Colorado School of Mines – FACULTY SENATE MEETING MINUTES
March 12, 2024, 2:00 – 4:00 pm, in Zoom

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

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

Other Regular Attendees and Guests

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

Special Guest(s): Vibhuti Dave, Terri Hogue, Peter Aaen

Welcome Brandon Dugan

B. Dugan shared a few announcements. He reminded that Spring Break is coming up and reminded everyone to take some time for yourselves. Also, keep your eyes out for any announcements related to the snow forecast. Last week, six of the councilors went on a tour of Labriola. B. Dugan highly recommended going on the tour if any have not gone yet. B. Dugan received an email from the Oredigger Disability Activism and Community which are hosting a panel on April 2nd at 11 am where students who utilize disability support services will talk about their experiences from the student perspectives.

Follow up items from previous meetings: CSCI128 and the requirements to join the online summer program. B. Dugan talked with Rob about this and will forward details via email. The course will be locked by an instructor add code and will be a metric in place to assess if students are prepared to do the accelerated version. Course/Room Scheduling: B. Dugan reached out to Paul and his team. They sent a general response that their goal is to maximize the use of space. There is a hierarchy of how scheduling decisions are made including an 8-step process. B. Dugan will forward the correspondence see senators may see how the decisions are made and why they are made.

Approval of prior Meeting Minutes Brandon Dugan

MOTION: The motion to approve the previous meeting minutes was moved by C. Holles and seconded by S. Vyas. The motion to approve the previous meeting minutes was approved with zero opposition and one abstention.

Academic Affairs Rick Holz

R. Holz reminded everyone of the upcoming event scheduled for April 4th at 3:00 pm in which the Beck Venture Center will have its ribbon cutting ceremony. He encouraged everyone to add this event to their calendars. There will be announcements in the Daily blast with any additional information. Einstein Bagel's is also now open.

For the upcoming weather forecast, campus is expected to get at least a foot of snow starting Wednesday evening. There are common exams scheduled for Wednesday and Thursday night (CHGN222, CSCI306, CEEN241, and PHGN100) that might need to be rescheduled for post Spring Break. R. Holz encouraged reporting back to departments to think about a contingency plan.

- **Comment:** V. Dave announced that Sarah in the Registrar's Office did find an alternative time post Spring Break for these four courses. V. Dave reminded everyone that students cannot do take-home exams over Spring Break as a contingency so any contingency plans must take place after Spring Break.
- **Comment:** R. Holz reminded everyone that the same applies to homework. There should not be any homework assignments due over Spring Break or any exams scheduled for the Monday after Spring Break.
- **Question:** R. Holz asked what is the process for rescheduling? Will instructors be notified if common exams need to be rescheduled?
- **Answer:** V. Dave answered that Sarah can reach out to instructors with alternative times.
- **Comment:** R. Holz agreed with the plan to reach out to instructors but warned not to notify students yet until a campus closure notification gets sent.

R. Holz has been discussing the Majors Exploration course with all the deans and V. Dave. It will be piloted next fall. Currently, there is nothing for students who are either undecided or unsure of a major. It has been discussed to structure the course TED talk-style and include alumni who are working in industry to talk about their experiences, what they majored in at Mines, and what they are currently doing to provide students with an idea of the kinds of jobs they could have. It would have two sections of about 750 each and be held in Bunker Auditorium. The team has mapped out the broad vision for this course and will now pull together faculty from various departments. If it goes well, the team plans to add it to the core and make it a required course.

- **Question:** V. Griffiths asked if the Major's Exploration course will be geared more toward first-year students?
- **Answer:** R. Holz answered that the idea is to try to have every incoming first-year student take this course. The team is working through some of the logistics of having two sections and any time conflicts that may arise. The course would mainly consist of students writing reflection and that is where faculty feedback would be needed so that they may receive a grade for the one credit course. We may use the Career Center as a resource as well. The goal is to give our students alternatives that might be of interest and expand our majors across campus. Currently, mechanical seems to be the default major for many of our students (50% of undergraduate students) so getting students to recognize other opportunities might encourage them to consider other degree programs that Mines offers. This may be an opportunity for departments to reassess their programs and make them more marketable as we address internal competitiveness among majors (ex. Number of total credit hours to graduate, required courses, technical electives, ABET accreditation).

Lastly, R. Holz reminded the senators to take a break from proposal writing, courses, grading, and other work during Spring Break to re-energize for the remainder of the semester. Once Spring Break is over, there will only be five to six weeks left.

