Welcome to our guide for physicians and other health care professionals interested in becoming involved with the Waterloo Regional Campus of the Michael G. DeGroote School of Medicine.

This is McMaster’s first fully distributed site for medical education, and the vision of a local distributed medical school campus is being realized through a unique partnership between McMaster University and the University of Waterloo.

The first students of the medical school campus, who graduate in May 2010, have been warmly welcomed by the community, which sees Waterloo-Wellington as ideally suited to advance its long established interest and role in the training and preparation of physician and residents. The long term success and sustainability of this initiative is clearly due to the commitment of local physicians to share their expertise and wisdom with our students.

There are many valued educational roles described in this brochure that we hope will intrigue and interest you. Our students require a vast array of preclinical and clinical experiences within a well defined medical education program. Your willingness to assist in the training of our future physicians ensures their experiences and education in Waterloo – Wellington is first class!

Thank you for considering what role you can play in this exciting educational mandate. Through focused, accredited faculty development sessions and individual support by our knowledgeable regional education leaders, we trust you will feel comfortable and supported to participate as vital members of our teaching team.

Education is our legacy and we all have much to share.

Edncationally yours,

Cathy Morris, MHSc, MD, FRCP(C)
Regional Assistant Dean
Michael G. DeGroote School of Medicine
McMaster University
Waterloo Regional Campus

CONTACT
Michael G. DeGroote School of Medicine
Faculty of Health Sciences
McMaster University
Waterloo Regional Campus
50 Queen Street N., Suite 700
Kitchener, ON Canada N2H 6P4

Phone: 519-885-5426 ext. 21104
Fax: 519-584-0197
Email: wrcinfo@mcmaster.ca
Web: www.fhs.mcmaster.ca/wrc

DIRECTORY
519-885-5426 and extension:
Regional Assistant Dean: 21100
Director Student Affairs: 21122
Regional Program Administrator: 21112
WRC Administrative Assistant: 21104
Curriculum Assistant: 21101
Regional Administrative Leader: 21105
Regional Administrative Assistants: 21137

LINKS
Faculty Development website:
www.fhs.mcmaster.ca/facdev
MD Program website:
www.fhs.mcmaster.ca/main/medschool
Faculty of Health Sciences website:
www.fhs.mcmaster.ca
**Michael G. DeGroote School of Medicine**

**HIGHLIGHTS:**

- McMaster currently has 496 undergraduate medical students and 684 medical residents working in 46 specialties and sub-specialties at its academic hospital partners throughout Hamilton, as well as through placements in more than 60 cities and rural Ontario communities, in keeping with a move towards distributed education.

- The school regularly receives double the number of applications of any other Canadian medical school. Every year there are more than 4,500 applicants vying for the three-year program’s 183 entry spots.

- In 2007 the inaugural class of 15 first-year students began at the new Waterloo Regional Campus in December.

- In 2008, the first class of 15 medical students for the new Niagara campus of the medical school began. After the initial medical Foundation of four months the class transferred to the Niagara Campus.

*Since its founding* in 1966, innovation has been the hallmark of McMaster University’s Michael G. DeGroote School of Medicine and a major contributor to its international reputation for excellence.

**Innovation is the hallmark of McMaster University’s Michael G. DeGroote School of Medicine.**

Under the school’s first dean, Dr. John Evans, a group of innovative educators developed an undergraduate medical program that stirred controversy and defied convention by emphasizing self-directed learning. McMaster created a revolution in health care training with the establishment of a medical school that pioneered a problem-based learning (PBL) curriculum, which has since influenced health care education worldwide.

The inaugural convocation in 1972 saw 19 students receive their MD degrees. That same year construction was completed of the McMaster University Health Sciences Centre, a uniquely designed building housing a 370-bed tertiary care hospital together with teaching and research facilities for the medical school.

The Faculty of Health Sciences was formed in 1974, incorporating the School of Medicine and the School of Nursing. By 2000, building on its interprofessional character, the Faculty had expanded to include a School of Rehabilitation Science, a midwifery program, many post-professional diploma programs and graduate studies and a health sciences honours undergraduate program.

In the past eight years, with Dr. John Kelton as the dean and vice-president of the Faculty of Health Sciences as well as dean of the medical school, enrolment of the medical school has increased from 100 first-year students to 183, and the research mandate with its academic hospital partners has soared to $240 million a year.

