

Colorado School of Mines – FACULTY SENATE MEETING MINUTES
 January 9, 2023, 2:00 – 4:00 pm, in Zoom

Attendees:

Voting Members: 15 total (10 needed for quorum). Quorum was present.

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|---|-----------------------|---|----------------------------|---|------------------------|---|-----------------------|
| X | Brandon Dugan (Chair) | X | Vaughan Griffiths (CEE) | X | Jamal Rostami (MN) | X | Cortney Holles (HASS) |
| X | Deb Carney (AMS) | X | Soutir Bandyopadhyay (AMS) | X | Ventzi Karaivanov (ME) | | Lawrence Wiencke (PH) |
| X | Mansur Ermila (PE) | X | Pat Kohl (PH) | X | Sid Saleh (EDS) | X | Ning Wu (CBE) |
| X | Mark Eberhart (CH) | X | Shubham Vyas (CH) | X | Cristian Ciobanu (ME) | | |

Other Regular Attendees and Guests

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|---|------------------------|---|----------------------|---|---------------------|---|----------------------------|
| X | Dinesh Mehta (Trustee) | X | Rick Holz (AA) | X | Paul Myskiw (RO) | X | Colin Terry (Student Life) |
| | Sam Spiegel (Online) | | Tim Barbari (OGS) | | Lori Kester (EM) | X | Kristeen Serracino (AA) |
| | Mark Bowen (USG) | X | Deb Jordan (Trefny) | X | Andy Herring (AA) | X | Nicole Becwar (LB) |
| X | Lauren Guido (GSG) | X | Jon Johnson (Online) | | Nichole Bigley (AA) | X | Karla Perez-Velez (CASA) |

Special Guest(s): Rob Thompson, Ali Kerr, Andrew Moore, Danielle Ostendorf, Doug Nychka, Sandy Woodson, Scott Houser, Elizabeth Heronemus, Lisa Dunn

Welcome

Brandon Dugan

Welcome back, everybody. I hope everyone had a restful break. I look forward to accomplishing more this spring semester.

Approval of prior meeting minutes

Brandon Dugan

MOTION: Motion to approve previous meeting minutes was made by Mark, seconded by Jamal. The motion to approve the previous minutes was passed with zero opposition and zero abstentions.

Academic Affairs

Rick Holz

Welcome back, everybody. I hope you had a restful, relaxing break. We have our 150th anniversary, which is on February 9th. That's the actual day that the legislature voted 150 years ago to make us a university. There will be some celebrations ongoing at that point so keep an eye on upcoming announcements. We are also in our last year of the Mines@150 strategic plan. The capital campaign finishes off in the spring 2025, so the plan will run through then, but we're in the last year of it. We still have a few things to accomplish, but we would like to start celebrating some of the accomplishments that we have had. Senate has played a huge role in these accomplishments. The broader campus may not be aware of the things that Academic Affairs and Faculty Senate have accomplished together along with various departments, so we want to try to get that information out. We plan to do that this semester, and we want to take time out to celebrate those accomplishments.

The Beck Venture Center is now open. If you have not gone down there, I suggest that you do so. It is a beautiful facility and will be very valuable to our students and alumni. Also, the Innovation Hub is open. Based on what I've seen, it will be a tremendous facility that all students can utilize because it will be heavily used in Cornerstone and Capstone as well as any other design-type courses in the Sophomore/Junior year.

Work has started on Emir. The childcare center is out of the ground. The parking garage on 18th Street is up (they are currently working on the 4th floor), so lots of things are happening on campus that are quite exciting. We look forward to celebrating those things as well over the next year.

Comment: It would be nice to have one official CSM slide that shows campuswide accomplishments like the ones mentioned for departmental use. In meetings, usually every university has a slide that introduces the university and their accomplishments.

Answer: We have a slide deck that we utilize for the Visiting Committee that gives background on what we are doing at Mines, but it probably needs to be enhanced, possibly through Marketing. All the data is updated, but it is not necessarily developed for broad presentation out to the community. I will ask our Marketing/Communication group to come up with something such as take the existing slide and beautify it.

