

Virtual Realities

By Mary Lahr Schier
Photos by Patrick Kelly

WITC's simulation programs provide the next best thing to actual experience: opportunities to sharpen skills in (almost) real life settings.

It's dark as the officer responds to a report of poachers in the woods near Shell Lake. The officer comes upon two men in a clearing. He sees they are carrying firearms, and when he calls out to them, one runs. The other man stares at the officer and starts walking backward. It's a tense scene. Will he surrender? Will he run into the woods? Will he jump behind a tree and open fire? The options aren't endless, but there are enough of them that officers in the field must observe behaviors and conditions accurately and then make split-second decisions.

Fortunately, in this case, an officer who makes a mistake can try again because this is a simulation—a video training exercise that WITC law enforcement students use to sharpen their skills. The scenario is one of dozens offered in the use-of-force simulator, one of several new simulation programs WITC is using to give students training that is grounded in realism and safety. The college uses simulation programs in a variety of realms, including health care and emergency medical training, firefighting, and commercial and public safety vehicle driving. The simulators are powerful tools that let students hone their skills in a safe environment where the program and the instructor who operates it constantly make adjustments to respond to the student's actions.

The use-of-force simulator allows users to train for a range of serious and pressure-paced situations.



The simulators are particularly useful in training students for high-stress, high-responsibility positions, better preparing them for the challenges they will face on the job, says Pat McNally, WITC associate dean of Criminal Justice. In addition, WITC instructors use the simulators when providing in-service training to police officers, firefighters, and private businesses already working in the field, improving the skills of those on the job.

“The simulators give students a very realistic scenario that provides them with the kind of highly stressful situations they may encounter on the job—situations where they will have to make decisions in a hurry based on accurate observations,” says McNally. “They train students to recognize early when they or someone else is in jeopardy and how to react, how to deescalate a situation, if possible, and how to react if those efforts fail. They help students learn how to protect their own safety and that of others.”

Managing the unpredictable

The use-of-force simulator, which WITC has been using since last spring, is typical of this new breed of training tools. It uses realistic videos and constantly changing situations to give students a taste of the fear, lack of information, and pressure to make quick decisions that they may face on the job. Manufactured by Seattle-based Advanced Interactive Systems, the simulator is deployed in a darkened room. Screens surround the student, who has been armed with typical police gear—a simulated firearm, a Taser stun gun, and pepper spray. As the situation unfolds, the simulator has been programmed to respond realistically to the student’s actions. Characters in the videos may speak. If the student fires a gun, the character will fall; if the student uses pepper spray, the character will cough and stumble. If the student tries to use the Taser—which disables out-of-control people, but is not always accurate—the student may miss, and face the consequences.

The scenarios give students an opportunity to practice defusing a situation verbally, as well as training in using firearms and other equipment. An additional feature of the system is the ability to create new, area-specific scenarios. This summer, McNally worked with WITC Graphic Arts Technician Tom Szalajka to create the poaching scenario and two other scenarios that represent the kinds of situations local law enforcement officers may face: a domestic dispute and a school shooting. The videos were produced in first-person perspective with characters portrayed by local actors and volunteers. Two local police officers provided on-set advice about how the scenarios could unfold and a variety of possible outcomes and reactions were filmed.

“You really get a sense of how anything can happen,” says Szalajka. “The victim can become a perpetrator.”

WITC’s driving simulator offers startlingly lifelike imagery and realistic vehicle effects.



Mimicking the human element

One advantage of using simulators in training is their accurate representation of events that are unexpected or difficult for people to fake. WITC's first experience with simulators was a 100 lb. mannequin used to train paramedics and emergency medical technicians, and which can simulate a heart attack, a stroke, a seizure, and other ailments. The \$40,000 mannequin—called Sim Man—is used in several training programs on all four WITC campuses, and a Sim Baby also has been purchased. With the mannequin, students can practice new procedures or refine skills they already have mastered, with the mannequin providing accurate, life-like responses. The Sim Man (who can also be a woman) makes comments, coughs, retches, and if things go poorly, might even “die.” At the Ashland campus, Sim Man is primarily used to evaluate students' skills, says Cindy Lazorik, who teaches the Basic Emergency Medical Technician class. “We won't have a pretend patient giggling on the floor,” Lazorik says. “Sim Man responds like a person would in the field.”