Registrar's Office D. Scott Heath for Paul Myskiw

D. Scott Heath addressed questions that were brought up previously regarding the process of room scheduling. Currently, departments edit their schedules and enter room requests through CLSS. The schedulers then note why the room is required or what attributes are needed. There are valid and invalid reasons for asking for those requests. Valid reasons include active learning style, computer labs, rock samples that are being stored, and room to move tables or do class activities. Professor preference or proximity to the instructor's office are not valid reasons. When CLSS closes for rooming, all comments are exported. The registrar's office receives over 500 of these requests which are reviewed one-by-one and assigned in EMS so that sections can be scheduled along with what those requests are. After the preferences are assigned to individual sections, weights are assigned for optimization and includes section preferences, seat fill, and back-to-back instructors. The optimizer is run again, the assignments are reviewed and locked in, and then adjusted as needed. This is a process that is run multiple times. There are usually about 20 sections that cannot be roomed via the optimizer due to available space. At that point, room assignments are further adjusted to fit these sections into a classroom or move them to a larger or smaller classroom or similar space, or even have departments change the time of those sections.

- **Question:** C. Holles asked if there is data that tracks the types of requests for a particular room or types of technology that would make this process easier?
- **Answer:** S. Heath answered that the data is available but is not necessarily reviewed that closely. He will pass this suggestion on to see if that could contribute to what is requested in the future.
- **Question**: B. Dugan asked when will the fall course schedule go live?
- **Answer:** S. Heath answered that it is scheduled to go live by next Monday. The hope is that it will go out on Friday. In the past, it has always been two weeks before registration, but the registrar's office has been pushing to make it available a bit earlier. It is usually the Friday before that two weeks.

Undergraduate Council Updates Ventzi Karaivanov

1.1

CSM General		Vibhuti Dave
CIM 2/1		
1 program change:	CORE: Core Curriculum	
	Improvements, corrections, and additions to catalog language.	
UGC Vote Results	**MOTION:** The motion to approve the CORE: Core Curriculum change was moved by Micha and seconded by Jeff. The motion to approve the CORE: Core Curriculum changes was approved with 14 approved, 0 opposed, and 0 abstentions.	

MOTION: The motion to approve the Core Curriculum program change was moved by V. Griffiths and

seconded by J. Rostami. The motion to approve the Core Curriculum program change was approved unanimously with zero opposed and zero abstentions.

Other informational items that are being discussed include 18 course changes, five new courses, and 8 course deactivations. Most of the course changes are either adding the Honors Differential Equations or cross-listing 400 and 500-level courses for HLC requirements.

Graduate Council Updates Soutir Bandyopadhyay

PROGRAM CHANGES WITH GRAD COUNCIL APPROVAL

1.1 **ELECTRICAL ENGINEERING** Peter Aaen

4 new programs:

[CIM 2/13; PROVOST 2/13] : PROFESSIONAL ONLINE MASTERS IN ELECTRICAL ENGINEERING

In the Fall of 2023, President Johnson and Provost Holz, requested that the Electrical Engineering department accelerate the development of an online professional master's degree. This degree and the certificates that comprise it along with similar degrees from Mechanical Engineering and Computer Science are core Mines' goal to increase the number of non-thesis Master's students. The objective is to have between 1500-2000 students taking online master's degrees and profits from our online programs will be re-invested into graduate programs across Mines.

The areas covered by our online program are of great interest to electrical engineers working in local industry and at the national level. This professional master's degree is being offered entirely online and is designed so that students can earn three certificates as they progress through their coursework.

: INFORMATION AND SYSTEM SCIENCES

Data science refers generally to the principles and procedures for modeling, processing, analyzing, and reacting to data from diverse sources. Although the term "data science" is somewhat loosely defined, most tasks in data science draw from one or more of the following disciplines: statistics; machine learning and data mining; signal processing; optimization; computer programming; databases; and domain expertise relevant to the system generating the data (such as a smart grid or a social network).

In response to the challenges of the Big Data era, data science has recently become a major focus area in industry and academia. A number of universities are offering professional Master's degrees under the names of Data Science, Big Data Analytics, and similar names; many other engineers work with data but may not formally have the job title of data scientist.

These areas are of great interest to working professionals electrical engineers in local industry and at the national level. Such offerings will increase the enrollment of non-traditional students and will increase the number of non-thesis MS students.

This certificate is being offered as an online certificate.