- **Comment:** I look forward to sharing some of these accomplishments. We will run them by Senate before we release them so that everyone understands the context behind them if people ask questions.

Registrar's Office

Paul Myskiw

Today is the first day of classes. Welcome back to the start of the spring 2024 semester. We have one classroom in each of the spaces mentioned by Rick. We have 10-12 classes scheduled in the classroom in the Beck Venture Center. Strategically, we will be placing courses there that are related to the purpose of the building such as innovation. Once we get the official opening, there will be an additional classroom in Labriola.

During the spring registration cycle, we did observe more constriction with space with undergraduate students. There are 148 students that are registered in less than 12 credit hours, so we are working with CASA and the Deans to move them. Some students are part-time by choice, but those that are degree seeking and want to be at 12 credits, we are doing what we can this week to get them up to 12.

Question: I was submitting a grade change on Trailhead but saw that there are two grade change options—one for faculty and one for administration. What are the criteria for an administrative grade change?

Answer: The administrative grade change is used if there is an error, or the faculty is no longer present. There have been a few cases where an admin change was made on behalf of a faculty member because they could not (network issue, connectivity issue, etc.). However, we generally do not intervene with grade changes since grades are under the purview of faculty.

Committee Appointments

Cortney Holles

None

Undergraduate Council Updates

Ventzi Karaivanov

Our last meeting was December 13th. Minutes have not been approved yet. Previously, I introduced some course changes which are now approved – MATH440, GPGN318, GPGN319, GPGN410. There were also several new changes introduced per the agenda item such as CSM102.

Question: Technical Writing usually goes under HASS. Why is under CSM?

Answer: The course is now offered through the Writing Center with Allyce Horan, so we've given it the CSM prefix. HASS offered a technical writing course a few years ago as a 3-credit hour, but it was cancelled due to low enrollment. We are hopeful that it will be more successful with the Writing Center as a 1-credit hour course. Currently, HASS doesn't have the resources to offer a 1-credit hour technical writing course.

- **Comment:** The CSM course prefix is also more easily distinguishable as it counts towards the new Success and Wellness core requirement.

Another new item was a change to EDNS444, which is taken at the junior level, and a new course to provide a lower-level Innov8x course. A few questions came up regarding these courses such as examples of a lower-level

class project and whether there is a pre-requisite for these courses. The EDNS course prefix will be changed to INNO and the lower-level course will be assigned a course number (in lieu of special topics 298). Additional changes included a program change for QBE, course change for GEGN470 updating pre-requisites, added online modality for MEGN479, and proposal of new course, HASS430. We also had minor changes – changing course number for CEEN49 and adding an elective to the Minor in Biomedical Engineering program. We had continued discussion about adding CSCI128 to Calc II, Differential Equations, Intro to Mathematical Modeling, and Intro to Probability. Discussed items are being forwarded to the AMS Department via Mike Nicholas.

At the beginning of our last meeting, there were comments about the changes to the calendar such as the 14-week summer session and non-assessment Career Days. The question came up of what the process is and are those going through the councils to be approved. I would like to clarify, do the councils approve any changes? What is the process for the Calendar Committee to make changes? Do we have representation from Faculty Senate?

Answer: The Faculty Senate has representation on the Calendar Committee. Currently, Mansur is the representative for the Calendar Committee and Brandon serves as backup.

Answer: The Calendar Committee is a university committee, so it has representation on it from Faculty Senate, additional faculty members, GSG, USG, Andy, and Paul. It has the authority to recommend to the president what the calendar is.