The medical school was named the Michael G. DeGroote School of Medicine in 2003, in honour of the Hamilton philanthropist. His donation of $105 million, to support the school’s research mission, was the largest-ever educational donation to a Canadian institution.

In 2005, the medical school moved into the new Michael G. DeGroote Centre for Learning and Discovery, a $71-million, 300,000-square-foot facility, linked by pedestrian skyway to the Health Sciences Centre. The building includes small group classrooms equipped with the newest technology suitable to the needs of its diverse educational programs as well as state-of-the-art wet labs, including a human vector laboratory unique to Canadian universities.

From its early days as the focus of controversy and scrutiny, McMaster’s medical school has prospered, and proven that its community-oriented, interdisciplinary, small group learning provides a fertile environment for educating physicians. In 2005, a revised undergraduate medical curriculum, which is concept-based and electronically enhanced, was launched.
**Curriculum**

**Medical Foundations 1 (MF1) (16 weeks):**
The first week of this block of curriculum addresses patterns of determinants of health. The premise of this introductory component of the curriculum is that health care systems do not account for much of the systematic differences in health status within or among populations in advanced industrial economies. Health care students need to understand why people get sick in the first place and why people get well. Social epidemiologists see that causes of ill health in populations are different from causes of ill health in individuals.

After this introductory look at determinants of health, the curriculum moves on to address the first of the major concept themes in the curriculum: oxygen supply and exchange. In addressing problems that arise from inspired air right through to oxygen at the cellular level, students will learn much related to the respiratory, hematologic and cardiovascular systems.

The professional competencies curriculum in MF 1 will focus on communication skills, ethics, introduction to epidemiology and reflection on the students’ experiences attending at a family medicine office.

**Medical Foundations 2 (MF2) (8 weeks):**
This is the first of the two foundations that address aspects of homeostasis, particularly that of energy balance, including issues related to the GI tract, endocrine system and nutrition.

The professional competencies curriculum in MF 2 will focus on continued communication skills practice, introduction to self care, the role of ethics in clinical decision-making, and critical appraisal.

**Medical Foundations 3 (MF3) (9 weeks):**
This foundation covers the second part of homeostasis, including the balance of acid and base, blood pressure and renal function.

It goes on to address reproduction and pregnancy and a number of issues in genetics related to reproduction.

The professional competencies curriculum in MF 3 will focus on an introduction to the health care system and preventative medicine.

**Medical Foundations 4 (MF4) (9 weeks):**
This foundation addresses host defence, which includes immunology and infectious disease, and then moves on to look at neoplasia and the genetics of neoplasia.

The professional competencies curriculum in MF 4 will focus on professional practice and preparations for summer electives.

**Medical Foundations 5 (MF5) (13 weeks):**
This covers the concepts of movement control, interacting and communicating, and includes the locomotor system, the nervous system and behaviour. The professional competencies curriculum in MF 5 will focus on preparation for clerkship, self care and advanced communication skills.

An integration week between each of these medical foundations allows students to review.

**McMaster’s medical school has prospered, and proven that its community-oriented, interdisciplinary, small group learning provides a fertile environment for educating physicians.**

**THE CLERKSHIP (60 weeks):**
Clerkship begins in December of the second year. While the clerkship is firmly linked to the pre-clerkship concept-based curriculum and will include continuing delivery of the professional competencies curriculum, this is now the time for students to participate in the direct care of patients as they learn about the management of health and illness.

The tutorial cases are now real patients or populations. Students become self-sufficient in contemporary medicine, able to sense when today’s medicine becomes out-of-date by adopting good habits of learning and assessment.

The clerkship program consists of rotations in medicine, surgery, family medicine, anesthesia, emergency medicine, psychiatry, pediatrics, obstetrics and gynecology and orthopedic surgery. There is also elective time, the majority of which must be spent in clinical activity.

The compulsory components of the Clerkship will be conducted in the affiliated community hospitals and physician offices in Waterloo/Wellington Region. Students are expected to travel throughout the Region during their clerkship.

Students may choose elective experiences in various activities utilizing local, regional, or distant resources.

In clerkship, the professional competencies weekly tutorial sessions will be discontinued and instead, there will be monthly professional competency activities focusing on specialized communication skills, critical incident debriefing, self care, clinical reasoning and the role of the physician and interdisciplinary team.

