CAMBRIDGE GRADUATE COURSE IN MEDICINE

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<th>Awarding Body</th>
<th>University of Cambridge</th>
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<td>Teaching Institution</td>
<td>University of Cambridge (with Homerton School of Health Studies)</td>
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<td>General Medical Council</td>
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<td>4.</td>
<td>Name of Final Award</td>
<td>MB, BChir</td>
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<td>5.</td>
<td>Programme Title</td>
<td>Cambridge Graduate Course in Medicine</td>
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<td>6.</td>
<td>UCAS Code</td>
<td>A101</td>
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<td>7.</td>
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<td>Medicine</td>
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<td>M</td>
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<td>9a.</td>
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Admission Requirements

- Pre-medical requirements (equivalents may be offered): GCSE in Physics, Biology & Mathematics (at grade C or above), plus AS or A level passes in three of the following: Chemistry, Physics, Biology, Mathematics (one must be chemistry and at least one must be at A level)
- a first or upper second class degree in any subject
- Home or EU student status

Introduction

Cambridge aims to educate doctors to become compassionate and thinking members of the medical profession. The Cambridge Graduate Course in Medicine (CGC) is also designed to equip students for a life-time of medical practice in a changing world. Three graduate colleges, Hughes Hall, Lucy Cavendish and Wolfson participate in the programme providing academic and pastoral support as well as contributing to the selection process for the 20 students admitted each year.

The emphasis of the CGC is the acquisition of clinical skills by direct patient contact in hospital and community environments. The course is divided into three levels: Level 1 – medical sciences and Comprehensive Clinical Method; Level 2 – the Specialties; Level 3 – Integrated Clinical Attachments. Level 1 Medical Science courses are based in Cambridge in the University’s Medical Science departments. The main clinical base of the course for Level 1 and Level 3 is the West Suffolk Hospital (a District General Hospital) with two days each week in a local General Practice to give students the opportunity to learn medicine in the community context. Students also spend time in Cambridge at Addenbrooke’s Hospital which has an international reputation for converting research and development into practical health care. For Level 2 Specialty attachments, students also gain experience of working in regional hospitals throughout East Anglia.

Key elements are the care in the community of patients who are also being seen in hospital; the care of patients with chronic and irremediable illness; the appreciation of the patient...
journey and the influence of the patients’ situation (personality, family and environment) on the presentation and management of the illness. Students also gain experience of conditions that are dealt with mainly in the community. They will see and be involved in the teamwork required in caring for patients with complex needs. Tuition throughout is in small groups and provides opportunities for detailed discussion and feedback.

1 Aims and Outcomes

Students should acquire the knowledge, skills and behaviours appropriate to the core curriculum of each of the Levels of the course.

Medical Science (Second MB) Outcomes

At the end of **Level 1**, students should have:

- knowledge and understanding of the basic principles and processes of human biomedical science;
- been introduced to common forms of disease and recognise the contribution made by biomedical science to their understanding;
- begun to develop observational and deductive skills in associating molecular and cellular events with the outcomes of disease;
- acquired basic laboratory skills and begun to develop skills in analysis and interpretation of experimental data;
- acquired basic information technology skills that allow retrieval of information;
- continued to develop skills in learning through curiosity and in oral and written communication.

Clinical Outcomes

At the end of **Level 1**, students should:

- be aware of the community and environments in which they will learn clinical medicine;
- be aware that learning is self directed and experiential and based on the clinical opportunities available;
- have developed the skills of the Comprehensive Clinical Method sufficient to conduct an effective and patient-centred medical interview, perform a full general physical examination and document their findings in accordance with best practice;
- be able to formulate a likely diagnosis, and suggest initial investigations and management of common clinical problems within a growing knowledge base and conceptual framework;
- be able to identify strengths and weaknesses and promote plans for future learning;
- be aware of the multiprofessional nature of clinical practice and the importance of team working;
- have an appreciation of the scope of clinical medicine and have a sense of orientation within it;
- have an initial understanding of the interplay of the underlying professional values, personal ideals and constraints of contemporary medical practice;
- feel that they have been inducted into the profession.

By the end of **Level 2**, students should:

- have established the core knowledge base and skills which underpin the clinical specialties;
- be able to apply existing knowledge, skills and behaviours acquired in Phase I and to interpret, adapt and extrapolate these in the context of the different clinical specialties;
• have characterised their strengths and weaknesses and be able to describe and appraise a plan for continuing educational and personal development;
• have had an Elective Period at the end of which they will have had the opportunity to gain broader self-directed clinical and/or research experience of their choosing in a different cultural, social and ethnic environment, and work within a different health care system.

By the end of **Level 3**, students should:
• have developed the ability to internalise, conceptualise and organise knowledge, skills and behaviours encountered in previous phases of the course;
• have the knowledge and understanding of the principles of management of common clinical disorders including emergency conditions to a degree sufficient to begin practice as a Pre-registration House Officer;
• have developed a code of personal and professional practice consistent with the ideals and guiding principles of the GMC’s ‘Duties of a Doctor’;
• have the ability to explore both disease and illness with patients, and meet their communication needs and those of their relatives through the acquisition of effective Comprehensive Clinical Method;
• be sufficiently competent in the practical procedures required for the start of the Pre-registration year;
• be able to work within the organisational, interpersonal and inter-professional dynamics of the clinical team;
• be able to make judgements about their strengths and weaknesses and take responsibility for continuing learning, personal support and professional development.