Answer: The calendar is where these days were displayed. There were other catalog pages that described what was allowed on E-Days, Review Week, and Career Days. Career Days were only referenced on the calendar. Around the time of E-Days last spring, Rick asked Vibhuti and I to clarify the definitions around what No-Exam Days meant because in other places they were described a little bit differently. We involved other faculty outside of the Calendar Committee and notified the councils and Senate that we were working on this. I think it may have just gotten lost in the shuffle of the core. The intent was to clarify what Career Days were supposed to be, which was a no assessment Day. That is why there is additional language about no exams versus no assessments, clearly articulating what faculty should be doing on those days. The Calendar Committee does not introduce new policy but determines Spring Break dates for example. The other things displayed on the calendar come from policies that already exist.

Graduate Council Updates

Soutir Bandyopadhyay

We haven't had any meetings since the last Senate meeting. During our last meeting on December 7th, the Master's in Data Science program got approved. Our first spring meeting will be on January 17th. Because we have important items to discuss, we have added additional meetings. I will provide more details and information during the next Faculty Senate meeting.

Online MSNT Data Science

Doug Nychka

For the master's in data science, we proposed to create a fully online version. Where we got into discussion was that the residential program, due to shortage of faculty in AMS, could not offer all the residential program courses as in-person courses. Some courses are fully online because we only have one qualified instructor to run them. The concern from Graduate Council was constraining residential students to take an online course to complete the degree. You need to warn the students of that or not pitch it as a residential program. After much discussion, the Graduate Council approved the online version. A declaration was given that if we cannot offer all in-person courses for the residential program, we will sunset it and either convert to hybrid or not offer it until we build up our statistics faculty. It would be nice to have a hybrid designation for programs that fall into this category.

Question: When we went through our online program in mining, we had to get a Higher Education Council for approval. Did you have to go through that process, or do you need that?

Answer: We have HLC approval on courses which are presented as a whole instead of on an individual course basis.

Question: Since you are limited to only having one instructor, what would you do if that instructor leaves? Do we have a program then? Do you have a backup?

Answer: We are short on instructors that can teach the statistics courses. If we are not able to find someone to fill in for those courses, we would be in trouble since they are so important, and we currently cannot offer them as two sections (one online and one in-person). There are many data science programs at other universities that are owned solely by computer science or engineering. At Mines, we offer a unique model where there is a true partnership between AMS and CS. However, we have had issues and challenges due to that uniqueness.

- **Comment:** We currently do not officially have a designation for a hybrid option for our degree programs. This is something that we could discuss at length to see how we would do this. I think moving forward, we will need to think of creative ways to offer courses. With limited faculty and being a small campus. We may run into other departments with similar issues where they must move to hybrid.
- **Comment:** GSG has brought up concerns from students as there are lots of programs that currently have elective courses that are only available online. In those cases, since they are electives, the student might opt to take a different elective that is offered in-person. The pushback we have received from some residential graduate students is when they are forced to take a core required course online even though they've chosen to be a residential student. We see this complaint mostly from non-thesis graduate students since they are not funded and paying their own way for their degree program.

Question: What is the cost model for this program and how are you marketing it? How many students do you anticipate?

Answer: I do not have data on the competition. My discussion with Sam is that our enrollment in DS can be modest. 30 students are a good, consistent goal.

Question: Is there a threshold to know if it is worth the resources to add an online program? As a broader question for the campus, how do evaluate this program as being cost effective?

Answer: We currently do not have specific triggers. We expect that administratively we can indicate what the threshold will be.

- **Comment:** We have an ongoing administrative process in place to indicate if a program needs to be cancelled due to low enrollment. We get help with marketing to receive data on projections in the industry and our programs compared to competition. We know that steady state enrollment to be cost effective is about 30 students. For programs with low enrollment, we discuss if adjustments can be made, or if we can put extra effort into marketing to grow those programs, or if the program is too niche and needs to be cancelled.
- **Question:** How do we identify these projections compared to similar programs at other institutions?
- **Answer:** There is a market analysis that is done. We get help from EAB and the Marketing office, so we know what programs are out there and what their enrollments are. This provides projections on what the market in the area will sustain and whether we can carve out a market share there. This is done before the proposal ever comes forward to Grad Council to start these programs. We strive to start programs that we think will be successful and sometimes, we fail, and that's okay. In the online space, I think the five programs that are our anchors are mechanical, electrical, computer science, engineering technology management, and space resources that make up 70%-80% of online students. Other programs like mining, data science, and carbon capture will account for the other 20-30% of our non-thesis master's students.
 - **Comment:** We had a similar discussion in the previous Board of Trustees meeting in December about how/when we make decisions on sunseting or pulling back programs. The Board is also making sure programs are cost effective.

