



COLORADO COLLEGE

Office of Information Technology Services

2021-2022 ITS Yearly Report

Welcome to the Office of Information Technology Yearly Report!

We are pleased to present a brief narrative of just some of the important work the ITS Division accomplished during the 2021-2022 fiscal year.

From helping college departments acquire and integrate new applications to maintaining a stable technological environment to sustaining and improving all manner of IT services, applications, and infrastructure, all campus constituents, alumni, parents, and guests were impacted by the outstanding performance of the people in ITS. This above and beyond work was rewarded with multiple teammates being nominated for Colorado College Presidential Leadership Awards.

We are very proud of the efforts by the division this year and hope you will join us in celebrating a job well done. We also look forward to an equally successful 2022-2023 year providing the best possible service to all who live, study, work, visit, and play here.

Katharina Groves
Co-Vice President



Tulio Wolford
Co-Vice President



ITS Strategies

In continuing support of the college's strategic plan, Project 2024, ITS focuses on the following:

- **Learning Network**: improved infrastructure for a better overall technological experience for all.
- **Outreach and Service to the CC Community**: ongoing contact with all campus constituents to address and support their technological needs.
- **Cloud and Mobile**: increased mobile services on the CC mobile app platform and elsewhere through development and integrations.
- **People**: sustained positive and vision-driven culture to support those in and outside of ITS.
- **Professional Development**: ongoing learning within and outside of our expertise to support the campus and exemplify leadership.

To find out more about the college's strategic planning process, visit the Project 2024 website at <https://www.coloradocollege.edu/other/project2024/yeartwo.html>.

New Hires

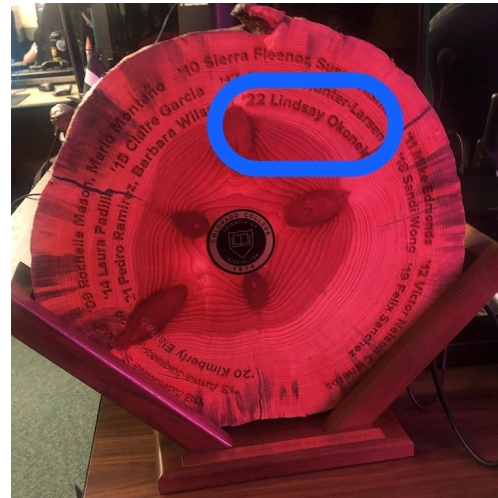
- ◆ Israel Ashiagbor—EIS Specialist (transferred from Campus Safety)
- ◆ Joshua Birndorf—GIS Technical Specialist (transferred from Anthropology)
- ◆ George Black—Temporary User Support Specialist in the Solutions Center
- ◆ Shane Brown—Senior EIS Specialist (transferred from Audio/Visual Events)
- ◆ Eric Cassavaugh—EIS Specialist (transferred from Residential Housing)
- ◆ Justin Freeman—Solutions Center Assistant (transferred from Advancement)
- ◆ Louis Knox—AV Events Assistant
- ◆ Patrick Lynch—Information Solutions Architect
- ◆ Lindsay Okonek—Esports Coordinator
- ◆ Kristina Reich—EIS Specialist (transferred from Advancement)
- ◆ Chad Tubbs—User Support Specialist, Print Technician
- ◆ Alwin Zacharia—Business Intelligence and Data Warehouse

We are excited to welcome all who joined our team this year!

Presidential Leadership Awards

Lin Okonek, esports coordinator, won the college's Victor Nelson-Cisneros Diversity and Inclusion award for her tireless efforts to make esports, a typically male dominated pursuit, more inclusive and welcome to all. Her nomination included the following accolades:

“In her few months here, Lin has made the esports community a more inclusive and safe space for several minorities. Esports is typically a male dominated space and closed off to others who do not fit in. But with Lin as the leader, we have seen an increase in female-identifying and non-binary members of the community...her zero-tolerance for racism, hate speech, and sexism really helped make the esports community at CC a safe space for everyone...now we have more CC students wanting to come into the lab to play games than ever.”