The program finishes up with a period of concept integration and review. This includes faculty-led interactive sessions on difficult cases to integrate basic concepts with the clinical, and preparations for the licensing examinations of the Medical Council of Canada.
Small Group PBL Tutor
in the Pre–Clerkship, Undergraduate MD Program

The work

Since the small group, problem-based-learning (PBL) tutorial is the central component of the Undergraduate MD Program curriculum, the tutor plays an extremely important role in facilitating the learning of the students. Although the tutor will be perceived by the group of seven or eight students as their senior, their mentor and ultimately their evaluator, the tutor has to become a functional member of the small group and therefore needs to understand some of the basic principles of group formation and group dynamics. As such, the tutor is not necessarily functioning as the group “leader” during the tutorial sessions. Some of the important functions of the tutor are described below.

The requirements

Typically tutorial groups meet for three hours twice a week, on Mondays and Thursdays or Tuesdays and Fridays. Part of each tutorial session is spent tackling fresh cases and developing learning objectives which will guide the students’ reading to bring back information for the next tutorial.

The other half of each tutorial provides the time to revisit the previously started cases armed with the information to understand and explain all the concepts that were embedded in the tutorial case. Most of the work in tutorial is done by the students themselves as they exchange hypotheses and explanations, or simply brainstorm.

The role of the tutor is to ensure that the discussion stays on track. While the group might decide to appoint a student leader to keep time and another student to be responsible for recording the various themes and hypotheses that are generated during discussion, the tutor needs to be in touch with discussion closely enough to recognize when students seem to be going down blind alleys. There are guides that accompany the tutors version of each of the tutorial cases and supply the tutor with probing questions to help bring the students back on track. Tutors should be able to provide corrective feedback when necessary during the discussion.

It is important that the tutorial process be transparent to all members of the group. The MD program provides support for tutorial groups which do not appear to be functioning well.

At the first meeting the group should set the group norms and that includes a discussion of how evaluation is going to take place in tutorial. A tutorial evaluation at McMaster comprises self evaluation, peer evaluation and tutor evaluation.

Some time needs to be set aside at the end of every tutorial to evaluate overall tutorial function for that particular day, and for individual feedback. Both giving and receiving feedback requires practice. Tutors need to keep brief informal notes about each tutorial so that at mid-foundation and also at the end of the medical foundation or curriculum block, enough evaluation items or data points have been collected to provide a meaningful evaluation.

While students evaluate themselves and each other, it is the tutor who is responsible for collecting and creating the final student evaluations, including a narrative summary. This final evaluation at the end of the medical foundation comprises evaluation of tutorial performance itself with input from the clinical skills preceptor for the student, and the performance on the end of foundation short answer exam, the “concept application exercise” (CAE).

Tutors do not use the performance on the CAE as an independent measure of whether the student passes or fails the curriculum block, but it provides additional or supportive information in helping the tutor decide the extent to which the student has mastered the learning objectives.

BACKGROUND REQUIREMENTS

Small group, PBL tutors are professional medical practitioners, or PhD scientists, recruited for their area of specialty or interest.
Pre-Clerkship Clinical Skills Preceptor in the Undergraduate MD Program

The work
The Undergraduate MD Program curriculum is designed to allow students to learn the physical examination of the various body systems while covering the same systems in the Medical Foundations. History taking, while taught by the clinical skills preceptor and integrated into the body system teaching, is aligned with the communication skills training provided in the professional competencies curriculum, which runs during the same months.

The clinical skills teaching sessions are held once per week throughout the Medical Foundations. Each session is expected to last from 2 to 2.5 hours. There are a number of options in terms of teaching location, and whether real, standardized or simulated patients are used for the sessions. Some clinicians will have ready access to patients who are willing and able to interact with medical students. Where real patients are not available, standardized or simulated patients can be made available by the Undergraduate MD Program. The teaching setting may be a hospital ward, a clinic, an office setting or the clinical skills laboratory.

The requirements
For both history taking and physical examination, the demonstration of the skill or competency by the preceptor followed by directly observing student practice is important for the students’ skill development. Since there are seven or eight students in each group, it is almost impossible to observe each student in any great detail every single week, but the preceptor does need to keep a regular record of each student’s performance, so that at mid-foundation and at the final evaluation there is enough recorded information on which to provide reliable feedback and a summary of each student’s performance. The clinical skills evaluation of each student is returned to the student’s tutor, since clinical skills forms part of the student’s overall evaluation for each of the Medical Foundations, which is collated by the tutor.