- **Comment:** We see this especially in interdisciplinary programs that have very low enrollment that will probably not increase. The question is, should we reallocate resources elsewhere? Those conversations are happening with the deans and department heads. It is important that we remain mindful as the shutdown process is a very difficult, dramatic process for faculty. If we do have to sunset a program, we try to do it empathetically, carefully, and with lots of conversation.
- **Comment:** Our 6 core courses in DS are very popular. Even if the master's in data science was ended, those courses would still continue. If DS isn't turning a profit and generating extra resources for the department, we would ask the question why bother? We would plan to bring up a different program that might be of interest.

MOTION: Motion to approve the online Data Science program by Jamal, seconded by Vaughan. The motion to approve the online Data Science program was approved with zero opposition and zero abstentions.

Research Council Updates

Mark Eberhart

We have not had a meeting since the last Senate meeting. Our next meeting is tomorrow. The Research Awards nominations are in place. We have 13 junior and 3 senior research nominations. Those are now in the process of being reviewed. The call for REI proposals will go out in a few weeks. We have had discussions with Walt and the Research Advisory Board to formalize well-defined roles between the Research Council and the Research Advisory Board, so that we can identify what Research Council needs to do and report that back to Senate.

Comment: Encourage people to continue to nominate for the Research Awards. I have had discussion with RTT to make sure the awards are distributed across campus to ensure that one portfolio is not getting all the awards.

Question: What is the timeline for the research awards?

Answer: They will end of February to submit, then there will be a review process, announcements out at end of March/beginning of April.

Core Curriculum Updates

CSCI128

Rob Thompson

CSCI128 launched this last term. We had about 803 students registered by the end of the term. We split the courses into 12 sections with 67 students per section. We had 8 instructors including Rob. Two of us were full-time and the remaining were adjunct. We also utilized 44 TA's.

The average final grade of the class was 85%. 50% of students received an A grade. There were three exams given during the course, with two being in-class. Students averaged 83%, 75% and 75% on those exams. We had 49 students test out of the course through the Challenge exam given at the beginning of the term.

Through a survey we gave students at the beginning of the term, more than 90% self-identified as having no or very basic programming experience. We successfully introduced multiple new topics as part of the course redesign including some introductory data science and plotting, recursions, and classes and objects. We emphasized data science because we wanted that to be a more applicable component to programming for students that are not CS majors. Our final project for the class was having students identify their data source and then write a program to open it, parse it, and provide visualization numbers generated programmatically.

We switched to a free e-textbook alternative for what used before and saved about \$55,000 for the students. Our exams also saved the school about 16,000 hours by switching to in-class exams. For this term, we plan to use intro course surveys and ML models to identify students likely to struggle in the course early on, refine and re-write assignments to be more effective, and further develop students code reading, debugging, and critique skills. Additionally, this term we will offer a pilot study for an AI-assisted TA that will be able to ingest a lot of the course material and provide specific help to students through an AI model that is also forbidden to just give

answers to students. Hopefully, it is a much more informed AI assistant versus general ChatGPT and will prevent students from misusing AI for class use.

Question: Any specific challenges you have faced? What would you improve?

Answer: We have had a diversity of technological knowledge from our students. Some students have barely used a laptop before or lack general computer skills. Our original tech setup was more complicated than we thought it would be for students, so we bottleneck issues with office hours at the beginning of the term with students struggling with early assignments. Also, some written guides had too much information which scared off some students.