Ian Knapp, user support specialist—computer repair, and Weston Taylor, user support specialist—outreach team lead, were also recognized for their outstanding work and nominated for the Glenn Brooks Innovation and Courage Award and the Brian Young Community Service Award respectively.

Congratulations Lin, Ian, and Weston!

New CC employee IT onboarding process

The Solutions Center created an ITS onboarding process this year to help new employees acclimate faster to their new technology environment. A member of the Solutions Center meets individually with each new hire in their own office space to deploy their computer system, inspect their workstation for any missing technologies they might need, create relevant work tickets for licensing or telecom services, map printers and additional file shares, apply permissions, set up multi-factor authentication with Duo, and sign them into all of their relevant services.

The Solutions Center has received universal praise for filling a gap with positive service-oriented interactions that allow for patient explanations and time for questions and answers. The service has become popular, and many departments are now reaching out in advance to schedule time for their new hires.





Tech Adoption

- 28 requests submitted.
- 26 requests approved by the Tech Adoption group (two were removed from submission before approval).
- Approval time frames varied based on when complete information was received.
- Requests ranged from individual needs for grammar software to upgrades and additions for existing departmental and college-wide software to specific departmental software to manage housing, video interviewing, and license plates to name a few.

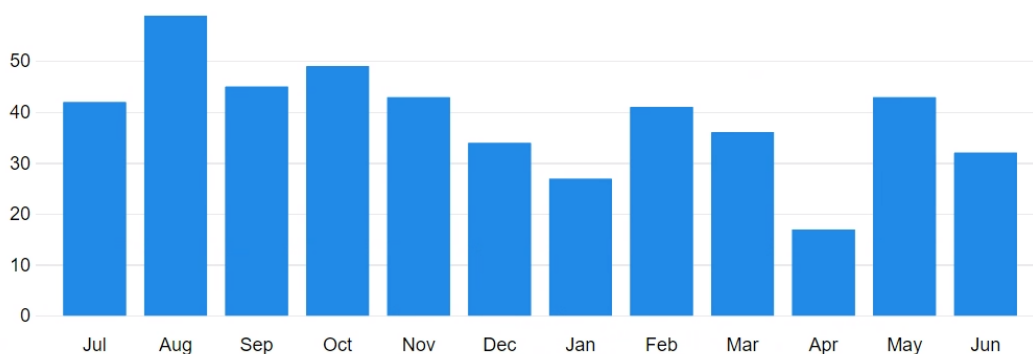
If you are considering any applications, software, hardware, online services, or other technologies to address an issue, manage data, or help with efficiency in your office, we can help! Visit the [Tech Adoption website](#) for more information, as well as the Tech Adoption Request form to submit department-approved ideas for applications you would like to add or change.

Our goal isn't to prevent you from getting the tools you need, but instead to make sure the tools you are investigating have the proper security and integration measures in place, as well as do not duplicate existing applications. We want to prevent data breaches and know that the application will fit into our existing systems. This process also allows us to better accommodate your needs into our existing workflows and can help prevent lengthy delays in implementation.

Qualtrics use

- 786 surveys were created, with a total of 34,259 responses.
- 746 unique CC people logged in a cumulative total of 6,694 times.
- 468 new users were added, with 59 created in August 2021 alone.

