University of
Massachusetts
UMASS Lowell

UMass Lowell Uses Virtual Desktop Solution Designed for High-Performance Graphics to Drive Academic Accessibility and Success

INDUSTRY
Education

LOCATION
Lowell, Massachusetts

Opportunity: Embracing BYOD to Create Virtual Learning Labs

University of Massachusetts Lowell is one of five campuses in the University of Massachusetts system. With a rapidly growing engineering program and an enrollment approaching 20,000 students by 2018, UMass Lowell needed more classroom space.

At the same time, the university wanted to make engineering education more accessible. In the past, courses required expensive workstations or laptops as well as software licenses, creating a barrier to entry for some students. "We saw an opportunity to both gain back classroom space and make applications such as SolidWorks [3D computer-aided design software] accessible anytime, anywhere, and on any device," says Steve Athanas, director of platforms and systems engineering at UMass Lowell. "We decided to create a virtual computer lab that lets students bring their own devices and helps us turn existing labs back into classrooms."

Solution: Making Education More Accessible for Students

Built on the VMware Horizon® Enterprise Edition solution with NVIDIA GRID and VMware App Volumes™, vLabs:Workstation is an extension of the university's vLabs virtual desktops that enables UMass Lowell to deliver immersive graphics on any device, on and off campus. The Horizon unified platform for virtual desktop and application delivery provides an exceptional user experience and high-performance graphics virtualization powered by NVIDIA GRID.

The virtual workstations include access to demanding 3D applications such as Dassault Systèmes SolidWorks, Autodesk Moldflow and AutoCAD, Esri ArcGIS, Adobe Creative Cloud, ACD/ChemSketch, MathWorks MATLAB, and more than 70 others, in support of seven different engineering departments. "Students can now access high-end applications from a Chromebook, iPad, or any PC, which makes an engineering degree more accessible by lowering the cost of entry," says Athanas.

Success: Transforming Teaching and Learning

By supporting a lower-cost bring-your-own-device strategy, the vLabs:Workstation solution gives student access to more lab time, improves the overall student experience, and helps the university deliver remote and online classes, a significant growth area for the university. The solution also makes it possible for the university to accept more students without adding new buildings and infrastructure. The solution takes UMass Lowell one step closer to its goal of making an engineering degree accessible to everyone.

The initial launch was an overwhelming success, with more than 80 percent of students in the pilot project agreeing that vLabs:Workstation is easy to use, and more than 60 percent agreeing or strongly agreeing that vLabs:Workstation helps their academic success. One survey respondent reported that it saved her 1.5 hours of commute time each day, time she now can spend with her young children.

vLabs:Workstation also has transformed the way the university teaches. For instance, Athanas cites a statistics professor who went from spending one day a month in the computer lab with her class to once a day integrating vLabs virtual desktops into the classroom experience. "All the students in the class can now pull out a device and start practicing what they just learned," says Athanas. "The time from lecture to practice was reduced from weeks to seconds."

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