Digital fluency for a new generation.

Penn State prepares students to solve future challenges by transforming curriculum with Adobe Creative Cloud.

PennState

"Using Adobe Creative Cloud, students learn to craft visual messages that bring people together to build ideas for the future."

Michael Kubit, Vice President for IT and CIO, Penn State

SOLUTION

Adobe Creative Cloud for enterprise

RESULTS

Encourages students to develop **DIGITAL FLUENCY** to create new solutions for future problems

Teaches students to convey complex technical ideas through **VISUAL COMMUNICATIONS**

CHALLENGES STUDENTS to learn new technologies and mediums, such as 360-degree video

Empowers students to **WORK ANYWHERE** inspiration strikes, even on mobile devices

The Pennsylvania State University (Penn State)

Established in 1855

Students: 100,000

University Park, Pennsylvania

www.psu.edu

CHALLENGES

· Prepare students to take on careers and problems that haven't been invented yet

· Remove barriers to students working creatively

· Encourage collaboration among students and across fields

"Now that Adobe Creative Cloud is available to all students, we're reviewing our entire curriculum to identify key touchpoints and formalize visual communications training so that our graduates are fully equipped to convey their engineering design ideas to those without a technical background."

Ryan Solnosky, Assistant Teaching Professor, Department of Architectural Engineering, Penn State

Teaching students digital fluency

According to Dell Technologies and Institute for the Future, 85% of the jobs that will be available in 2030 haven't been invented yet.* This poses an interesting challenge for universities committed to preparing students for future career success. The question is: how do you prepare students for 21st century careers that don't yet exist?

"Our society is growing increasingly digital," says Marie Hardin, Dean of the Donald P. Bellisario College of Communications at The Pennsylvania State University (Penn State). "To prepare students for the future, we need to teach them to become effective thinkers and problem-solvers who can take on new challenges."

Many schools prepare students for the digital future through digital literacy initiatives that aim to teach them how to understand technology and work in a digital environment. Penn State believes that digital literacy isn't enough and the goal should be digital fluency—the ability to not just understand technologies and digital mediums, but to also use them to create new knowledge for a digital future.

Access to technology is the differentiator to realizing digital fluency. Students need the freedom to explore technologies and use them to create. Penn State partnered with technology leaders, including Adobe, to put modern tools in the hands of all students, faculty, and staff at the university. By integrating Adobe Creative Cloud apps into the classroom, Penn State is transforming curriculum to prepare students to be creators and leaders in 2030 and beyond.

"We don't know what the jobs of the future will be, but communication is essential to every field, whether it's communicating with colleagues, clients, or the public," says Michael Kubit, Vice President for IT and CIO at Penn State. "Using Adobe Creative Cloud, students learn to craft visual messages that bring people together to build new ideas for the future."

Communicating technical ideas with visual design

Architectural engineering focuses on all engineering aspects of building design, construction, operation, and maintenance, including lighting, mechanical, structural, acoustical, and electrical systems in buildings. As a result, architectural engineers work with creative designs every day to collaborate with architects and communicate ideas to clients.

"Many call our students creative engineers who can effectively bridge between creative design and fundamental engineering principles from a diverse range of engineering fields," says Sez Atamturktur, Harry and Arlene Schell Professor and Head of the Department of Architectural Engineering at Penn State. For example, in the CoLab course, a collaborative design studio for the Architectural Engineering, Architecture, and Landscape Architecture departments at Penn State, teams of students work together on real-world projects for clients.

"With the new Creative Cloud licenses, students can download apps on their own devices and use them anywhere, whether they're at home or in the field."

Lori Hepner, Associate Professor of Integrative Arts, Penn State

"Penn State architectural engineering students are prepared to be competent designers who can create efficient building systems that complement the architect's vision," says Ryan Solnosky, Assistant Teaching Professor in the Department of Architectural Engineering at Penn State. "Now that Adobe Creative Cloud is available to all students, we're reviewing our entire curriculum to identify key touchpoints and formalize visual communications training so that our graduates are fully equipped to convey their engineering design ideas to those without a technical background."

Architectural engineering students work with computer models and renderings of their designs. The outputs of these models can be hard to read without training. With Adobe Photoshop, architectural engineering students can enhance sections of the models and clarify technical details to make the designs easier to understand. They might also edit stock photographs of interior rooms to show how windows and lighting systems will affect the experience for people inside.

Students then pull these images into Adobe InDesign to create handouts, displays, or presentations for coworkers and clients. Custom graphics created in Adobe Illustrator add the final polish to give presentation materials a professional touch. As the industry starts to incorporate virtual environments and simulations to present design data, the department can incorporate solutions such as Adobe Premiere Pro and Adobe After Effects to help students develop even more immersive learning experiences.

Using art to explore nature

Penn State embraces a collaborative learning philosophy by requiring every student to take an Integrative Studies course. Lori Hepner's Biology 60N course, Art in the Natural World, brings together the worlds of biology and art by encouraging direct observations of nature. Hepner takes students out into the field and asks them to draw and identify natural objects observed during their walks.

In the past, students might need to carry sketch pads, colored pencils, and bags full of reference materials on these walks. Today, students just need a tablet. With Adobe Illustrator Draw, the tablet is a student's canvas, allowing them to quickly create drawings of tree bark or native grasses found on their walks. They can pull up reference guides in PDF to compare what they've found, and even layer images to contrast their observations with the data in the guide.

"Students previously only had access to Adobe Creative Cloud in campus computer labs," says Hepner. "With the new Creative Cloud licenses, students can download apps on their own devices and use them anywhere, whether they're at home or in the field. The added mobility gives students the opportunity to work on projects whenever inspiration strikes. But it also lowers the barriers for non-traditional students who might be working full time and living off campus. They no longer need to strictly plan their day around the campus lab. Instead, they can explore ideas whenever they have free time."

SOLUTION AT A GLANCE

Adobe Creative Cloud for enterprise, including:

Apps: Adobe After Effects, Adobe Photoshop, Adobe Illustrator, Adobe InDesign, Adobe Premiere Pro, Adobe Illustrator Draw

For more information
www.adobe.com/education/digital-literacy.html

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San Jose, CA 95110-2704
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Bringing next-generation storytelling into the newsroom

Journalism has long incorporated visuals, including sketches, photographs, video, or animated infographics, to better tell stories to readers. But today's journalists are often expected to produce stories entirely by themselves, from photography to writing to editing video.

With the wide variety of apps in Adobe Creative Cloud, journalism students can find just the right app for any situation, whether they're editing a video interview at home or reporting from the scene using their mobile phones.

Students also learn to create stories using new and emerging technologies. Professor Will Yurman trains his students to become journalists of the future by creating 360-degree documentary features. Print and digital journalism major Morgan Campbell produced a 360-degree video and accompanying article following a fellow student, Sam Reiser, and his quest to turn an old school bus into his very own mobile tiny home. Taking advantage of 360-degree footage, Campbell invites viewers to turn their device and explore the tiny home, following Reiser's movements one moment or inspecting the progress at the other end of the bus the next moment.

Campbell edited her documentary entirely within Adobe Premiere Pro. Premiere Pro also handles ambisonic, or full-surround sound, natively, allowing Campbell to adjust the sound so that it shifts and turns as viewers look around. Campbell exported her final video directly from Premiere Pro to YouTube.

"We're not incorporating Adobe Creative Cloud into the classroom just to teach Adobe products," says Yurman. "The goal of Adobe Creative Cloud is to challenge students to work with new technologies, learn new skills, and accomplish something incredible. We give students the tools that they need to do the kind of inventive work that will help them succeed now and well into the future."

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