The demonstration of the skill or competency by the preceptor followed by directly observing student practice is important for the students’ skill development.

Clinical Clerkship Placement Preceptor
The Clinical Clerkship Placement Preceptor is an essential participant in the clerkship training of the Waterloo Regional Students. While the Clerkship will be firmly linked to the pre-clerkship concept-based curriculum and will include continuing mastery of Professional Competencies, this is now the time for students to participate in the direct care of patients as they learn about the management of health and illness. Clerkship highlights experiential, hands-on practice under preceptor supervision. Clear objectives are defined for each rotation to guide the preceptor in the cases and skills the clerk needs to see, acquire and demonstrate. These are the formative opportunities to turn book knowledge into clinical practice under the watchful guidance of the preceptor.

Background Requirements
- Clinical skills preceptors are professional medical practitioners or residents.
Longitudinal Facilitator
Professional Competencies Curriculum, Undergraduate MD Program

The work
The professional competencies curriculum runs throughout the Undergraduate MD Program three-year curriculum, but particularly during the pre-clerkship.

The major components of this professional competencies curriculum include longitudinal small groups, interdisciplinary facilitator pairs, large group lectures combined with small group sessions, experiential learning and skills practice, facilitated reflection and a focus on competency attainment.

The professional competencies curriculum is made up of the following six domains:
- effective communication
- lifelong learning
- ethics and moral reasoning
- professionalism
- self-awareness and self-care
- social and community context of healthcare.

These domains are integrated across the medical foundations of the pre-clerkship curriculum and at strategic points are integrated into each of the clerkships.

The requirements
The longitudinal facilitator is recruited for a total period of 14 months of the pre-clerkship between orientation of the first year students and Christmas of their second year. Each group of 10 students and their longitudinal facilitator team stays together for this period of MF1 right through to the end of MF5. The longitudinal facilitators of the Waterloo Regional Campus will be expected to travel to Hamilton for the initial four months of the curriculum to conduct the MF1 unit with their group of students. The same group will continue thereafter in Waterloo until the end of MF5. The professional competencies issues are covered separately and with different facilitators in the clerkship.

The longitudinal facilitators meet each week with their groups for part or all of the morning, usually Tuesdays, since there are also large and small group sessions throughout this longitudinal curriculum. The large group sessions will be conducted by videoconference so that students at all campuses can participate. The longitudinal facilitators take a direct hand in helping students master some of the competencies acquired during this curriculum, for example, communication skills.

The longitudinal facilitators maintain an ongoing evaluation of the students in their group. Students maintain an electronic portfolio of evaluations throughout the professional competencies curriculum.

Longitudinal facilitators provide formative feedback at the end of MF2 and MF4 and then a summative evaluation narrative at the end of MF5. The latter summary appears in the student’s transcript.

The professional competencies manual describes the various components of professional competencies curriculum, identifying the learning objectives as well as providing a schedule for each particular class.

BACKGROUND REQUIREMENTS
- Longitudinal facilitators are professional practitioners in medicine or are non-MD health professionals from areas such as nursing, physiotherapy, occupational therapy or social work.
The Work
The student advisor is an important position in the undergraduate MD Program and has the primary roles of:
- Guiding a group of two undergraduate MD students within each of the three years of the MD program. The advisor meets both individually and as a group throughout their medical school experience,
- Monitoring academic progress,
- Providing mentorship to students,
- Facilitating referrals to the Director of Student Affairs for students who experience academic difficulties as a result of learning problems or personal stressors.

The Requirements
The advisor will eventually follow six undergraduate medical students longitudinally through their time in the MD Program. Two new students will be picked up every fall until the total of six students are being followed.

The advisor reviews all Medical Foundation, clerkship and elective evaluations in addition to reviewing all examination results (such as the PPI and OSCE’s) for each of his/her students. The file is periodically reviewed in its entirety by the advisor to look for trends, strengths and weaknesses. The advisor maintains an ongoing confidential file of each of his/her student.

The advisor meets alone with each of his/her students regularly. Meetings should occur one-two times per unit, and every few months through clerkship. These meetings are confidential. Although there is no formal agenda for the individual meetings, the advisor should:
- Discuss plans for upcoming electives and sign elective forms;
- Inquire about career plans and how electives will be used to further plans, or fill in knowledge gaps;
- Inquire about personal difficulties which may affect academic performance;
- Refer to services as needed to address academic, learning or personal difficulties, or for further assistance with career planning;
- Review a recent learning plan at each meeting.