## 2 Teaching and Learning Methods

**Learning Methods:** The emphasis of the clinical course is a problem-solving approach, whereby clinical problems are presented and students use their knowledge base (supplemented by literature search) to establish diagnosis and management.

**Environment:** throughout the course, the emphasis is on learning in a clinical setting: at the bedside, in outpatient clinics and in GP surgeries supported by seminars, tutorials and discussion groups. Clinical teaching is organized in bedside groups for clinical demonstrations, in pairs in General Practice and singly and in pairs for opportunistic clinical contact on the wards and the out-patient clinics. Several attachments require students to research and present case-based reports highlighting an aspect of their experience. Learning in Medical Science is based in the central Cambridge medical science departments; students learn alongside Standard Course Medical Sciences students attending lectures, practical classes and College supervisions.

**General Practice and Community-base:** General Practices in or within a 10 mile radius of Bury St Edmunds provide students with sufficient numbers and variety of patients to follow from hospital into General Practice. Four students in each year group are attached to a single practice for the duration of the course, giving protected General Practitioner time to facilitate experiential learning. General Practitioners act as individual tutors and practices are linked to facilitate group learning. The West Suffolk Hospital has an electronic ‘Pink Book’ – an electronic hypertext information system which provides essential information about locally available health care services and related contacts in the West Suffolk area. Its main aim is to improve communication links between primary and secondary care, trusts and external agencies throughout the area and thus provides infrastructure support for the integrated CGC attachments. Students follow patients out of hospital or from a General Practice consultation into their homes and assess how the patient is coping in the aftermath of their hospitalisation and determine what difficulties arise and what coping mechanisms the
patients and their carers have developed. Thereby, the students have an opportunity to observe illness and disease over a period of time.

**Group size:** learning in small groups is important with no more than seven in a supervision group. There is a maximum group size of 20 for clinical teaching in Level 1 and in Level 3; the maximum group size in Level 2 is 24. More often the group is divided into bedside groups of between two and seven in the hospital setting or four in General Practice.

**Supervisions and Tutorials:** For all Cambridge undergraduate courses, weekly supervisions are organised for small groups of students in the College to develop and support teaching. During Level 1, College groups meet a clinician tutor once a week in term to discuss an Index Case – a clinical case which puts the medical science into context; up to three supervisions a week with a subject specialist support the Second MB lecture programme. During the clinical placements, there are weekly, one-hour, bedside supervisions which focus on improving clinical skills and reinforcing the lessons of Comprehensive Clinical Method. Topic-based tutorials and discussions of ethical problems may also be included.

**Cambridge Graduate Course Supervisors:** The University has appointed three practising clinicians as CGC Supervisors each of whom is a Fellow at a CGC College. They have a key role and responsibility in the development, management and delivery of the CGC and provide academic support to the students in their college including the delivery of Index Case supervisions.

**Lectures:** The Level 1 Medical Science curriculum is based on the lecture programme organised by the Faculty of Biology supported by practical classes and demonstrations. In the clinical components of the CGC, lectures are used to describe clinical conditions and the pathophysiology that underlies them; clinical experience then demonstrates and reinforces the content of the lecture. Most lecturers provide support materials which are made available to students electronically.

**Practical Clinical Skills:** opportunities for learning practical clinical skills are provided in all attachments and reinforced by clinical supervisions. There are Clinical Skills Units (CSU) at Addenbrooke’s, the West Suffolk Hospital and in regional hospitals where experienced teachers have responsibility for delivering a vertically-integrated programme of practical clinical skills.

**Library and IT Facilities:** In Cambridge, students have access to the University Library, medical science departmental libraries, the Clinical School’s Medical Library and the libraries in each of the CGC colleges. At the West Suffolk Hospital, there is a multi-professional education centre including library facilities and 26 networked computer workstations. An intranet gives access to web-based course material, the ER Web and internet. At the end of Level 1, each student is given the hand-held personal computer (most up-to-date version) to record their clinical experience.

The Medical Library on the Addenbrooke’s site has over 170 study places and a book section which contains over 34,000 text books, the majority of which may be borrowed. There are also about 64,000 periodical volumes and 1000 current periodical titles. There is an extensive range of computerised information services, including end-user access to the Medline, Embase, and Cochrane Library databases and a purpose-built multi-media computer room.

The Clinical and Biomedical Computing Unit (CBCU) has developed a range of CAL materials for independent learning. It also provides a review service which highlights relevant learning materials on the Web. The CBCU manages the ERWeb, a personalised web-based teaching and learning environment. On-line resources, grouped by specialty, are reviewed and rated by staff and students. The contacts system displays students’ photos and allows individuals or groups to be contacted.

**Resource Packs:** the curriculum and the intensive nature of the course place a significant workload on students but, in choosing the CGC, they accept this intensity and manage their
time accordingly. Information is provided for each Attachment and Vertical Strand in the comprehensive Resource Packs designed to help students use their time effectively.

3 Assessment Methods

The MB, BChir course is assessed by MB examinations; satisfactory attendance of the course components is a criterion for entry. A process of appraisal (which sets and reviews targets) supports student progress throughout the course, and is informed by various forms of assessment. Students first meet their CGC Supervisor during the Introductory week to identify strengths and weaknesses. Subsequently, regular termly ‘review of progress’ meetings with the CGC Supervisor help students to recognise their learning needs and documents their achievements.

