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Strength and Agility Power Up Online Learning

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After pivoting to remote learning last spring, CSH has leveraged its online instructional prowess to refine that programming model this fall with virtual labs and upgraded classrooms to remotely deliver content through high-quality video and audio systems.

The new tools build on DePaul's Desire2Learn course management system that lets faculty share syllabi, lectures and videos with classes. Students also benefit from faculty trained in the DePaul Online Teaching Series, a program that helps faculty design and carry out successful online courses with personalized support from tech-savvy instructional designers embedded in the college.

Most departments, such as biology, are now conducting labs using interactive, digital platforms that simulate science labs and incorporate customized curricula. CSH uses Labster, which combines mathematical algorithms with gamification elements, such as immersive 3D environments and open-ended investigations, to teach students techniques, skills, protocols and theories. Virtual instructors are on hand to guide and respond to queries, but faculty can add their own questions to students.

"We've found this arrangement has some advantages to a traditional lab," says Sandra Virtue, director of online learning and professor of psychology and neuroscience. "A virtual lab is always open. Students can repeat it as often as they like, which could be really time-consuming and costly in a face-to-face format. And students have reported they're less intimidated by trial and error in these virtual labs."

At the School of Nursing (SoN), where hands-on clinical training typically takes place in simulation and nursing labs equipped with high-fidelity computerized mannequins, moving to a virtual alternative poses unique challenges.

"Virtual experiences are great to augment training, but they aren't going to give us the same outcomes as in-person would," says Dan Mead, who directs the labs and serves as interim director of the Master's Entry to Nursing Practice (MENP) program. "We are getting students as close as possible to the latter from a didactic and educational standpoint."

Students in the MENP program access virtual lab platforms that use animated scenarios, videos and quizzes to guide students through proxy nurse interactions

The vSim for Nursing simulation platform helps MENP students hone decision-making skills. Photo courtesy of Laerdal Medical

with patients, making assessments and performing tasks like putting in an IV.

"They learn quite a bit about acute and critical care and do problem-solving using real patient cases," says Mead.

Open labs are also available at SoN this quarter.

"We are doing in-person makeup test-outs for all of the students who've done virtual labs," adds Mead. "These help students solidify the skills not clearly gained in a virtual environment and help us meet our teaching and learning objectives."

Providing students with in-person labs safely, as well as clinical hours at partner hospital sites, is essential.

"If nursing has taught me anything, it's that we continuously adapt," says Mead. "In this trying time, that's the only way we're going to survive this appropriately."
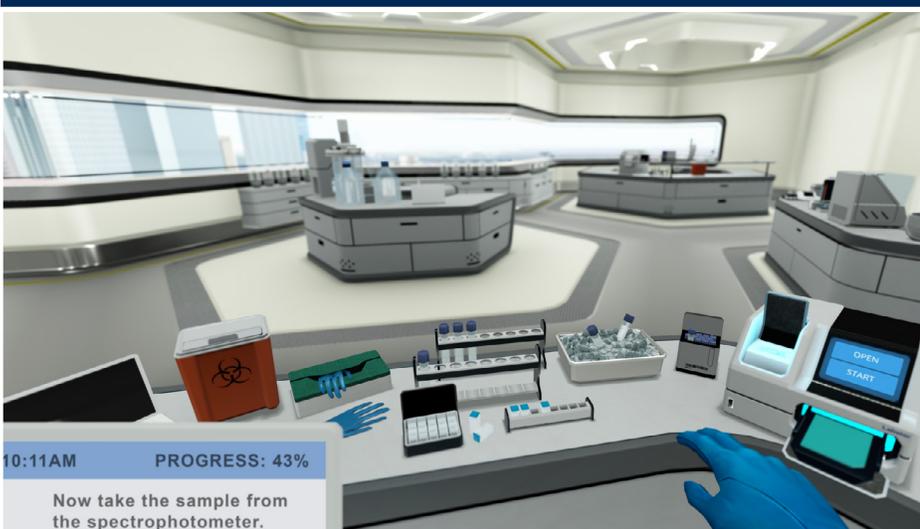
Labster's Enzyme Kinetics virtual lab guides students through chart plotting for specific inhibitors. Photo courtesy of Labster