

Launching CIP Phase III

Curriculum redesign begins

Our new academic year begins with unprecedented enthusiasm as we launch “CIP III,” the redesign process for the new Medical School curriculum. The third phase of the “Competency Implementation Project,” CIP III will continue to engage faculty and students in transforming the new curriculum framework—created in CIP II and approved by the Educational Policy Committee—into a four-year educational program. On behalf of the Curriculum Trustees representing faculty, students and educational leaders, we are pleased to preview the exciting innovations that will be featured in our redesign process and invite you to join us in this important work.

As shown in the model of the CIP II curricular framework, seven structural changes are proposed as the foundation of the redesigned educational program.

The new curriculum begins with a formal “Transitional Studies” program at the start of medical school and at the two major transition points in our students’ educational experience: entry into the core clinical experiences, previously called clerkships, and preparation for internship. With the goal of developing essential attributes and skills that will prepare students for their future roles, transitional curriculum will focus on medicine as a profession, core clinical skills and their assessment, and promotion of self awareness and professionalism among our students as they enter medical school and later as clinical clerks and soon-to-be interns.

Following the transitional program, the “Foundational Studies” will unify the year-one and year-two curricula into an integrated program of study. The foundational program will feature a systems-based focus, “hybridization” of normal and abnormal processes, and “co-teaching” by basic and clinical science faculty. Underlying this integrated approach are pedagogical methods to motivate students as lifelong learners; these curriculum “drivers” include active learning (critical thinking, problem solving and independent study); experiential learning (practice and skills development) and “team” models for teaching that include students, diverse faculty and inter-professional educational experiences.

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Michele P. Pugnaire, MD

UMMS Curriculum Framework			
Approved, Educational Policy Committee, March 3, 2008			
April 1 (Year Two)			
Foundational Studies		Core Clinical Experiences	Senior Studies
TRANSITIONAL	<ul style="list-style-type: none"> Systems-Based Focus Hybrid of Normal and Abnormal Emphasis on Integration 	<ul style="list-style-type: none"> Required CORE Clinical Experiences Electives 	<ul style="list-style-type: none"> Sub-Internships Electives Advanced Biomedical Studies
	BOARD PREP & VACATION		
LONGITUDINAL STUDIES	Longitudinal Themes		
	Capstone Experience		
	Learning Communities		

Blended learning

An inter-professional collaboration

An interdisciplinary team of medical educators at UMass Medical School has received a grant from the Alfred P. Sloan Foundation, via UMassOnline, the five-campus distance education consortium, for development of an innovative instructional program for training health care professionals in the effective management of postpartum obstetrical hemorrhage (POH). “A Blended Learning Program for Teaching Management of Postpartum Obstetrical Hemorrhage” will focus on a critical topic in a format designed to improve learning and retention. The project’s content addresses local needs and online materials prepare the learner for face-to-face medical simulation. Previously offered curricula will be expanded with an online curriculum; face-to-face and hands-on experience; ongoing review of POH procedures; team work, including communication across disciplines; and mentoring.

An additional goal of the project is design of a simulation blueprint to enable local and regional health care sites to incorporate simulation into their teaching programs. Faculty development and teaching materials will be included. The POH curriculum is geared toward OB/GYN residents, who will take on increasingly demanding roles in simulation with the goal of demonstrating competency by graduation year. When complete, the curriculum will be available to UMMS learners in emergency medicine, family medicine and anesthesiology, as well as to medical and nursing students.

OB/GYN and medicine faculty will assist in the design and development of the programs, and all of the project’s faculty will collaborate with other university experts, including instructional designers, instructional technologists, medical educators, GSN faculty and the Simulation Center team. ■



Lyn Riza, MS, Susan Pasquale, PhD, and Melinda Taylor discuss the design of online modules (l-r in lower photo), while Mark Manning, DO, Robert Berry, MD, and Tiffany Moore-Simas, MD, MPH (l-r upper photo) discuss the face-to-face simulation.

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Virtual Microscopy

Virtual Microscopy (VM), introduced at UMass Medical School last year, has transformed the way first- and second-year medical students study the structure of tissues and organs. Faculty in the departments of Cell Biology and Pathology partnered with Information Services to bring this computer-based approach to UMMS.

Students now have the option of viewing glass slides with traditional microscopes, but they also have access to virtual slides, which are high-resolution images that can be viewed, navigated and magnified using a Web browser. Using VM, many first-year students in the histology class studied collaboratively, clustered in small groups around laptops and large displays. Students benefited from immediate discussions about what they were seeing with classmates. As one student explained, "Dialogue made learning much easier, and with the large displays, explanations from instructors were beneficial to all."

