

University of Arizona

From scattered to scale –
How the University of Arizona manages
2TB of lecture capture video every week.

2TB

PER WEEK

270k

HOURS IN ONE
YEAR

23k

HOURS IN ONE
MONTH

More than a quarter million hours — that’s how much time students at the University of Arizona collectively spent watching recorded lectures, flipped classroom presentations, and other academic video just in the last year.

Two terabytes — that’s the total size of the video files UA faculty and staff produce every single week as they work to create the best learning environment for the institution’s 42,000 students.

But it wasn’t always this way. In fact, just a short time ago, the University of Arizona was like many other institutions when it came to supporting lecture capture and academic video — different departments experimenting with different solutions to support different objectives, and all still looking for a better way to support and engage their students.

Recognizing both the rising interest from faculty, as well as the potential value for students, Arizona’s Office of the CIO sought to find a better solution for taking lecture recording campus-wide. The team soon found Panopto — a flexible video platform that made it possible to record, stream, and share video with ease, in a software-based solution that was far easier to manage and far more affordable than the old web of departmental deployments.

With Panopto integrated into the university’s multiple LMSs, rolled out to the more than 300 classrooms across campus, and available to all faculty and students to install on their computers, the University of Arizona has harnessed the full potential of video as a tool for learning — creating an essential resource and invaluable study aid that both students and faculty have quickly come to rely on in numbers.



About the university

The University of Arizona is the state’s land-grant university and a member of the prestigious, invitation-only Association of American Universities —made up of just 62 top research universities. Rising from the sands of the Sonoran desert in 1885, the institution is transforming science fiction into scientific fact, collaborating across disciplines and engaging in novel partnerships to make the unknown known.

As one of the world’s premier public research universities, the University conducts more than \$625 million of research annually. The UA is one of the nation’s top producers of Fulbright scholars, and 18 of its graduate programs rank among the top 20 in the nation according to U.S. News and World Report.

Experimentation within departments: How the university first began recording lectures

The sheer volume of academic video produced and viewed daily at the University of Arizona is nothing short of impressive. But of course, UA didn't simply decide one day to become one of the nation's most prolific producers of lecture recordings.

Like most institutions, the University of Arizona came to uncover the potential value of adding lecture capture to the learning experience by small scale experimentation, with the university's departments leading the way.

Always on the lookout for new tools to help students learn, many of UA's schools and departments had independently made the decision to invest in lecture capture technology. In just a few short years, select lecture halls around campus found themselves awash in an array of lecture capture hardware — each featuring different appliances, different capabilities, different vendors, and different support requirements, depending on what technology any given department had invested in.

While managing each system had its own challenges, on the whole the technology was garnering interest. Lecture capture allowed faculty to record their largest class sessions and make them available to students using Apple's Podcasting platform. Students, in turn, found the recorded presentations to be essential study aids, and safe with the knowledge that everything was being recorded, made it easier to more actively participate in classroom discussions instead of worrying about writing down every possible note.

As interest grew, faculty began looking beyond just their largest lectures, and began expressing interest in capturing discussion sessions, lab demonstrations, blended-learning techniques, and virtually every other lesson format. Yet as faculty sought out new opportunities to leverage the new video tools their departments had put into place, the same 3 challenges began appearing over and over.

The first stumbling block was one common to academic video — the hardware itself. Many of the university's first lecture capture installations were hardware-based solutions, built around specialized, expensive recording appliances that resided permanently in lecture halls. This lack of mobility limited the usefulness of those first solutions — they offered faculty no means to record video from their offices or capture examples remotely in the field or the lab.



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— **Mark Felix**, Director, Instructional Support,
Office of Instruction and Assessment, University of Arizona

Of second issue was that, for students who took classes across multiple departments, having multiple lecture capture solutions meant an inconsistent experience. Students had to independently remember how to locate and play each video from each class. Video quality was highly variable as well — some of the systems included support for high definition video and multiple video sources, while others provided only a single, fixed camera in the back of the room to capture instructor, slides, and whiteboard.

Third, and perhaps most challenging of all, were the demands for support the departmental approach has placed for all of the university teams involved. Supporting the myriad of tools, to say nothing of managing all the various software updates and recognizing and addressing technical issues with each as they popped up, was an enormous task. By standardizing the systems across campus, they could better ensure that, when something did go wrong, that there would be more than one expert on campus to support it.

While these pilot installations facilitated experimentation and built some awareness around the practice of lecture capture, the University of Arizona was only just getting started. Taking all they'd learned and applying a proactive approach, Arizona's CIO team sought to find a single solution that could not only solve the challenges the previous systems had experienced, but affordably and reliably scale up to meet the growing video needs of nearly 50,000 faculty, staff, and student users all across campus.

Finding a University video tool fit for everyone

As the equipment purchased by the pioneering colleges and departments began to age, the University Information Technology Services team assembled stakeholders from around campus to better understand how each department had been using video, what features faculty and students relied on, and what new potential uses instructors might have for the technology.

Believing video added significant value to their students' learning experiences, it was at this time that UA campus leaders committed themselves to making lecture capture technology available in every one of the school's more than 500 classrooms and lecture halls. To make good on that commitment, the team determined the school would need a software-based solution — one that would free the university from relying on specialized hardware and permanent installations.

With a software solution, UA hoped to leverage the laptops and desktops already on campus and in individual faculty's possession to capture any kind of lecture, from formal classroom sessions to informal flipped classroom lessons or on-site demonstrations. Knowing that their campus information technology environment that was nearly 45% Mac, it was also key that any lecture capture software they selected would need to work well with both Windows PCs and Macs.