The safety factor

A pair of new simulators will allow students to practice skills that are extremely difficult to teach in the classroom: fighting fires and driving in dangerous conditions. The 43-foot-long driving simulator, manufactured by MPRI Inc., a company that provides simulation technologies to law enforcement and the military, is like a self-contained camper, says Jack Running, one of WITC's part-time fire-training coordinators.

The simulator has two stations complete with steering wheels, gear shifts, and brake and gas pedals that respond like a fire engine, a squad car, or a truck. Instructors can program the machine's transmission, engine, and axle so they behave exactly like the vehicle that the student will drive on the job. “The system is so realistic that if you miss the gear on the stick shift setting, it rattles and shakes just like a real truck,” says Running, adding that the simulator uses three plasma screens to give drivers a “view” out the windows and mirrors of a car or truck. In addition, the simulator comes with about 30 stock scenarios that instructors can use or manipulate. Instructors can change them to mimic road or weather conditions, for instance, to make the driving situation more challenging.

Instructors also can build scenarios that reflect the driving challenges their students will face. “It's pretty amazing what you can do,” says Running. “Simulators allow us to do things you cannot do safely on the street, such as having a semi hit a patch of black ice or having a child run in front of a delivery truck.”

WITC worked for two years to raise grant money for the \$400,000 driving simulator. The mobile unit gives WITC trainers the ability to take simulation programs to all 11 counties in northwestern Wisconsin that the college serves. The unit's mobility also allows instructors to take the simulator to private businesses for customized training programs. For instance, the college recently conducted training for employees of a soft-drink delivery firm and used the simulator to reinforce skills in common driving challenges such as backing a semi into a loading dock. The programs help

improve the safety and performance of commercial drivers on area highways. “We're teaching them how to drive,” says Running. “We're going to help them hone their skills.”

Burning need

About 80 percent of the firefighters in western Wisconsin are volunteers. To be certified, fire-fighting students must attend a controlled live burn and fight a real fire. In the past, fire departments acquired abandoned buildings to burn, but that was difficult to set up, expensive, unpredictable, and potentially unsafe.

The driving simulator features a variety of programmable options that allow instructors to re-create specific road conditions.



Beginning in November, WITC-trained departments will be able to conduct a wide range of live burns safely, thanks to a newly acquired burn simulator. The custom-built device, manufactured by Draeger Safety Systems, replaces what Running calls a “big tin can” that the college had used until now. The new simulator's interior can be adjusted to create doors, blocked halls, and even a second floor to create a variety of firefighting and rescue challenges. Propane burners simulate the fire, and the smoke in the unit is safe to breathe. The unit also has three layers of sensors. If it gets too warm, fans automatically go on. If that doesn't reduce the temperature, the fire goes out.

“This is a safe environment. We can show students what can happen, but the instructor can shut it down, if needed,” says Running, who adds that local fire departments are eager to begin training using the burn simulator, because they see it as a way to strengthen individual skills and their ability to serve their communities.

Each of the new WITC simulators has had a similar effect. They help individuals build their skills and their confidence about their ability to respond to whatever challenges their job brings. They also help communities by providing highly trained workers for positions that demand experience and sound decision-making.

Mary Lahr Schier is a Northfield, Minn.-based freelance writer.

To find out more about WITC's simulators, go to www.witc.edu/coned/publicsafety.

“The system is so realistic that if you miss the gear on the stick shift setting, it rattles and shakes just like a real truck.”

Jack Running