The advisor will facilitate two or more group meetings per year with their group of student advisees. These meetings should be informal (perhaps including a meal) and it is hoped that peer mentoring will naturally occur in such a setting. The group meetings might include:
- Discussion of where in the programme the students are;
- Discussion of issues specific to each of the years, such as: first year issues- adjusting to PBL and horizontal electives, 2nd year issues- managing clerkship and thinking about specialties, 3rd year issues- CARMs strategies and moving on from medical school;
- Discussion of issues of common interest to all students, such as stress management, career planning, and staying healthy;
- The advisor’s role is to facilitate peer mentoring, discussion and support and occasionally offer guidance and perspective.

BACKGROUND REQUIREMENTS
- Student advisors are medical physicians, from all specialties, and currently practicing in the Waterloo Regional Campus area. They should be enthusiastic, pragmatic individuals who are keen to act in a mentorship/advisee role to our undergraduate medical students.

The student advisor has the important role of guiding, monitoring and providing mentorship to students in the undergraduate MD Program.
How else may I participate?

OSCE OBSERVER
OSCE stands for Objective Structured Clinical Examination. It is a method for evaluating our medical students’ clinical skills. McMaster medical students have one OSCE in each year of their medical school training.

The idea is that the students rotate through a series of 10 stations, performing a physical exam or taking a history from a simulated patient while being evaluated on their performance by a physician. In our OSCEs, the students have nine minutes to perform the task and then the faculty member gives them verbal feedback for four minutes and also gives them a score from one to ten. Over the course of the evening, the faculty member will observe and give feedback to about 20-22 medical students.

The Waterloo Regional students participate in their OSCE in Hamilton with the rest of their class. The Program for Educational Research and Development (PERD) is collating information and data with respect to the distributed campuses and these students. Data to assure equivalency of performance and outcomes for this group will be closely monitored, and reviewed.

ELECTIVES PRECEPTOR
The elective program at McMaster covers 24 weeks, or 20%, of the time spent in the program. Several concepts were critical in assigning so much time to the elective program at McMaster. Most important was the recognition of the enormous amount of knowledge directly relevant to the practice of medicine. This knowledge far exceeds the amount any student can possibly absorb in 33 months and as a result, many important topics must be omitted from the core curriculum.

The students are therefore encouraged to consider the elective as a truly enriching experience to enhance their appreciation of the scientific and humanistic aspects of medicine.

We believe that McMaster is fortunate in that we were, and are, able to attract students who are mature and independent learners. It is an essential component of the process of medical education at our school to instill a commitment to self-directed learning that can be carried throughout their future careers. Electives are the first step in this lifelong learning and enriching experience called medicine.

Let us know if you would be interested in providing an elective experience for our students. We will place your name, specialty and contact information on an electives list for the students.

This is an excellent way to become involved with our Waterloo Regional Campus.

AD HOC CONTENT RESOURCE
Your name and contact information would be listed in the Medical Foundations guide, students would know then that if they had a question in your specific field/specialty they could contact you and ask it. This happens infrequently, but is an important part of the resources offered to our students, it is also an excellent way to become involved with our Waterloo Regional Campus without making a large time commitment.
Volunteer

Volunteer Patient Program

We are developing a Volunteer Patient Program and are asking for your help to recruit some of your patients who have stable findings that would be interested in allowing our students to question and examine them.

This program will enhance traditional opportunities for students to learn and develop their clinical and communication skills in a unique experiential setting. This experience mimics the “real world” where they will eventually be working.

Who are Volunteer Patients or Patient Partners?

Volunteer patients are people who allow medical students to interview them about their health, family and lifestyle; or to conduct a non-invasive physical examination. We are looking for people of any age (infants, youth, adolescents or older adults), that come from all walks of life, they may be healthy or living with an illness or disability.

These important volunteers will give the learner real people to interact with and they will provide the student with feedback on his or her communication style and interaction.

We will provide the volunteer patient with an orientation and tour of our facility. If the patient drives to our campus we will cover the cost of parking, if they do not drive we will provide taxi transportation or will reimburse them for using GRT.

CONTACT US

If you are interested in becoming involved in any of these programs please call or email our office at:
519-885-5426 ext. 21104
wrc.info@mcmaster.ca

Volunteer patients provide the student with feedback on communication style

....in a unique experiential setting.