Medical Science

Although medical sciences courses are mainly taught by the Faculty of Biology, examinations are the responsibility of the Faculty of Clinical Medicine. The Second MB examinations are taken in June in the first and second years. CGC students only take two sections which consist of MCQ (multiple choice) questions on the lecture courses (Section I) and the practicals (Section II). Details of the timetables for the examinations and specimen papers are found on the Faculty of Biology website, at [http://www.bio.cam.ac.uk/sbs/facbiol/examiners/assessment.html#mvst1a](http://www.bio.cam.ac.uk/sbs/facbiol/examiners/assessment.html#mvst1a)

Clinical Medicine

Attachment Records: At the end of each clinical attachment, students are graded on attendance and performance. The grades are informed by input from the assessment process, the CGC Supervisors and the Tutors in General Practice (and the College Directors of Studies in Medical Science if appropriate). Evaluation criteria are as follows:

| Attendance: | Full attendance is required as defined in the CGC Course Guide. |
| Overall Performance: | \( O = \text{Outstanding} \) in addition to ‘S’ qualities – demonstrates commitment and enthusiasm and a willingness to do more than expected; responds well and quickly under pressure; exceptional depth and breadth of subject knowledge. |
| | \( S = \text{Satisfactory} \) demonstrates interest and a willingness to learn; has a good grasp of core knowledge and skills appropriate to experience; is organised; works well within the team. |
| | \( P = \text{Poor} \) contributes relatively little, has only minimal knowledge of the subject; poorly organised – does not work well within the team or fails to engage. |
| | \( F = \text{Fail} \) Lacks interest and makes no effort to learn, demonstrates very little knowledge of the subject – is a disruptive member of the team. |

Assessment of Essays and Project Reports:

| Band A - Excellent | The essay considers the objectives of the modules and discusses them creatively and critically. Students show evidence of critical reflection on the links between theory and practice in their own experience of, for example, a patient’s disability. The essay has a coherent and logical structure combined with an effective writing style. Any references are in accordance with Vancouver style. |
| Band B – Good | There is clear evidence of a thorough understanding of the issues which arise. There is less evidence of conceptualisation and interpretation of theory in relation to practice. |
| Band C – Pass | The essay demonstrates reasonably good understanding of the module objectives. There is less evidence of ability in imaginative and critical discussion. |
| Band D – Fail | The essay demonstrates reasonably good understanding of the module objectives. There is less evidence of ability in imaginative and critical discussion. |
Level 1 Assessment

Clinical Skills Attachment 1: Attachment Record only.

Clinical Skills Attachments 2 and 3: Attachment Record; a ten-station Objective Structured Clinical Examination (OSCE) is held at the West Suffolk Hospital to test Comprehensive Clinical Method and practical clinical skills; a Written Assessment of Clinical Knowledge (WACK) assesses core knowledge.

Pathological Sciences: Gresham Prize Examination: All students sit this examination which is set annually in March; students receive feedback on their performance in relation to their peers. Special Study Module: Students present the results of a literature search project to the module leaders and the rest of the group.

Continuity of Care Module: Students produce a 5000-word essay.

Clinical Skills 4 Attachment: Attachment Record and End-of-Level 1 Assessment.

End of Level 1 Assessment: The assessment at the end of Level 1 is an opportunity for students to receive formative feedback on their progress and to help them identify their strengths and weaknesses. It tests competency in Comprehensive Clinical Method, the ability to document the findings, and to formulate a likely diagnosis and suggest initial investigations. In addition, students should demonstrate a working knowledge of common clinical problems and emergency situations encountered in general surgical and medical practice.

| Assessment of Clinical Method | History, clinical examination, diagnosis & documentation: a portfolio of four cases developed by the students throughout the Clinical Skills 4 Attachment and assessed by the CGC Supervisors. The cases should refer to patients students have seen or to their own research (plagiarism is a form of cheating and could lead to expulsion from the Medical Student Register). Each case should demonstrate competence in Comprehensive Clinical Method and case-note documentation, and address one particular aspect as follows:
| | ➢ Occupational or environmental illness - cause or effect;
| | ➢ Ethical or moral dilemma;
| | ➢ Iatrogenic problem;
| | ➢ Integration of basic science into diagnosis, assessment or treatment;
| | ➢ Team working in action;
| | ➢ Problem of addiction or substance abuse.
| Objective Structured Clinical Examination (OSCE): | A series of about 20 stations designed to assess skills in three areas: Practical Clinical Skills, Physical Examination Skills; History-taking and Communication Skills held at the Clinical Skills Unit at Addenbrooke’s Hospital.
| Written Assessment of Clinical Knowledge (WACK): | Case histories in Medicine and Surgery illustrating common clinical problems requiring short answers for diagnosis, management (particularly therapeutic) and investigations; sets of data (haematological, biochemical, microbiological) for interpretation in short answers. Answers are given immediately as part of a learning resource.

Level 2 Assessment

An Attachment Record is completed at the end of each Specialty attachment by the Attachment Director or regional hospital Undergraduate Specialty Tutor - assessment methods are determined by Attachment Directors and are explained to students in Resource Packs and on the ERWeb.

Elective Report: all students submit a report on their elective the purposes of which are to:

- to provide a detailed record of the use to which the elective period is put;
- to train the student in careful presentation of considered written work;
- to form a data bank of elective opportunities for succeeding generations of students;
- to be assessed for ‘best elective report’ competition.

**Level 3 Assessment**

An Attachment Record is completed at the end of each Integrated Clinical Attachment (ICA) and Addenbrooke’s Tertiary Care Attachment. Students also complete a clinical logbook portfolio of twenty cases and sit the Final MB Examinations.