New users



Infrastructure highlights

- Doubled tier 1 storage capacity. Tier 1 is designed for data that is highly time-sensitive, volatile, and must be accessed quickly.
- Added over 25 new virtual servers. Virtual servers are used to reduce server hardware expenses, as well as power and energy costs. They house many of the college's applications, tools, and environments.
- Expanded backup archival capacity to 500 terabytes.
- Added redundant battery backup to the Armstrong Hall data center.
- Upgraded and enhanced the capabilities of the campus load balancer. Load balancers ensure that network traffic is distributed to servers in ways to not overwork them.
- Hosted a disaster recovery tabletop exercise with the University of Colorado, Colorado Springs.
- Added a new logging cluster to enhance server/network reporting of problems.
- Added an additional 151,000 square feet of indoor space that we provide wireless services in, including the Robson Arena.
- Completed over 1,000 proactive automatic server migrations to avoid outages.
- Updated and upgraded the network backbone in the main campus buildings (east campus residential buildings will be updated in the coming year), moving from 10 gigabytes to 100 gigabytes. This reduced by two the major fiber hubs on campus that require power conditioning, emergency generator backup, and cooling, saving the college money each year. It has many new features that include better alerting and the ability to run different network architectures. In addition to replacing end-of-life equipment, the new backbone provides better support and speed for the campus' needs.



Pictured above: Tulio Wolford, ITS interim co-vice-president, competes against table tennis professional Wally Green during the "Spinning the Tables" ping pong event and short film screening on Oct. 6, 2021.



Moments to Celebrate

“Some good news to share. Katharina’s team worked hard on the registration issues we had over the summer, and I am happy to report registration for J block, which mimicked that of the summer, went smoothly. We have over 500 students registered so far and no reported errors.”

Pedro de Araujo
Vice President and Dean of the College
Professor of Economics

Applications highlights

- Updated the college’s central authentication service (CAS)/single sign-on service multiple times throughout the year to maintain usability, support, and security for all associated applications.
- Added the following applications to the single sign-on environment: Presence, Ungerboeck, the library’s instance of OS-Ticket, Helios, Wasabi, Traliant, EcoStruxure, Cohesity, Bryka, and the Canvas and Atrium test environments.
- Colaborated with students to incorporate single sign-on in their capstone project.
- Updated the college’s Gitlab software.
- Created and deployed a Covid test inventory application, a Covid test pickup tracking application, and a Covid status check application for events. Also created a Covid contingency plan within the IT Server Applications and Security Department to cover processes in case of illness.
- Helped the IT Infrastructure Department upgrade an infrastructure monitoring system to the last version.
- Added the ability to display Gold Card balances in the CC mobile application.
- Moved relevant information from an internal IT wiki page to the draft IT application landscape.
- Transferred .fm domains to KRCC (915KRCC.fm and KRCC.fm).
- Adapted the virtual Gold Card to use Atrium data and to display account balances.
- Worked with the Today at CC Digest to configure time formatting, replace Mailchimp, and combine staff and faculty emails.

Zoom statistics

- 46,711 meetings with 210,672 participants.
- 93 webinars with 13,196 participants.
- February 2022 had the most meetings with 5,712.
- 2018 active users.
- Top three countries of origin for participants were USA, Brazil, and Vietnam.



Audio Visual Support Team

Crestron systems across campus received improvements including: adding the option to use the built in camera for Zoom in the Tutt Library Event Space, revising the system programming to eliminate jittery images when switching video wall layout or source in Tutt Library room 105, and creating a full screen preview option at the podium and adding programming that enables the Mac Mini to be used in PowerPoint presenter mode in the Cornerstone Arts Center Screening Room.

A multi-year project to replace all of the outdated audio/visual control panels in over 150 smart classrooms and meeting spaces was completed. The old push button panels were replaced with new 4K ultra high-definition touch screen systems (both pictured below) that offer many advantages, like the ability to do the following:

- Add equipment such as a document camera for temporary use.
- Display a help file or phone number to call for assistance.
- Allow device control for equipment that is not nearby.
- Display information such as time of day, projector lamp hours, input source, etc., to make the system easier to use and maintain.
- Send content from four HDMI, four VGA, and two digital media inputs via a single cable that eliminates multiple cable runs to the projector.

Pictured below: old panel (left) vs. new panel (right)



Other projects included installing a new audio visual system in the men's basketball locker room, adding an audio/visual system in the Butler Center gathering space, creating a new smart classroom in one of the Packard Hall art studios, and updating the video conferencing system in the Armstrong Hall board room.

