ONE MORNING in mid-August of 2003, one of those invisible boundaries between the way things used to be and the way they are now was quietly but firmly crossed at the College of Medicine. That day, the Class of 2007 entered, and became the first class of students to begin their full medical education under the College’s new Vermont Integrated Curriculum (VIC). That same day, those students each received their school-issued laptop — their first portal to COMET, a new set of electronic learning tools developed at the College that would become an increasingly important part of their learning environment. Developed by faculty, staff, and students over the course of several years, COMET is now an integral part of each student’s day. “We had many interesting pieces of educational technology, like the CATSLab pathology tools, here at the College before the VIC introduction,” says Jill Jemison, who leads the COMET development team. “But what COMET did was deliver a learning management system that offered universal access — to every student, every faculty member, to every lecture and piece of course content. It serves as a link for everything.”
The VIC’s hallmark is integration — the weaving together of basic science knowledge with clinical experience. One of the tools found on COMET are case studies, such as the one these members of the Class of 2009 are seen above discussing with Associate Professor of Psychiatry and Associate Dean for Student Affairs Scott Waterman, M.D.

On this day, the students in this Neural Science course first gather in the large Case Study Room (left and below) on the ground floor of the Medical Education Center to listen to and participate in a panel discussion and question-and-answer session on schizophrenia. After hearing from actual patients, family members, and a social service provider who deal with the disease on a daily basis, the students break into small groups in classrooms in the center.

“The students have already reviewed the case study in the module on COMET,” explains Waterman. “They’ve worked their way through it on their own. It comes in three installments, with questions after each section. You could think of it as an online textbook chapter on schizophrenia. This small-group session allows them to compare and contrast what they’ve learned in the study with what they’ve just heard from the personal experiences of the panel. The learning module becomes a springboard to deeper discussion and understanding.”

For third-year student Robert Klein, seen here during a clinical rotation at the Vermont Children’s Hospital at Fletcher Allen Health Care, COMET is the main repository for the information and tools he needs every day, and it is accessible via any Internet-connected computer (and modules are downloadable to PDA devices) so that students in Burlington, at Maine Medical Center, or at any clinical setting in the world can readily access information.

“Here I’m looking at the Pediatric Clinical Clerkship home-page,” explains Klein. “Basically, every course and every rotation has its own area on COMET. When you need to find readings, PowerPoints, schedules, syllabi, evaluations, etc., you go to your personal homepage, select a course or rotation and, on that homepage, there are several green tabs which take you to the various elements of that course. In the hospital I use COMET to check my daily schedule of classes and events I need to attend. I enter patient information in our clerkship interaction trackers. I access medical publications, fill out evaluations of lectures and faculty, submit assignments, find out grades… I can even look at a PowerPoint from two years ago if I need to.

“I think COMET really adds to our medical education. I’d go so far as to say it’s necessary. I can’t even imagine another way of having all that information so accessible and organized.”
College of Medicine students regularly work with standardized patients (S.P.s), highly trained people who are expert at playing the role of patients presenting with various illnesses. Students interact with S.P.s in the exam rooms at the Student Assessment Center in the Given building. Here, second-year medical student Curtis Witcher practices an eye exam with S.P. Vivian Jordan. Behind him are related COMET learning modules. With computers in every assessment room, COMET can function as an adjunct to the S.P. presentation, by adding in pieces the S.P. cannot mimic — such as the sound of congested lungs, or an ailing heartbeat — that the student can access at the appropriate time in the assessment.

“COMET is a great tool, especially when used in the setting of working with S.P.s,” says Witcher. “We get a chance to learn about a body part or system online with some helpful visual aids and then apply what we’ve learned in an actual patient encounter. Since the S.P.s have been trained in advance, they can assist us through the physical exam skills which helps solidify our knowledge of the subject matter.”

“At every point we’ve stopped and said ‘what does the curriculum need, what does the student need, and how can we use technology to answer that need?’”

— Jill Jemison
In 1905, when the College of Medicine completed its third home at the corner of Prospect and Pearl streets in Burlington, the main lecture room where students spent so much of their time was named Hall A. The Hall A magazine section seeks to be a meeting place for all former students of the College of Medicine.

The VIC ideally needed a universal testing platform, and that is what students such as the group of Class of 2008 members taking a clerkship exam in the Mimi Reardon Classroom (below) have at their disposal. (Top right, a student doing some last minute studying before taking the actual exam, middle right. While in exam mode, the student’s computers are unable to access any outside resource.)

“While the VIC was in development, Cindy Forehand and Karen Richardson-Nasif really pushed the idea that online exams would allow for continuous quality improvement,” explains Jill Jemison. “We’re able to standardize the test-taking format, standardize the experience of taking the exam, and then standardize the data we’re getting out of the exams.”

COMET’s development has augmented the person-to-person learning experience, not replaced it. “We haven’t tried to cram in technology where it isn’t needed,” says Jemison. “There’s no ‘virtual anatomy lab,’ for instance. We can’t replace the value of real dissection. At every point we’ve stopped and said ‘what does the curriculum need, what does the student need, and how can we use technology to answer that need?’”