Towards the end of Level 3, there is an Objective Practical Skills Examination (OPSE) of about 15 stations to assess a student’s clinical practice and to ensure that they are fit to practise as a Pre-registration House Officer according to GMC requirements.

**Final MB:** Part I (Pathology) is taken in December of year three; Part II (Clinical Medicine) is taken in June of year four. Student performance is reported as ‘Pass’, ‘Pass with Merit’, ‘Pass with Distinction’.

Full details on the Final MB examinations are found on the Clinical School intranet, at: [http://www.medschl.cam.ac.uk/intranet/students/finalmb/finalmb.html](http://www.medschl.cam.ac.uk/intranet/students/finalmb/finalmb.html)

**4 Course Content**

The Cambridge Graduate Course takes four academic years, students start in October of year one and take the qualifying Final MB examination in June of year four (i.e. 3 ¼ actual years). There are about four weeks of holiday each year as shown on the diagram below. The course is divided into three levels with eight integrated vertical themes. Course content is monitored by the CGC Committee of Management and the Standard Course Curriculum Committee to ensure compliance with best practice described by the GMC (Tomorrow’s Doctors) and the QAA (Benchmark Statement for Medicine).

**Outline Curriculum Map**

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<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
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<td>OCT</td>
<td>Module cont.</td>
<td>Specialty Attachment 2 cont.</td>
<td>ICA 1 cont.</td>
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<tr>
<td>Introductory Week</td>
<td>Vacation</td>
<td>Pathological Sciences</td>
<td>Final MB Part I Revision and Exams</td>
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<td>Core Medical Sciences 1a</td>
<td>Core Medical Sciences 1b</td>
<td>Intro to PPS</td>
<td>Senior SSM</td>
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<tr>
<td>DEC</td>
<td>Clinical Skills 1</td>
<td>Specialty Attachment 3</td>
<td>ICA 2</td>
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<td>Christmas Vacation</td>
<td>Pathological Sciences Course</td>
<td>Christams Vacation</td>
<td>Easter Vacation</td>
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<tr>
<td>JAN</td>
<td>CS 1 cont.</td>
<td>Christmas Vacation</td>
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<tr>
<td>Core Medical Sciences 1a</td>
<td>Path. Sci. SSM</td>
<td>Christams Vacation</td>
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<tr>
<td>APR</td>
<td>Clinical Skills 2</td>
<td>Specialty Attachment 4</td>
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<tr>
<td>Pathological Sciences</td>
<td>Patients, Population &amp; Society Module (PPS)</td>
<td>Oncology Attachment with PPS</td>
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<tr>
<td>Easter Vacation</td>
<td></td>
<td>Oncology cont.</td>
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<td>APR</td>
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Vertical Strands

There are eight vertical strands integrated with teaching throughout the course, each with a strand co-ordinator who introduces the Strand and distributes an information pack during the first clinical skills attachment.

Medical Science - MS

The strand includes the medical science components of Second MB. In addition to weekly supervisions for each component organised by each College’s Director of Studies in Medical Science, each CGC Supervisor organises Index Cases during the first four terms which demonstrate the clinical relevance of the medical sciences. Medical Science is incorporated into all the clinical components of the course, delivered largely by clinicians.

Clinical Practice – CP

Clinical Problems and Core Conditions: a list of all the clinical problems likely to be encountered in medical practice (based largely on clinical presentation) is subdivided into likely causes and forms the basis of the clinical curriculum. Students use this list (in paper or electronic form) to document their experience and to guide learning.

Prescribing: academic clinical therapeutics and practical outcomes are brought together in the prescribing strand incorporating both primary care (GP and community) and secondary care (hospital) prescribing. The aim is to produce newly qualified doctors that are competent, effective and safe prescribers from their very first day in post.

Organisation of Care: learning is related to organisational issues in medical care, including team-working.

NB: Due to natural variations in the calendar and the variable dates of some vacations (i.e. Easter), some SSM, Clinical Skills and ICA blocks of study may shorten or lengthen slightly.
Patients, Populations and Society - PPS

‘What are the causes of the main disease in our society and how can they be prevented?’
‘How do you assess the community’s health and health care needs?’ ‘What strategies are needed at a population level to address them?’

These are some of the questions students will consider during this strand which addresses skills all doctors need whether in research, planning, audit or clinical practice including essential skills in the critical appraisal of evidence. The strand also includes an introduction to global public health.

Comprehensive Clinical Method - CCM

This strand looks at the interactions with patients. It teaches students to understand the process of conducting a medical interview and the content of the material that needs to be obtained from the patient. It looks at different stages of the medical interview from start to finish. There are skills that can be learned for all interviews in terms of gathering information about the patient, their background and the effects that their illness has had on their lives. There are skills needed to explain what is happening to a patient and the rationale for their treatment. We also look at the special skills needed to deal with dealing with bad news, emotionally upset patients and issues relating to anger, bereavement and the dying. As well as learning specific skills for taking a medical history students learn skills for examination of the systems, how to integrate their findings from examination and history, how to present this to their colleagues and to record their findings.

Medical Ethics and Law - MEL

This strand develops the essential place of ethical practice within clinical medicine. It explores key areas such as consent to treatment, confidentiality, the clinical relationship, issues related to reproduction, the new genetics, resource allocation and end of life issues.