Managed print

2021-2022 was the first fiscal year with in-house management of all aspects of printing across campus, including toner management/delivery and printer maintenance. This resulted in a significant improvement in overall service, as well as budget savings, keeping dollars spent closer to the amount budgeted instead of functioning in a deficit.

Chad Tubbs, user support specialist—print technician, began in the fall of 2021 and came to the college with decades of experience servicing and working with printers, including the college's printers several years ago. Chad, along with the Solutions Center, was able to accomplish the following:

- Determined how much paper is used across campus and converted that into the number of trees impacted. The goal is, with the help of the Sustainability Office, to plant at least that number of trees each year.
- Implemented the HP Self Maintainer Program to save 50% on all replacement parts.
- Negotiated with HP to have the college put on the Big Deal list for new printer purchases, saving 25-50% on new printers. Approximately \$22,000 was saved on the first printer order after arranging this program.
- Negotiated the Xerox labor rate from \$395 per half-hour to \$135 per hour, an 83% savings. This negotiation also netted the college a 35% discount on parts going forward.
- Kept six Xerox copies in service by fixing instead of replacing them, resulting in a \$45,000 savings.
- Kept five HP printers in service by fixing instead of replacing them, resulting in a \$12,000 savings.
- Used functioning parts from non-functioning printers for repair work on existing printers, resulting in a \$7,000 savings.
- Created a toner inventory system to better monitor supplies and meet demand.
- Trained two back-up printer technicians in the Solutions Center to ensure continuity during absences.
- Worked to reduce the number of different printer models on campus to ensure better supply management.



GIS program

Matt Cooney, GIS technical director, worked with Pikes Peak United Way throughout the pandemic years with their “Peak Progress Quality of Life Indicators” project, serving as the chair of the Demographics Council. He was introduced to the work they were doing by CC’s Collaborative for Community Engagement. The council gathered demographic information about Colorado Springs and other communities from 2000 to present and now that data is being hosted and visualized to benefit the Colorado Springs community, as well as to have an easily-accessible database for research and investments into our community.



To find out more about the project and view the demographic statistics, as well as other available data, visit <https://www.ppunitedway.org/peakprogressqli/>.

Solutions Center provides Tutt Library with power cables for checkout

One of the most frequently requested technology checkout items at the library is a power cable for a laptop. Because there are so many different kinds of laptops with many different kinds of connectors, it hasn’t been reasonable to stock them. However, the Solutions Center found a power adapter that is fairly universal between newer Macs and PCs and purchased a dozen of them. They are available for checkout for up to three days. The response from the students has been very positive!

Digitization of athletic medical forms

Working in conjunction with the Athletic Department, ITS helped to digitize numerous athletics medical forms. A combination of Adobe Sign and Qualtrics was used to accomplish the task, and although there were a few bumps in the road along the way, this first year of using the digitized forms has been successful overall.

Moments to Celebrate

Comments to all ITS staff involved with hosting the Educating Children of Color Summit in early 2022:

“Thank you for being so professional, caring, and patient! You did an amazing job facilitating the Summit. Every person I have talked to has said that the day was flawless technologically. Thank you, Thank you, Thank you!”

Regina Walter
Executive Director, Educating Children of Color



Pictured above: member's of ITS gather in Tutt Library to celebrate Employee Appreciation Day on March 3, 2022. Photo by Chad Schonewill

Application Landscape

ITS is in the process of documenting the various applications (software, web applications, etc.) that the college uses. This is a monumental task, as there are applications across campus of which ITS is not aware or on which it has very little information. If you suspect that any of the applications you use in your department fall in this category, please reach out to the Solutions Center at its@coloradocollege.edu or (719) 389-6449.

The goal with this landscape is to be a resource for the campus to reference when considering a new application in a specific area to see if the college already owns something that can fit the need. This will help everyone be more accountable with the resources in their care. Expect to hear more about the application landscape once it is more fully-developed.