Question: What programming platform is used?

Answer: We teach Python3 for coding/programming which is required. We strongly encourage students to use VS Code as their IDE. It is not a requirement, but it's where we focus most of our support materials.

Question: Is there a module where you talk about security?

Answer: Currently, no. The CSM101 course did had a little bit. At that point, there was less interest, so we did not include it. We do have an assignment that does encryption cyphering, so it is not directly taught but found in assignments.

Question: You mentioned the Challenge Exam. Is that different for students with AP credit?

Answer: Correct. Students with AP credit, provided they have a 4 or 5 on the exam, are automatically awarded the transfer credit. This course is for students who either didn't do well on the test or learned through some other means that are less normalized. The exam is used for them to demonstrate their knowledge. If it is sufficient, then they essentially test out of the course.

Question: Is it a long-term plan to offer the Challenge Exam? Do the students pay for the exam? How do you identify the student for the Challenge exam?

Answer: The students self-identify. Anyone can sign up for the exam provided they have not already taken the exam or the course. For this year only, to aid in the transition between the old and new versions of the course, we're allowing any student to take the exam. Normally, it would be limited to just students in their first year at Mines (freshman or transfer). It is offered at the start of the fall and spring terms. For instance, the exam is scheduled for this Thursday.

Question: For the online version of this course for the summer, does it cover the same topics but at a faster rate? Will there be an in-person version of this course in the summer?

Answer: There is a plan to offer an asynchronous 8-week online course that covers the same topics. It will have one synchronous meeting required per week. There are some changes we've made to the design of assessments and exams. We've had to shift how we're considering exams due to the nature of being asynchronous. As of right now, we are not planning to offer an in-person course over the summer.

Question: Are the students learning about how the AI TA's or ChatGPT work such as background or philosophy on how they work in this course?

Answer: I have interest in doing that. We haven't been able to offer something that every student could access in the past, so we haven't done it until now. Now that we can guarantee access to every student, I do have interest in at least teaching the students how to use the tool effectively and how the underlying technology works.

Question: Do you encourage students to use or not use AI-generated coding?

Answer: The course policy for CSCI128 is that we do not allow use of generative AI outside of the specific tool that we offer to students with the assumption that the tools will not provide direct solutions to the students, even if they try to ask it. There is no reliable metric for identifying AI-generated coding, but the course hopefully

deters students from using it by introducing AI tools in a more controlled environment. We recognize students are going to these, and I would prefer to offer something that is more convenient but also follows the rules since these tools will be part of their profession in the future.

FUTURES

Ali Kerr

Just a quick reminder, last December 2022, we did the proposal for Sociotechnical Futures. We launched a pilot. We changed the name to just Futures (dropped Sociotechnical) to be more adaptable and encompass broader themes. It does not mean we are not doing an integration of sociotechnical but doing additional things like economics and environmental. We also added 3 learning objectives to the original proposal to align and flush out areas where Futures can bring that to the core. We added FUTURES Encounter which is a way for the students to see multiples perspectives overlapping and integrating complex environments. With the pilot, we went to National Ice Core Facility and had the students encounter more than 21 different individuals not associated directly with the course such as experts in a field, professionals, other faculty, deans/administration, and other resources on campus. We also added "Theme Consultants" as a way of integrating even more faculty to the already 4 faculty class. We ended up doing an individual portfolio and a Deliverables Look Book that were both individual and group oriented. We also held FUTURES Fridays which were collaborative office hours in which students could interact with other students and professors. We included the Library, DSS representatives, and research consultants to join every Friday afternoon.

We added three course learning objectives to give the students in this course an opportunity to reflect on their experiences to impact their trajectory at Mines and beyond and envision and engage with potential futures through lenses of past, present, and possibilities. We also made sure that we were building out skills around what the students were learning so that they could start using these immediately and not waiting until a 400-level course to feel empowered to start impacting their future.

