

Keyano College: 9 Vortex Simulator Benefits

Located in Fort McMurray, Alberta, Keyano College provides specialized training to more than 2,800 full-time students and over 13,000 part-time students.



The college offers a wide variety of programs, including certificate programs such as mechanical construction trades preparation, the heavy equipment technician trade, and power and process engineering. Keyano College's Vortex™ Simulators are a valuable teaching tool for tower crane operation training, as well as training for mobile crane, crawler crane, and excavator operations. Leslie Howlett is Keyano College's Mobile Simulator Instructor—"mobile" being a reference to the Vortex Simulator, not to him, although his career has taken him from Newfoundland to Alberta via Afghanistan and an array of other locations. With over 20 years of experience as a trainer, he's conditioned to seeing everything as a teaching opportunity. Everyone's got their reasons for using a Vortex Simulator. Leslie shares his:

1. "It's a safe, hands-on environment. We're able to provide a learning avenue for students that gives them that experiential learning without putting them in a hazardous situation."

Training on a Vortex Simulator means students face the challenges of dealing with real equipment on real worksites—without risk of damaging equipment or injuring themselves or others.

2. "Trainers can recreate conditions it would take months to capture in the real world. You control the environment—and every learner gets the opportunity to experience that same environment."

Operators can be challenged with weather such as rain, snow, and fog, as well as difficult wind conditions. Instructors can inject equipment faults into training sessions at any time.

The Company

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The Instructor

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The Solution

Vortex Simulators are a valuable teaching tool for tower crane operation training, as well as training for mobile crane, crawler crane, and excavator operations.

3. "It attracts students to us. It's an innovative learning platform for students. Innovation – that's what we seek all the time. That's how they learn most effectively."

Vortex Simulators are powered by CM Labs' Vortex Software, which provides innovative simulation capabilities — including ground-breaking earthmoving and cable simulation — that set the industry standard for interactive 3D dynamics and simulated mechanical equipment behavior.

4. "Its mobility expands the college's reach. The great thing about the Vortex simulator is that we can bring it to the people. They don't have to come to us – we can go to them. We multiply the exposure of our program."

From cabin-integrated simulators and trailer-based solutions to 20 to 40ft ISO shipping containers complete with power, HVAC, and classroom, Vortex Simulator training adapts to your environment.

5. "You can instruct more students more effectively. There are a lot of psychomotor skills they have to grasp, and without a simulator you'd probably have to show them three or four times. That's a lot of one-on-one time. But with a sim, the instructor only has to show them once, and they can practice as many times as they want."

Vortex Simulators are available 24/7, and they're designed to last, with durable high-quality steel frames built tough for continuous use.

6. "Students are more confident. In the crane, they think, man I gotta go 100 feet up in the air, and I gotta try to lift something, and what happens if something goes wrong? — there's sort of an uneasiness there. But with a simulator, they think well, at least I can walk away from this, so they're getting the learning without the hazards." By using Vortex Simulators, students learn the proper use of the controls, pedals, and onboard systems—before they start operating the real equipment.

7. "I get an objective measurement of student performance. If I'm having an off day, and the student's having an off day, there may be an extra check mark that's not going to end up on that paper. But with a training management system, it doesn't matter — it's all based on the student." With Vortex Simulators, you can measure trainee performance against critical criteria, including unsafe actions and responses to incidents.

8. "I can challenge students with extreme conditions. For example, once the winds pick up, most apprentices in the tower crane program are like oh no no no, take the journeyman, he can do it. But with the simulator, they're trying it out anyway, and they'll do things that they normally wouldn't do until they were 10 years into the workforce."

Vortex Simulators allow you to practice challenging operations without risk of injury or damage to equipment. You can also prepare operators to respond to the unexpected by experiencing system faults, load shifting, and high winds.

9. "It feels real. One reason I chose the Vortex Simulator was because of the motion platform. It lends realism to the training. The more senses you can engage, the better it is. The motion platform is one more thing that gets them fully engaged."

A 3-degree-of-freedom motion platform provides the immersive Vortex Master simulator with all the motion and vibration you'd experience while travelling, lifting, and digging.