As Arizona dug into the wealth of lecture capture and video content management systems now available, the school discovered a wide range of technical features, implementation options, and new potential use cases to consider. Yet as the team sifted through the details searching for a flexible and reliable software-based architecture with comprehensive cross-platform compatibility, one solution quickly rose above the others — Panopto.

In Panopto, UA found exactly the video platform it had been looking for — versatile, easy-to-use software that made it possible to record, share, and stream video using the hardware the university already had. Panopto was easy to deploy across campus — the Panopto recorder could be quickly installed on virtually any computer, and Panopto's web-based video library could be accessed in any web browser. Faculty members were thrilled to find Panopto integrated seamlessly with the university's existing learning management system, Brightspace (formerly Desire2Learn).

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Best of all, while it was the technical capabilities of the platform itself that had first attracted UA's interest, there was a different feature that instantly stood out to Arizona's OIA team — Panopto's support team provided a level of service that just couldn't be compared.

Arizona finds a partner in innovation in the Panopto Support Team

With an ambitious goal of supporting video in every lecture hall and classroom on a campus with more than 40 thousand students, Arizona's team expected to have a serious challenge on their hands. Which is why they were so thrilled once they began working with Panopto.

“One of the best things about Panopto has been their level of support,” said Mark Felix, Director, Instructional Support at the University of Arizona Office of Instruction and Assessment. “Panopto's been a nice fit on the product side, and an excellent partnership on the support side.”

Along with assisting in the campus-wide implementation, Panopto's worked closely with the OIA and EIS teams to help the university continue to make the most of its video infrastructure and investment. When the UA team sought to optimize bandwidth utilization by splitting its video storage — in the cloud for lower priority files, and on local servers for more frequently accessed materials — the team really began to see what makes Panopto different.

“We'd expected the usual vendor response — ‘we'll make a feature request and talk about it for the next six months,’” recalled Felix. “But with Panopto, everything was doable. That same day they opened a ticket, jumped in our systems, and helped us line up our cloud accounts. It was so much more than we expected.”

And when it comes to technical collaborations, Panopto's support team continues to be there for Arizona. "Every time we've provided feedback or feature requests or asked for Panopto to find a way to partner with the other companies and technologies with use here on campus, Panopto has always been willing to come to the table," said Felix. "In fact, not long ago one of our directors had a call with Panopto and another vendor together. I think it was one of the happiest calls she had that year — she was smiling for weeks."

Committed to delivering the very best product support, Panopto not only helps the University of Arizona record and rely on an incredible amount of academic video — it helps the UA team take advantage of every opportunity to stay at the forefront of technical expectations and deliver the best lecture recording experience for students, faculty, and staff.

Creating a classroom video culture

With the right video platform in place, the UA team could then turn its attention to the most important step of all — helping the university's faculty, staff, and students make the most of the new opportunity.

As awareness was building, the OIA team pushed to ensure the actual rollout of the new video platform would be as ubiquitous as the initial plan had committed. To make sure it was, UA created two initiatives to support faculty:

First, they established a bi-weekly training session open to anyone on campus. This provided faculty and department facilitators an open door for learning how to use Panopto and get any of their questions answered. Compared to the one-off support each department required previously, offering a single, regular session to support one centralized video platform was a much more efficient use of the team's time.

Secondly, for faculty looking to use video to help flip their classrooms or offer other blended learning experiences with video, OIA staff created a module in an existing mini-course to both increase faculty's technical understanding of video, and help them craft compelling content. Several workshops were also developed for both the faculty and staff that support the product. In addition, the university quickly ramped up the number of support staff that knew how to use the tool so that support was never far away. Lastly, they made prodigious use of Panopto's online support documentation and wrote little materials of their own. The University of Arizona Library system is one of the largest adopters of the new video platform even though they are not using it for lecture capture.

Taking note of the ability to easily upload and securely deliver multimedia to students no matter their location, the library migrated from their previous multimedia streaming solution to Panopto. The software's adaptive bitrate streaming ensured that all students, whether on the campus network or at the coffee shop down the street, could smoothly view their class videos.

With this approach, students now had a reliable, consistent experience for viewing material that their professors needed them to review as homework and the library staff could manage it using their student workforce.

"We knew it had to be easy," said Felix. "We wanted to be able to say: go to this website, download the software, and it will work. And that's what Panopto does for us. This lets us quickly move to conversations around how we can creatively use this tool for improving teaching and learning."

Arizona achieves its goal — with video everywhere on campus

With a student population of more than 40 thousand and lecture capture in wide use across campus, the University of Arizona has embraced academic video with full force and has some impressive engagement numbers to show for it.

Each week, Arizona's faculty produces more than two terabytes of data. Over the course of the last year, their lecture capture totaled nearly 30 thousand hours of recorded content. Just as impressive is how students engage with all that material — in the last year, students at Arizona have viewed nearly 270 thousand hours of video, studying for tests, catching up on classes, and owning their learning experience.

For the University of Arizona, the experience has been everything they'd hoped — not only in making good on the school's commitment to make academic video available anywhere on campus, but also in building an excited community of students and instructors that now rely on video as a key part of the university experience.

With Panopto providing a solid foundation in lecture capture and video content management, today the University of Arizona is out at the forefront, offering new opportunities to better engage students and raising the university's profile as a leader in blended and online learning.