Moments to Celebrate

Comments to the Solutions Center:

“A shout out to the IT team, once again, for helping us get the PCs working and the Gold Card printer printing during one of the largest “rushes” to the Worner Desk I have seen in years! We were trying to fulfill Covid test requests and make Gold Cards and only one PC was functioning. I know you guys were swamped Monday as well, and just want you to know how much we appreciate your support during this time!

Elizabeth Leslie
Worner Desk

Esports team

During the annual Southern Collegiate Athletic Conference's esports showdown, the CC esports team tied with St. Thomas University for first place overall and lost the tie-breaker, ending up in second place for the year. Final standings for individual games are:

- Rocket League—first place
- Overwatch—second place
- Smash Bros Ultimate—second place
- Valorant—fourth place
- Apex Legends—fourth place
- League of Legends—fifth place



Pictured above: The esports team leaves for the airport to participate in the SCAC esports showdown. Go Tigers! Photo by Milo Miller

Esports lab



Political Science Assistant Professor Jiun Bang used the video game *Call of Duty: Black Ops—Cold War* in the esports lab as the centerpiece for a discussion during one of her class sessions (pictured left, photo by Lin Okonek). She worked with Esports Coordinator Lin Okonek to plan the assignment. Once Professor Bang explained what she wanted to showcase, Lin was able to suggest the game that would best fit those expectations and needs.

The experience went well according to both the professor and students attending. Students engaged with their material regarding

American exceptionalism directly and experientially, looking at the contexts of the Cold War, what the game got wrong, and any revisionist history involved.

While many of the students had not seen the lab or even knew of its existence, several of them expressed their desire to return and experience the welcoming space, as well as more of what the lab has to offer.

Solutions Center deployments and support calls

- 235 PC-Windows computers deployed, including labs and loaners (this number is elevated due to the pandemic, as computers could not be deployed during this time; a normal year averages around 115).
- 272 Mac computers deployed, including labs and loaners.
- 7,287 support calls received at the Solutions Center number of (719) 389-6449.

Ongoing technology work in the Ed Robson Arena

While the primary technology work in Ed Robson Arena was up and running during the 2020-2021 year, much was added and enhanced in 2021-2022. Overall, the arena includes:

- Network infrastructure to support multiple complex systems.
- Security cameras throughout.
- Daktronics Scoreboard, network-based connections to the fire evacuation system for instructional images on the scoreboards.
- Ice Builders, network-based systems and components to run and monitor the cooling systems for the ice rink.
- Arena lighting, with connections to smart relays for programming and operation.
- Tridium HVAC, network-based systems for support and monitoring for all air handlers, coolers, and heating systems.
- NCHC.tv streaming for game streaming and real-time video feeds of the hockey games (revenue generating).
- AT&T Sports Net, network-based components in support of game-day streaming in real-time (revenue generating).
- KRDO audio and video streaming of game day.
- Press booth for all home and visiting team journalists and video journalists, connections to CC's wireless network for real-time updates and sports reporting.
- DV Sport and NCHC conference required real-time game replay systems, network-based for conference officials to operate for game incidents and infractions.

Moments to Celebrate

Said to Chad Schonewill about Dan Wiencek in Audio/Visual:

“Thank you for responding to my need so quickly! I walked into the classroom this morning to find my new “friend” - laptop set up, connected, and ready to go. I was so touched by your care.”

Veronica Wolken
Education Department

Ongoing technology work in the Ed Robson Arena continued

- Catapult game video recording includes a database and metadata encoding for practice and game day video, as well as software that allows multiple coaches access to video review.
- Bon Appetit network connected registers for real-time transaction processing across all of the concession stands.
- Video room Crestron system programming for projection and a Smart Board.