The outline of how the course is delivered is very complex, but essentially, there are four instructors. One is a theme instructor which is responsible for all 75 students throughout the course. Then, there are three seminar instructors who are primarily in charge of content and deep dives into perspective taking. From a faculty perspective, we had a lot of fun teaching this course. It served as a feature of the instructor and their distinct knowledge with focus on what they are passionate about.

Throughout the course, the theme instructor gets a full week with the entire class intermittently. Students then drop into their seminars which are set up in three cohorts per class. Each cohort has 25 students, and they rotate every four weeks through their seminars at the same time (Seminar A, B, and C). The last days of class are back to the theme instructor. This is important for creating that space and developing those skills for integrating. We do have the students in their seminar classrooms stay in the same classroom as the faculty rotate to prevent confusion. Students get their cohort, classroom, and get to be embedded with information from various people.

Within the cohorts, we also group the students together into 3-5 member groups and will stay in the same group throughout the entire course. This is meant to provide a shared pod since we're already giving them so many outside perspectives. The seminars we offered for the pilot were Climate Governance, Economics & Clean Tech, and Design Systems which we will change up and leave up to the seminar instructor.

For grading, each seminar gets 20% of the grade. 15% is in participation, readings, and assignments that the faculty chooses. 5% is in the seminar deliverable, which is a 1–3-page demonstration of a "me taking it to the future" idea. For example, this last term, we did a thank you note from the future, an energy initiative market analysis, and a prototype of a carbon-oriented solution. The deliverables ended up going into a final projected called Lookbook where they had an executive summary of their whole trajectory, their summaries of their deliverables, and how they integrated each different lens as they gathered it. The field experience (FUTURES Encounter) is 10%, and the students had an individual portfolio that had six sections reflection on their experience in the course along with ongoing reflections that allowed the students to keep integrated as they

went and provided the theme instructors with an idea of how the student were doing as they navigated the course. Ongoing assignments included weekly reflections, FUTURES Fridays, and final portfolios.

We were going to have two pilots for the upcoming spring semester, but we got three. Focused themes for these three sections will include a Water Futures which focuses on rivers, and two Global Energy Futures. We will also have a different round of 12 instructors and 3 theme instructors with only three repeats. We also plan different ways of additional encounters. Last time, we went to the National Ice Core Facility. This time, we will be different variation. Although the National Ice Core Facility was wonderful, we want to try out some different things. Also, for these upcoming pilots, student will not be dropped into the course through registration. Students will be able to choose it.

Our biggest focus right now is we are still thinking about scaling resources-wise. We have a serious need for faculty. If we hit 5 sections in the fall, we would need 20 faculty from across campus and that does not include consultants. Our success will come down to our quality faculty who will get an opportunity to enjoy teaching the best of their best.

Question: This is a non-traditional class for students. How is that for the instructor and students in your perspective?

Answer: Initially, it was an intimidating experience since students were dropped into the class this term, and the 75 students were new to Mines. It was important to remember the purpose of the course (excitement, engagement, open perception to possibilities at Mines) and be mindful of being a new course. Day one required faculty to be all in. We had sunglasses that said, "Your Futures look bright." We played music. Those could have fallen flat if we hadn't delivered on the course and content. It was also informative to read insights/reflections of students. Students were open to the course being dynamic yet complicated. Most of them reflected how impactful the course was. Many of them changed majors and were able to speak about how they were going to integrate things from the course into their trajectory. They also identified different passions and discovered what Mines has to offer that they might not have been priorly aware of. For example, The National Ice Core Facility has over 300 billion pounds of ice, which required a major refrigeration room that the students enjoyed seeing. We offer a refrigeration course at Mines.

Question: What was the process by which students changed their major from their experience in the course?

Answer: Through the activities, encounters, and faculty. Students had a shift to view their major as having an impact on the world. Since the students were first-year students, many didn't have a major declared. The course does not set them up for any specific major but creates space for them to reflect.

