>
</tr>
<tr>
<td>($1500 payable to ‘University of Dundee’ and £400 payable to ‘RCA Newcastle’)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Face-to-Face Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>UK/EU</th>
<th>Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postgraduate Certificate course</td>
<td>£ 3400</td>
<td>£ 3400</td>
</tr>
<tr>
<td>Postgraduate Diploma course</td>
<td>£ 6700</td>
<td>£ 6700</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>£ 9400</td>
<td>£ 9400</td>
</tr>
</tbody>
</table>

There has not previously been a policy towards refunds, and the rare instances of withdrawal from the course have been dealt with on an ad hoc basis. This takes considerable administrative and academic time. From the start of the academic year 2000 four recognised exit points from the programme were introduced:

- after the first four units;
- after the 20 Postgraduate Certificate units;
- after the 40 Postgraduate Diploma units;
- after the award of the Masters degree.

Those participants wishing to voluntarily withdraw from the programme at other than a recognised exit point will be required to pay for all the units up to the next recognised exit level.

Those participants for the taught Masters degree who, after counselling decide not to proceed with their Masters project will be refunded the Masters part of their fees if these have been prepaid.
COMPLAINTS PROCEDURES

The University of Dundee student complaints procedure aims to provide an accessible, quick, straightforward and informal method of resolving student complaints, with the option of a more formal, written, procedure in serious cases after all efforts for local resolution have been tried.

If you have a complaint, please:

• speak first to the tutor, supervisor, or other person who is immediately responsible for the situation. Most complaints should be resolved by this method. Explain your complaint to that person and ask for a specific resolution to it.

If you still feel dissatisfied after this:

• raise the matter with the director, Professor Charlotte Rees, who will make enquiries with those concerned, and report back to you on the outcome.

If you still feel dissatisfied after this:

• raise the matter with the Dean of the Faculty of Medicine, Dentistry and Nursing. You should do so in writing, explaining your complaint and everything which has happened thus far. After investigating, that person will report back to you the outcome.

If you still feel dissatisfied after this:

• make a formal complaint (marked for the attention of the University Complaints Officer) to the University Secretary’s office in the Tower Building. You must do so in writing, within two weeks of the most recent decision on the matter, explaining fully your complaint, the remedy you seek, and also everything which has happened so far.

• Investigations will be made, and any necessary evidence sought and considered.

• It is likely that those who have been involved in the earlier stages of the complaint will be asked to indicate their involvement in it.

• The person who is dealing with the complaint may decide to hold a formal or informal meeting if decided by that person to be appropriate, or to deal with it on paper only.

• You will be given the opportunity to attend. Should you choose not to, then the matter will be decided in the absence of the complainant.

• A written conclusion will be sent to you following investigation and consideration.

• Recommendations regarding remedies may be issued by the Secretary’s office or by the Principal’s office, either to member(s) of staff or to the appropriate University committee, depending upon the outcome.

• A form for making a formal complaint under stage 5 is available from the Secretary’s office, and guidance on complaints and appeals is available from the staff of the Academic Secretary’s office, 6th Floor, Tower Building.

• A complaint may be declared by the Secretary’s office to be vexatious, without substance or malicious, and may therefore be discontinued.
**APPLICATION FORM**

### Personal details (please PRINT clearly)

<table>
<thead>
<tr>
<th>Title (Mr/Mrs/Ms/Dr/Prof)</th>
<th>First name</th>
<th>Surname</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>Postcode</th>
<th>Country</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Telephone</th>
<th>Fax</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

### Academic details

<table>
<thead>
<tr>
<th>Academic/Professional Qualifications</th>
<th>Awarding Institution</th>
<th>Date of Award</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Current Position</th>
<th>Role in Medical Education</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### English language

If English is not your first language, please give details of your English language qualifications, including scores. Attach copies of the relevant certificate(s) of competence.

(NB It is a University of Dundee regulation to provide this evidence and we cannot process your application form without it)

<table>
<thead>
<tr>
<th>IELTS Score</th>
<th>TOEFL Score</th>
<th>Other Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If English is not your first language, how long have you studied English?

### Proposed programme and method of study (please tick as appropriate)

<table>
<thead>
<tr>
<th>Distance Learning</th>
<th>Face-to-Face (Dundee)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory</td>
<td></td>
</tr>
<tr>
<td>Postgraduate Certificate</td>
<td></td>
</tr>
<tr>
<td>Postgraduate Certificate for Anaesthetists</td>
<td></td>
</tr>
<tr>
<td>Postgraduate Certificate for General Practitioners</td>
<td></td>
</tr>
<tr>
<td>Postgraduate Certificate for Surgeons</td>
<td></td>
</tr>
<tr>
<td>Postgraduate Diploma</td>
<td></td>
</tr>
<tr>
<td>Masters</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>