Pictured above: the multipurpose room in the Ed Robson Arena. Photo by Randy Babb

Work continues in the following areas:

- Multipurpose room.
- Conference room.
- Team video room

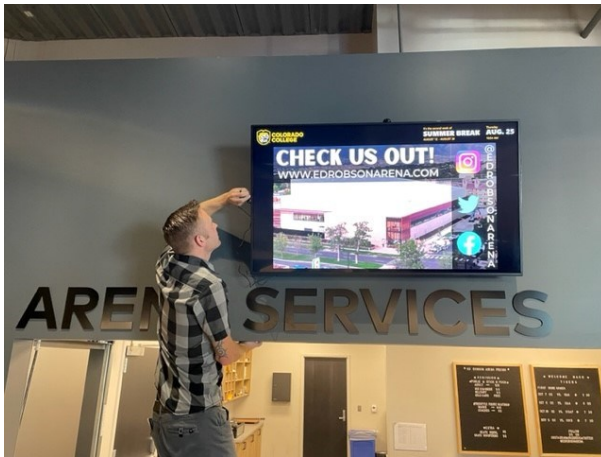


Pictured above: just a few of the video displays ready for installation in the Ed Robson Arena. Photo by Randy Babb

- Weight room—sound system.
- Locker room—sound system.
- Digital signage and menu boards.
- Addition of at least 40 more video displays.
- Goal horn integration.

The Audio Visual Department also provides ongoing game day and non-game day support for the following:

- College phones in spectator areas, arena support and the Campus Safety outpost, and the emergency phones in the elevators.
- Operational devices such as concessions registers, game streaming appliances, and ticket printing and scanning equipment.
- Mechanical systems connected to the network.
- Spectator wireless connections.



Pictured above: CC's Nick Smith makes adjustments to one of the many video displays in the Ed Robson Arena. Photo by Randy Babb

Ongoing technology work in the Ed Robson Arena continued

- Journalist support for written and video media.
- Stakeholder training for all supported systems.

Because of the consulting and feedback; reviewing of bids; and design, integration, and installation work done by ITS, approximately \$250,000 was saved.

IT Security

A Security Operations Team, which includes members of ITS's Infrastructure and Applications and Security teams, was created to better keep the college's technology

environment safe and secure by ensuring all ITS stakeholders involved are on the same page.

This group is tasked with overseeing system and network hardening. This is the process of reviewing a connected system, including servers, firewalls, the web application firewall, and applications; identifying vulnerabilities in those systems; and implementing solutions to reduce those vulnerabilities. They will also review system anomalies and processes to identify activity by users.

Another important security initiative is the annual cybersecurity training required for faculty, staff, and students employed by the college that have access to confidential information. Cybersecurity training is a requirement of our financial audit and for our cyber liability insurance. Each October for Cybersecurity Awareness Month, all impacted college constituents are sent a link to Know-Be4, the college's virtual security training platform to complete basic awareness training. These trainings are important because individuals are the first line of defense against cybersecurity dangers. Knowing how to identify phishing scams, having a strong password, and using Multi-Factor Authentication (MFA) can drastically reduce threats to the college's and your individual information. This training helps users understand the basic forms of cyber attacks, as well as how they can fight against them.

Moments to Celebrate

To Justin Freeman in the Solutions Center:

"I received a call from Gale Murray this morning singing your praises. Thanks for all of your help (especially while I was off work) and kudos!"

Meghan Rubenstein, PhD
Art Department



Pictured above: ITS's Nate Watson and Tulio Wolford play an easy-going game of ping pong after the "Spinning the Tables" event and short film screening on Oct. 6, 2021. Photo by Linda Petro

2021-2022 Budget

The ITS Division remained focused on being excellent stewards of the college's funds and actively looked for ways of staying under budget. We were able to accomplish these goals, resulting in the following budget surplus:

Operating Budget Surplus:	\$378,905.39
Capital Budget Surplus:	\$244,538.02
Total Surplus:	\$623,443.41

The ITS Budget Advisory Team reviewed and recommended action on 47 budget-related items. These include things such as expenditures for professional development; longer, discounted contracts; adding licenses to existing contracts; and annual contract renewals (all contracts over \$10,000 are reviewed).