Information Technology Updates

Andrew Moore

I wanted to give you an update on all the different projects that are going on. Our biggest project that will affect faculty is moving our student information system (Banner On-Prem) to the Cloud. It is slated to go live over the Memorial Day weekend, so you should be able to get all grades in for the spring semester and make the transition for the summer and fall semesters. Banner in the Cloud looks very similar to Banner on Prem, so the transition should not be as difficult as moving to an entirely brand new system. The Web Infrastructure (CSM) is going to RFP, which meaning we are bidding to get a new solution for Mines. This is a large project that will take a few years from start to finish because every website would need to be transitioned into the new infrastructure. Many of our current websites will go away. Currently, we have 600 sites, and we will end up around 250. The new tool will make it a lot easier for those that make website updates.

TRAIL is underway. This is the comprehensive learner record so that when students leave, they will leave with all their achievement documented in such a way that they can take them with them. Another project is establishing a Data Warehouse. Mines currently does not have one. We just signed a contract with a company called EAB.

They have a tool called Edify, which is cloud-based and ran at Amazon. The data model is built specifically for universities, and the first data feeds are being fed into the data warehouse now. We anticipate a time frame of March that we can pull data out, and we are looking to our Institutional Research and Strategic Analytic team to build Tableau workbooks, so we get a single source of truth.

We piloted virtual desktops over the summer. In the fall semester, we had around 60 students utilize the virtual PC environment. This semester, we have 480 students. It is a cloud version of Windows desktops that anyone can use. It has SOLIDWORKS, Adobe products, and Microsoft products. The goal is to allow us to no longer create an environment of desktop computer labs. Instead, the labs will become collaboration facilities, and in some cases, the labs will go away. The good news is that students can walk into these collaboration spaces, hook in their computer, and have a high-performance system in the Cloud. It is amazing how fast it works. There's fiber going from here all the way to Denver, where the data center is managed.

We have purchased a Video Content Management System to roll out which will replace videos on Vimeo and YouTube, so that all professors can have one place to go to store their course videos. There are assessment tools that are built into the system. The tool is called Caldera, so you may either hear it called that or VCMS.

We have slowed down the pace on Blaster Cards, specifically the financial systems for the Bursar's office and Student Life. They both want to use the card to put money on. We must make a serious upgrade to be able to do that. As we move this project forward, we also want to get digital badging so that students can get into their dorm room with their phone, you can get into the doors with your phone, and use printers using your phone. This will change and modernize the way that you get access. This is also a multi-year effort. We were on a faster pace with this project, but with all the changes with Workday and the student information system, we slowed it down. We also put a hold on Salesforce, which is a CRM platform used across campus.

Major IT projects we are focusing on include replacing every wireless access point and increasing wireless coverage outside and in dead spots found in classrooms. We did a wireless survey on the entire campus, so we have heat maps of where we have coverage and where do not. Outside is really bad, so that issue will be fixed in the process. The stadium will also get wireless for the first time. Equipment will start to show up in February, and it will be a 1–3-year project based on funding. This is a \$10 million project. We have asked the State for funding, and we will not know whether we will get that until May. We have \$2.7 million available today to get us through the first year, so know this will be an ongoing, building by building, with lots of communication.

We are also modernizing our phone system. Our current phone system is at end-of-life and support is limited. An RFP will begin this month to replace phones with a model that is in the Cloud, voice-over IP system. You will get an app on your phone so you can make and receive calls through the app, and it will look like you are sitting at your desk.

We are still adding applications to Okta. The next phase will be enabling the feature to shrink the number of tiles, so you only see the tiles that you have added access to. That will take about a year because there is a lot of back-end work that must happen. We are also looking to upgrade the multi-factor authentication tool, which is DUO today. Okta makes their own called verify, and the goal is to get that integrated so it is more seamless.