Practical Clinical Skills

The GMC expects newly-qualified PRHOs to be competent in core practical clinical skills from their first day. Students are provided with Practical Clinical Skills log-books for each Level of the CGC to help them to develop their skills and to monitor their progress. Clinical Skills Centres in West Suffolk and Cambridge provide safe environments for the teaching and learning of practical skills. Clinical Students can practise basic and advanced skills here with the support of Clinical Skills Tutors prior to performing them on patients.

Medical Imaging - MI

This strand demonstrates the use of modern imaging methods including ultrasound, computerised tomography and magnetic resonance imaging as well as radiographs. In Level 1, this helps students to understand anatomical detail and relationships alongside clinical illustrations and introduces abnormal imaging in cases of disease. Teaching emphasises the use of imaging in an evidence-based manner, recognising costs and possible complications of use.

Humanities in Medicine – HIM

This strand aims to enable students to improve their writing; develop interpretation of narrative; express issues related to illness and death and develop creativity. It hopes to broaden understanding through narrative, myth and poetry and art. This may help students understand what it feels like to be ill and help them listen to people’s stories. There will also be opportunities to consider the use of words and explore how new ideas might come about. During Level 1, this is developed mainly through the Index Cases. There is no prescriptive reading but a list of some of the source material used is provided; students are encouraged to read whatever they enjoy most.
Transferable Skills are also developed throughout the Course:

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<th>Skill:</th>
<th>Experienced and developed in:</th>
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<tr>
<td><strong>Intellectual, Learning how to learn</strong></td>
<td>Lectures, Seminars, Final MB preparation Emphasis on experiential learning with appropriate support. Clinical Supervisions develop the ability to solve clinical problems. Principles of reflective practice and lifelong learning are encouraged at all stages of the Course. Senior Clinical students act as Associate Clinical Supervisors during the Introductory Course – helping to teach basic skills and mentoring the new students.</td>
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<tr>
<td><strong>Teaching and Mentoring</strong></td>
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<td><strong>Problem-solving</strong></td>
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<td><strong>Communication</strong></td>
<td>Listening and talking to patients, developed in the Comprehensive Clinical Method Strand. Participation in small group Clinical Supervisions. Written reports: students are required to produce several illustrated written reports including case commentaries (e.g. Phase I Portfolio), prize entries, elective report, Phase II Public Health project. Oral presentation: in several attachments, individual and groups of students give presentations - providing a learning experience in oral communication and in the use of visual aids such as overheads and Powerpoint. A non-scientific recommended reading list is published to encourage literacy skills.</td>
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<tr>
<td><strong>Organisational</strong></td>
<td>Attachment arrangements, particularly travel to regional hospitals and rural General Practices. Managing workload: time management, self-direction, self-discipline, working to deadlines. Health and Safety, risk management sessions. Organising supervisions and Pre-registration House Officer (junior doctor) shadowing. Organisation of 7-week Elective, usually abroad.</td>
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<td><strong>Personal Effectiveness</strong></td>
<td>Small College community enhances ability to interact comfortably with a wide range of people/cultures/disciplines and encourages flexibility and adaptability. The Comprehensive Clinical Method strand develops self-awareness and open-mindedness. Setting of priorities, effective time management, self-discipline, self-reliance, motivation, thoroughness are essential qualities for successful completion of the course; they are of particular importance during the periods of Phase III, PRHO Shadowing and on-call experience.</td>
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<td><strong>Team-work and Networking</strong></td>
<td>Theory developed in Introductory Course sessions run jointly with the School of Nursing. Throughout the course, students work together in small supervision groups. Presentations are prepared and delivered by small groups during attachments, students learn how to organise division of labour and co-ordinate information into a timed, cohesive and logical way. Team-building, role of a medical practitioner within a health-care team developed in multi-professional clinical environment experienced in clinical attachments. Students also organise sporting events and an annual pantomime - all students are encouraged to participate when they are in Cambridge.</td>
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**Skill:** Experienced and developed in:

**Research**
- Use of Medical Library – bibliographic skills.
- Evidence-based practice (audit) in all aspects health-care, knowledge of recent developments.
- Elective research projects. Study of topics in depth encouraged by the award of prizes and project work, e.g. in Public Health.

**Legal and Ethical Skills**
- Issues of consent, confidentiality/Data Protection Act covered in Comprehensive Clinical Method and Medical Ethics and Law Strands.

**Numeracy**
- Data-handling in research and project work; prescribing; Public Health/Epidemiology.

**Computer Literacy**
- Use of College and Clinical School computing facilities for retrieval, management and manipulation of information including: E-mail; Word-processing; Web access to on-line learning e.g. ERWeb; Electronic Literature Searching e.g. Medline.

**Foreign Language Skills**
- Over 80% of students spend their 7-week elective abroad, many in non-English speaking environment. The School has provided students with support for tuition in foreign languages.

**Practical Skills**
- Several Clinical Attachments include a range of practical clinical/life skills from acquiring an understanding of the care needs of the elderly to washing, feeding and changing babies!

**Health and Safety at Work/First Aid**
- All activity within a hospital environment in which students spend the majority of their time is subject to strict codes of practice.

**Career Management**
- The Clinical Course provides experience in a wide range of hospital and community specialties. Annual careers fairs are organised and every student receives personal career counselling and guidance in CV preparation.