Moments to Celebrate

To Drew Harper in the Solutions Center:

"Thank you on so many fronts. Thank you for tracking down and sorting out the laptop for my son, Andrew. Thank for setting up my computer upon my arrival in January. Thank you for shepherding me through the complete crash of my computer and the subsequent OS reinstallation. And thank you for just being a great IT Department and colleague. You and your department have really contributed to my extraordinarily pleasant and rewarding stay at CC."

John de Figueiredo
Visiting Faculty

Audio Visual Events

The Audio Visual Events team once again had an event-filled year, with in-person events increasing, as well as some remaining virtual or becoming hybrid, with both in-person and virtual components.

- New Student Orientation (NSO) was completed via a hybrid model: all large required sessions for the incoming students were done virtually via Zoom webinar and smaller group sessions were in person. The activities concluded with an all-day CC Fest on Tava Quad featuring a Zumba Class, student bands, DJs, and stand up comedians.
- Opening Convocation was held in person outside on Tava Quad.
- Most all campus events such as First Mondays, In the Loop, and Fall and



Spring Conferences were a mix of in-person and hybrid (both in-person and virtual) attendance.

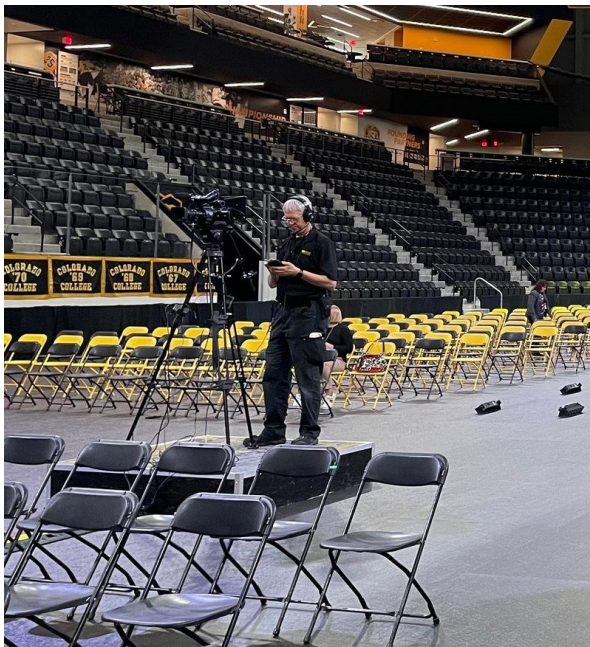
- Another noteworthy event occurred during Homecoming/Family weekend: a tailgate/watch party for the very first hockey game played in Robson Arena. Two LED walls were brought in to for easier viewing of the game.
- For the first time, both Baccalaureate and Commencement took place in Robson Arena. The Audio Visual Events team worked along with the Robson Arena tech

Pictured above: the sound board and stage set-up for Llamapalooza.

Pictured left: the Audio Visual Events crew's equipment loaded into Ed Robson Arena for the Battle of the Bands competition.

Audio Visual Events continued

- crew and spent approximately 18 hours setting up and testing a mix of the installed sound and video systems together with the supplemental sound system that was set up on the arena floor. Both events were a huge success.
- After Commencement, the Audio Visual Events team had one week to prepare before the college's summer conferences kicked off after a two-year hiatus due to the pandemic. Summer Music Festival, USA Hockey camp, and the American Numismatic Association seminar utilized multiple meeting spaces across campus, making for a busy summer schedule.



Pictured above left: Bob Smalley does a final sound check for Commencement in Robson Arena.

Pictured above right: Sounds system set-up for the ribbon cutting at Robson Arena in September 2021.

Pictured left: Nick Smith gives a thumbs up after he and Shane Brown get the audio visual systems ready to go for Arts Take Over the Arena.