Lastly, we are working on security projects including PCI (credit card transactions). We upgraded from 3.2 to 4.0. We are also working on removing admin rights. We have already removed admin rights for around 500 people. All the rest of campus admin rights will be removed on January 17th. This applied to Mines-owned PCs and Macs. You can submit a form to get a tool that gives you admin rights for two hours for functions that require admin rights. So far, we have not found a use case that this will not work for.

Question: What type of data will be fed to the Data Warehouse?

Answer: Initially, it is HR/Finance, Slate data (Admissions), Canvas. Eventually, we can add any data needed.

Question: What is the benefit of virtual desktops versus desktop computer labs?

Answer: The big advantage of virtual desktops is that you can go anywhere, anytime, and on any device, and access a high-performance setup. It is also much more effective and efficient for us when we roll out updates and to make sure the environments are performing at the highest level.

Question: Does the virtual desktop require a decent internet connection?

Answer: Yes. A reasonable internet connection is required.

Question: How will virtual desktops free up computer lab space?

Answer: A few of the spaces will be used for collaboration. However, we have found there are some spaces that are not used that heavily and may be re-purposed for other reasons.

Question: Are issues from the pilot being addressed?

Answer: Yes. In the pilot, we had a performance issue which turned out to be a software issue. That has been resolved. What we are watching more closely now as we scale, and as our vendor who is managing this for us is adding hardware and GPU's, is making sure that they are getting added at the right pace to keep ahead of the usage levels. We anticipate it will take a few semesters for it to be a stable environment where we understand the load across all of campus. The good news is our partner is on board with us. We meet with them regularly.

Question: What admin rights are being removed?

Answer: Local admin rights on Mines owned PC's and laptops. There is a form if admin rights are needed.

Question: How quickly will admin rights be provided when the 2-hour form is completed?

Answer: A week. Request numbers are small, so we can process forms quickly.

Comment: That time frame seems long with regards to Research. That time frame will not work for most faculty.

Comment: We have a tool for same day access within a certain time condition.

Question: How do we get the admin rights tool?

Answer: Search CIO Blog admin rights on email.

Comment: How does this affect grad students? Graduate students do not have Mines-owned devices, only their PIs, but many have models on the system administrator. Can we send communication sent to grad students and

Pls. Lauren will communicate with Andrew Moore to get that sent out.

E-Resource Licensing Priorities

Brandon Dugan/Danielle Ostendorf

In December, Danielle and the Library team introduced a proposal to negotiate with our E-Resource licenses. We had a great discussion. The outcome was that the Library would draft a letter and we provide feedback, which we did not have any. Danielle reached out to the Communications team to make sure that if we publicize, it is not violating any other rules. We have the approval form from them, and I circulated the memo.

MOTION: Motion to approve and release the memo was made by Shubham, seconded by Mark. The motion was unanimously approved with zero opposition and zero abstentions.

Board of Trustees Meeting Update

Dinesh Mehta

The Board of Trustees met on December 8th to approve the graduation list and sophomore housing project (approved the design plans). Brandon presented on behalf of Faculty Senate. There was also a presentation by John Bradford about international initiatives. There was a thank you for Patty Starzer for 8 years on the Board.

As a reminder, BOT meetings are an open session, so anyone can attend.

Open Announcements

Shubham Vyes

Mines closing research funding. I received an email on December 12th from a subcontracting funding agency from which I have funds. They need research invoices that they have not received in the last year. I also received notice two days ago that if they have not received by January 16th, they will pull the subsequent multiple years of funding.

I have escalated this to Lisa Martinez and notified my department, but I wanted to bring it to Faculty Senate as well in case anyone receives a random email from your funding agency, please read them.

Comment: Please forward correspondences to Rick and Kirsten.

Upcoming Items and Adjourn

Brandon Dugan

- GenAI survey results (January/February)
- Faculty Handbook Open Forum (February)
- By-laws revisions (volunteers contact Brandon)
- Resources, campus space, well-being (February/March)

Next meeting: January 23, 2024, in the Guggenheim Boardroom. Please send agenda items faculty_senate@mines.edu 1 week prior.