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**Introduction Content – 1.4 Weeks**

Students spend four days in West Suffolk where they are introduced to the environment in which they will learn clinical medicine, have instruction in essential health and safety and have their first experience of clinical situations in hospital and General Practice. At least one day is spent at the Clinical School where students are introduced to the learning facilities provided on site; one day is spent in College. During the Introduction period, students meet their College CGC Supervisor to discuss their strengths and weaknesses and to identify specific learning needs.

**Level 1 Content – 20 Months**

**Core Science Courses (8-week terms)**

CGC students work alongside Standard Course students sharing the same programme of lectures, seminars, tutorials, practical classes and supervisions.

**Year 1:** Functional Architecture of the Body: topographical anatomy of the human body by dissection and demonstration with strong emphasis on functional, living and surface anatomy.

**Year 1:** Introduction to the Scientific Basis of Medicine: three sets of lectures covering history and philosophy; principles of epidemiology; principles of medical statistics.

**Year 1:** Homeostasis: physiological systems which underpin regulation of the body’s internal environment and its responses to external threats; related practical classes in experimental physiology and histology.

**Year 1:** Medical Sociology: interactions between social factors and the practice of medicine largely delivered by computer-aided learning.

**Year 1:** Molecules in Medical Science: molecular basis of how cells and organisms work including structure, function, biosynthesis and control, metabolic processes and the ways in which the genetic information in DNA is organised, expressed and inherited; core principles illustrated,
where possible, by examples relevant to medical science to emphasise the significance of this basic knowledge to clinical practice - a practical course uses a range of biochemical techniques and includes a problem-solving component.

**Principles of Cell Biology (optional)**: a short course introducing basic principles.

**Year 2: Biology of Disease**: the nature and mechanisms of disease processes, includes cellular pathology, immunology, microbiology, parasitology and virology - practical classes integrated with lectures.

**Mechanisms of Drug Action**: general principles of drug action and specific effects of some drugs; selective toxicity and effects on neuromuscular, endocrine, cardiovascular and respiratory systems.

**Neurobiology & Human Behaviour**: the brain and mind; structure and function of the sense organs and CNS, effects of drugs on brain function; physiological aspects including emotion and emotional disorders (especially depression, anxiety, schizophrenia) child development, intelligence, learning and memory.

**Scientific, Social & Ethical Aspects of Reproduction and Populations**: the biology of human reproduction, its clinical relevance, social context and influence on demographic trends; ethical and legal principles surrounding the practice of medicine in general and reproduction in particular.

**Clinical Medicine**

**Clinical Skills Attachments 1 (3-4 weeks), 2 (4 weeks), 3 (7 weeks) and 4 (4 weeks)**: These attachments are based in West Suffolk: two days of each week are spent in General Practice and the community and three days in the hospital. During each attachment, a different clinical system is addressed: signs and symptoms relating to the system are demonstrated in the hospital setting and discussed with symptom-based learning objectives. Clinical case demonstrations and discussions involving hospital clinical teachers are based on the Clinical Problem List and are reinforced in General Practice. During the early clinical attachments, students aim to develop clinical method (process) and in later attachments the emphasis is more on content.

**Continuity of Care SSM and Clinical Neurology (6 weeks)**: This Special Study Module provides an opportunity for students to study in depth an area of interest related to patients with chronic problems; the student explores these with the patient and with the various agencies (primary, secondary and tertiary care) which support the patients. The block also integrates an introduction to Clinical Neurology.

**Patients, Populations and Society Core and SSM (3 - 4 weeks)**: A four-day introduction to basic principles in the first year is followed by a Special Study Module to develop practical aspects of an area of Public Health under the supervision of a Public Health Physician. In Level 2, the students continue to work on projects and, in the final year, they join Standard Course students for a one-week programme.

**Emergency Medicine (3 weeks)**: students practise basic but essential medical skills e.g. eliciting a history, venous cannulation and basic life support and experience the importance of multi-professional care of patients; they also develop a structured approach to patients presenting with any acute injury or illness.

**Pathological Sciences (2 + 2 weeks) and SSM (1 week)**: the essence of Pathology teaching is not the performance of laboratory tests, but the understanding of the pathogenesis of disease. During each block and whenever based in Addenbrooke’s, students are invited to attend daily post-mortem demonstrations, which provide first-hand knowledge of a wide variety of diseases. Specialized aspects of Neuropathology and Gynaecological Pathology, are addressed in tutorials in the relevant clinical attachments. The Special Study Module allows students to develop an area of pathological science and its relationship to clinical medicine.
Level 2 Content - The Specialties - 13 months

Attachment Groups and Regional Attachments: Students are allocated to one of the six Standard Clinical Course Attachment Groups for clinical experience in the Specialties at Addenbrooke’s or other regional hospitals; students receive a personal schedule showing the order and location of attachments.

The reasons for incorporating regional hospital placements into the Clinical Course include:

- to take advantage of as many patients and teachers as possible;
- to keep student group sizes small;
- to give students experience of different hospital environments;
- to expose students to a different range of patient cases and ethnic populations;
- to build relationships between students and consultants throughout the region to facilitate progression to the Pre-registration Year.

Hospitals will usually offer students the option of being allocated to firms in pairs or singly to suit their personal learning preferences. Students should speak to the local Clinical Sub-dean if they are unhappy about arrangements.

Supervisions: For the first six months of Level 2, CGC students are also allocated to a Clinical Supervision group alongside the Standard Course students for weekly supervisions (except when the Group - or majority of the Group - is away from Cambridge on a regional attachment).