VM allows students to study at their own pace and to view microscopic images when and where they choose—in the classroom, in the library, at home—through a computer with Internet access. In addition, students have control over what they see: they can adjust an image to simultaneously display a structure at two different magnifications or even view two different slides simultaneously, a powerful study technique not possible with traditional light microscopes.

Students also benefit from instructor-provided pointers and notations on the virtual slides. In addition to viewing the



"It was great to be able to use VM in a group of four and discuss what we were seeing together." A histology lab group studies a virtual slide of a peripheral nerve (From left: Louis Berk, Amanda Burrage, Natalie Cohen and Peter McCahill).

digitized versions of the slides used in their courses, students also have access to hundreds of virtual slides available from other medical schools.

"VM has gone from a pilot project to the major way of viewing slides in

histology," said Roger Craig, PhD, professor of cell biology and the coordinator for VM in the Department of Cell Biology. "The students love it, and we foresee many exciting ways in which VM can be integrated into the curriculum." ■

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Dean Terry Flotte presents the new medical school curriculum framework endorsed by more than 140 attendees at last year's fall Curriculum Retreat. The framework was later unanimously approved by the Educational Policy Committee in spring 2008.



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After the Foundational Studies, an expanded time frame for "Core Clinical Experiences" will add flexibility and choice in the clerkship years, allowing for elective time so that clinical training can be tailored to students' educational needs and career interests. Following the Core Clinical Experiences and completing the four-year curriculum, the "Senior Studies" program will provide advanced clinical training with sub-internships and additional electives, as well as expanded educational opportunities in the biomedical sciences through a program in "Advanced Biomedical Studies." Across all components of the four-year curriculum, "Longitudinal Themes" will allow for continuity of teaching and learning, addressing topics such as medical therapeutics, ethics, professionalism, health policy, clinical and translational research and evidence-based medicine.

"Learning Communities" will also be integrated throughout the curriculum, building upon the continuity model. Small groups of students in all four

years will meet regularly with faculty "master teachers" and have the opportunity to serve as peer teachers. Learning communities are models for team-based teaching and ideal venues for personal and professional development, mentorship and career guidance, as well as for the development of clinical and critical thinking skills as students work together in teams at the bedside and in the classroom.

With the expectation that all fourth-year School of Medicine students will master the skills of scholarship, scientific inquiry, and critical thinking, a required capstone project concludes their educational program. Students will work with a faculty mentor to design and execute a scholarly project on their chosen subject.

As the CIP III process unfolds, these structural innovations for the new curriculum will be translated into a comprehensive educational program. With our UMMS educational community partners, we look forward to broad engagement in CIP III and faculty and student participation in shaping the new curriculum. Please join us! ■

student perspective

Laura Petras '09

As one of my chosen fourth-year electives, I participated with several other students in the One-Week Mini-Selectives elective. The course included one week each of the following courses: Emergency Medicine; Laboratory Medicine for the Clinician; Teaching and Learning in Residency; Maximizing Your Experience; and Urgent Medical Problems: Preparation for Internship. All were excellent courses and great preparation for residency.

The Teaching and Learning course was unique because it

not only included sessions and discussions with faculty about effective teaching and learning as a medical resident, but incorporated hands-on teaching and learning in the Simulation Center. As fourth-year medical students, we had already completed our third-year clinical clerkships in surgery, so we were able to teach current third-year surgery students how to perform certain procedures using simulation models, including Foley catheter insertion, IV catheter placement and nasogastric tube placement.

We also instructed students on how to properly interpret abdominal x-rays using CT images. Not only did this experience help reinforce my previous understanding of and skills with these procedures, but, more importantly, it gave me the opportunity to put my teaching skills into practice, many of them freshly acquired in course session discussions.

Until you teach it, you never truly know how well you actually understand a procedure. In medical school, we often hear the maxim, "See one, do one, teach one." This course allowed me to reach that final level of "teaching one." And there was no better place to put this maxim into practice than the Simulation Center. The center is equipped with intravenous trainers with simulated blood for IV access training, task trainers for male and female urinary systems with simulated urine for Foley catheter placement and airway trainers with anatomically correct esophagi and stomachs for practicing nasogastric tube insertion.

I feel fortunate to have had this experience teaching students using an experiential learning model in the Simulation Center prior to starting residency. I am now a better teacher and a better learner because of it.



Laura Petras '09 (far right), a fourth-year student educator, looks on while medical students practice intravenous catheter placement with IV trainers in the UMMS Simulation Center during their third-year surgery clerkship last year (from left: Courtney Reilly and Alyse Mousette).

Focus on the Office of Medical Education

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