After six months (when the Standard Course cohort they have joined concentrates on Final MB preparation), CGC students are divided into three, non-college specific Supervision Groups. They remain in these Clinical Supervision Groups for bedside teaching with a local Clinical Supervisor for the remainder of the course.

Specialties:

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Description</th>
<th>Location</th>
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<tbody>
<tr>
<td><strong>Cardio-respiratory</strong></td>
<td>Based at the Regional Cardiothoracic Centre at Papworth Hospital, students</td>
<td>At Papworth Hospital</td>
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<tr>
<td><strong>Medicine</strong></td>
<td>gain exposure to the high technology aspects of Cardiology, Cardiothoracic</td>
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<td><strong>ENT</strong></td>
<td>A two-day intensive teaching programme at Addenbrooke's is followed by an 8</td>
<td>At Addenbrooke's</td>
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<td><strong>weeks</strong></td>
<td>day regional attachment for clinic, ward and operating theatre work</td>
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<td><strong>General Practice</strong></td>
<td>The emphasis is on learning more about the role of the primary care team</td>
<td>At Addenbrooke's</td>
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<tr>
<td><strong>weeks</strong></td>
<td>and the work of the GP. Students are given the opportunity to see patients</td>
<td></td>
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<tr>
<td><strong>2 weeks</strong></td>
<td>on their own and to discuss and analyze in small groups, clinical situations</td>
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<tr>
<td><strong>Medley (5 weeks)</strong></td>
<td>The Medley is a five week block at Addenbrooke’s combining Dermatology,</td>
<td>At Addenbrooke's</td>
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<td></td>
<td>Genito-Urinary Medicine, Plastic Surgery and Urology.</td>
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<tr>
<td></td>
<td><strong>Dermatology</strong> and <strong>Urology</strong> components involve practical experience and</td>
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<td></td>
<td>small group teaching in the outpatient clinic, patient-orientated ward</td>
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<td></td>
<td>teaching, lectures and interactive tutorials. Students on the Urology</td>
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<td></td>
<td>attachment also have the opportunity to learn in the operating theatre and</td>
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<td></td>
<td>are required to produce an in-depth case study.</td>
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<tr>
<td></td>
<td>Experience in <strong>Genito-urinary Medicine</strong> is provided on an individualbasis,</td>
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<td>i.e. one patient, one student, one clinician; there is also a series of</td>
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<td></td>
<td>seminars.</td>
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<td></td>
<td><strong>Plastic Surgery</strong> teaching includes lectures on the basic principles of</td>
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<td>Plastic Surgery and small groups of students attend out patient clinics and</td>
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<td></td>
<td>operating theatre sessions. Discussion topics are allocated during the</td>
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<td></td>
<td>attachment.</td>
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<tr>
<td><strong>Neurosciences/Ophthalmology (7 weeks)</strong></td>
<td>In <strong>Neurosciences and Rehabilitation</strong>, the main aim is to become familiar</td>
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<td>with techniques of neurological examination and with common neurological</td>
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<td>and neurosurgical syndromes. Students are encouraged to involve themselves</td>
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<td>actively in patients' day-to-day care and management including,</td>
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as appropriate, making presentations to consultants. The rehabilitation week provides an opportunity to learn about disability and its management in a problem-orientated approach.

Ophthalmology comprises a series of lectures, small group seminars and one-to-one teaching sessions in clinics. Aims are to achieve competence in ocular examination and to become familiar with ocular disorders as they present in general practice as well as the more complex surgical disorders and the spectrum of disease associated with general medical disorders. Students are also encouraged to attend the pre-operative assessment clinics and to spend time in the operating theatre.

**Obstetrics & Gynaecology (7 weeks)**

An introductory course in week one is followed by clinical clerkships. For four of the weeks students are based at Addenbrooke’s and the Rosie Maternity Hospitals; for the remaining two weeks they are allocated to a regional hospital. All Addenbrooke’s consultants participate in teaching and students are attached to one or two consultants. To ensure an adequate exposure to all aspects of the specialty, students are encouraged to attend specialist clinics of other firms. Members of the academic department give tutorials each week and, in addition, the specialist registrars have been given responsibility to ensure that all students are competent in those aspects of history taking and examination relevant to Obstetrics and Gynaecology. Students are encouraged to attend all the departmental meetings especially inter-disciplinary meetings with Pathology, Neonatology and Radiology. During their attachment on the delivery units of regional hospitals, students also receive instruction from midwives.

**Oncology with Vertical Strands (5 weeks)**

An intensive course based at Addenbrooke’s combining Haematology, Oncology and Radiotherapy with particular emphasis on development of strands including Patients, Populations & Society, Medical Ethics & Law and Medical Imaging.

**Orthopaedics (3 weeks)**

Based at Addenbrooke’s. Students are attached to individual consultants in small groups. This opportunity to learn is combined with lectures that cover the important aspects of orthopaedics and trauma.

**Paediatrics (7 weeks)**

A one-week introductory course of lectures, seminars and practical instruction in history-taking and examination techniques appropriate to infants and children is followed by a six-week attachment of two or three students to Paediatric units throughout East Anglia. During the attachment, students are expected to produce an annotated case report. At the end, there is a formal assessment that includes a clinical examination and an MCQ test. Clinical experience involves a full range of disease in childhood with surgical and psychiatric cases although Child Psychiatry is mostly taught during the Psychiatry block. The emphasis is on seeing disease in its social context and its effect on growth and development. There is also formal teaching in Community Paediatrics.

**Psychiatry (7 weeks)**

The Psychiatry attachment is based in West Suffolk to take advantage of the opportunities of liaison between the mental health teams and clinical practice in the hospital and community which were established in Level 1 and are developed in Level 3. Students gain experience in general adult psychiatry, the psychiatry of old age, child and family psychiatry and some of the specialist services. On each Friday, all students attend a course of lectures/seminars in Cambridge. They present six case histories during their attachment and prepare a written ‘long case’, which is subsequently discussed as part of the end-of-course assessment. Students are encouraged to request an individually tailored timetable if they wish to pursue a special interest.
Elective – 7 Weeks
Having satisfactorily completed Level 2, students enjoy the opportunity for additional clinical or research experience of their own choice and organisation, as part of the approved clinical course. Students may arrange a local elective or travel further a field (with about 90% going abroad).

Level 3 Content – 9 Months
Integrated Clinical Attachments (18 - 20 Weeks): There are two ICA blocks based at the West Suffolk Hospital with two mornings a week in a General Practice. Students follow a patient’s illness in hospital with guidance from hospital clinicians into the community with supervision by the General Practitioner and other members of the primary care team including nurse specialists. These cases are recorded in a portfolio of learning which is developed during Level 3. This portfolio moves on from simple clerking to looking at how a patient is managed and how to reflect on the care given. Students interview and follow patients and discuss the portfolios with their GP Tutors and Clinical Supervisors. For approximately one third of the period, students gain experience in a different CGC General Practice.

Senior Student Selected Component (3 – 4 Weeks): Students are offered the opportunity to choose the aspect of clinical medicine or medical science which they wish to develop into a project.

Addenbrooke’s Tertiary Care Attachment (5 - 6 weeks): Students are based at Addenbrooke’s Hospital to provide them with the opportunity to experience a range of tertiary care in the University’s main teaching hospital.

Patients, Populations and Society (1 week): this Cambridge-based course comprises a series of lectures and tutorials on: organisation of the health service; strategies for prevention of illness; health economics; public and voluntary agencies involved in health care; medical manpower and occupational medicine. Completing the curriculum of the vertical strand, learning objectives relating to the broader Public Health will be dealt with here as will topics benefiting from guest lecturers.

Pre-registration (PRHO) Post Shadowing (1 week): PRHO Shadowing - 1 week: students shadow the PRHO in their first post-qualification post. Objectives of the week include: gaining insight into the organizational and operational problems to be faced as a PRHO; improving clinical skills; obtaining direct experience of some of the practical procedures required in the PRHO year and gaining experience of working in a multidisciplinary team.

PRHO Posts -1 year
To be eligible for full registration with the General Medical Council, a doctor must complete a year’s supervised service in a combination of approved pre-registration posts.

The University is responsible for certifying to the GMC that its graduates have satisfactorily completed their pre-registration training and requires certificates of service from employing authorities. In the East Anglian region, there are over 200 approved PRHO posts and Cambridge graduates experience little difficulty in securing a post which meets their requirements.
5 Progression Requirements

The Standard Clinical Course MB, BChir completion rate is nearly 100% with most students passing at first attempt. There has not yet been a withdrawal from the CGC.

Course assessments do not contribute directly to the Final MB mark but satisfactory completion is a pre-requisite for admission to the Final MB examinations.

Failing to satisfy the assessment requirements of an attachment may result in a student having to gain more experience in the subject, possibly during the Elective period, or deferment of Final MB at the discretion of the CGC Director in discussion with the Clinical Dean, CGC Supervisor and relevant Attachment Director.

Attachment Records: as well as reporting student assessment results, the records are used to:
- monitor student attendance and performance - information is entered on individual student computer records;
- identify students with specific problems as early as possible;
- monitor the quality of education provided.

Student Performance Report: a summary of the Attachment Record grades is produced in the form of a 'Student Performance Report' at various stages during the course:
- for any student who has a consistently poor record in any area: these students will be asked to discuss their progress with the CGC Director;
- at the end of each Level I attachment;
- at the mid-point and end of Level 2;
- towards the end of Level 3.

Level 1 Performance: Each student meets with the CGC Supervisor for discussion of their portfolio of cases and the results of the assessment. The written paper results are expressed as a point in the histogram of overall results (so that the mark may be peer compared). The student is made aware of his/her progress; problems are identified by student, CGC Director or CGC Supervisor; and addressed by discussion of an “educational prescription”.

Level 2 Performance: CGC Supervisors meet students individually to discuss each Performance Report, elective plans and general concerns about progress. At the final Level 2 meeting, the CGC Supervisor administers a questionnaire to assess each student’s skills and knowledge to inform the personal learning plans for Level 3.

Level 3 Performance: towards the end of Level 3, an appointment with the CGC Director or senior member of the teaching staff is made for each student to discuss performance and career plans. Students with major problems will have already been identified and seen by the CGC Director – in exceptional circumstances, a formal warning of withdrawal of permission to sit Final MB may be issued.

Clinical Supervisor Reports: Colleges require Supervisors to provide termly reports on student progress; the Senior Tutor/Director of Studies refers any serious difficulties to the CGC Director.

College Reports: at the end of each University Term, college Personal Tutors may invite their students to complete a self-assessment form and offer them an opportunity to review their term’s Supervision reports and progress. Students may ask their college tutor for mark breakdowns of Second MB and Final MB results- the Mark Books for each Part are circulated by the Board of Examinations to College Tutorial Offices at the end of each examination period.