: MICROWAVE ENGINEERING

The field of radio frequency (RF) and microwave engineering is extremely rich in technical content and high in demand in industry, national laboratories, and the military. Unfortunately, despite that the market is actively looking for qualified candidates, not many electrical engineers graduate with a good knowledge and understanding in this area.

RF and microwave engineering is a mature field that draws upon multiple disciplines, and as such, generally courses in this area are offered as senior level electives in an undergraduate electrical engineering (EE) curriculum, and typically without laboratory sessions. Continued growth in the mobile telecommunications market (5G), space-based internet, internet-of-things (IoT), quantum engineering, and increased growth in the semiconductor market (due to the CHIPs act) all require more qualified engineers. This combined with the fact that engineering design is now heavily dependent on computer-aided design (CAD) significantly limits the practical ability of the students in this area.

In response to these workforce challenges, microwave engineering has become a major focus for industry and to bridge this gap between workforce needs and EE education we propose a new online certificate in Microwave Engineering.

This certificate will focus on theoretical aspects of microwave devices, networks, and systems, design and optimization of modern microwave devices, CAD, fabrication technologies, and device and system measurement techniques. This certificate offering is designed to leverage our existing strengths in the Electrical Engineering department and to serve the industries, particularly those in the Denver metropolitan area that deal with RF and microwave devices and systems.

This certificate is being offered as an online-certificate.

: POWER AND ENERGY SYSTEMS

The Future Electric Grid will be smart, with user-interaction, bidirectional power flow because a deep penetration of renewable energy resources will allow electrical power flow among users and the grid. Therefore, system-level dynamics and control need an advanced and high-tech understanding. Students in this Certificate Program will learn about the combined power system and power electronics approach, where enabled renewable energy systems, will interact with the utility grid, establishing microgrids, and intelligence and data communication will make the future grid a Smart-Grid.

These areas are of great interest to working professionals in local industry and at the national level. Such offerings will increase the enrollment of non-traditional students and will increase the number of non-thesis MS students.

This certificate is being offered as an online certificate.

Grad Council Voting Results:

MOTION: The motion to approve the professional online master's in electrical engineering and certificate was moved by Yamuna and seconded by Lori. The motion to approve the professional online master's in electrical engineering program was approved with 15 approved, 0 opposed, and 1 abstention.

Faculty Senate Vote:
MOTION: The motion to approve the professional online master's in electrical engineering and certificate was moved by C. Holles and seconded by J. Rostami. The motion to approve the professional online master's in electrical engineering program was approved unanimously with zero opposition and zero abstentions.

S. Bandyopadhyay mentioned that during voting on this program, there was discussion brought up by a councilor about other universities that have been selling their course content and materials without advising the professor. The councilor requested that this be discussed before approval.

- **Comment:** R. Holz mentioned that there was a document on this topic that the Senate developed and voted on a few years ago.
- **Comment:** A. Herring mentioned that he and B. Dugan are currently trying to locate this document to share with the councils.
- **Comment**: B. Dugan announced that he will post this document to have a broader discussion about what the Senate approved in the past and any updates to include since it has been five years since the document was developed.

- **Comment:** B. Dugan reminded to not include 98 courses in new programs, so work on getting formal course numbers.
- **Comment:** P. Aaen replied that he will get course numbers formalized soon and processed within Grad Council.

1.2 **COMPUTER SCIENCE** Dong Chen

1 program change:

[CIM 1/18] MSPHD-CS: MS & PHD IN COMPUTER SCIENCE

CSCI406 and CSCI442 are being taken out of the core course requirements for the MS and PhD so we are abiding by the HLC guidelines. Changing combined program minimum GPA to 3.0

Grad Council Voting Results
MOTION: The motion to approve the MSPHD-CS program change was moved by Ryan and seconded Lori. The motion to approve the MSPHD-CS program change was approved with 14 approved, 0 opposed, and 1 abstention.

Faculty Senate Vote:
MOTION: The motion to approve the MSPHD-CS program change was moved by D. Carney and seconded by N. Wu. The motion to approve the MSPHD-CS program change was passed unanimously with zero opposition and zero abstentions.

- **Question:** B. Dugan asked if the removed core course requirements are being replaced by other courses?
- **Answer:** S. Bandyopadhyay answered that according to the CIM submission they are not being replaced.

1.3 **1 program change:** MSPHD-ACS: MS & PHD IN CHEMISTRY AND APPLIED CHEMISTRY

Minor changes to clarify seminar registration requirements, to clarify that students cannot count more than one credit of CHGN 560 and CHGN 660 towards their coursework requirements, to clarify that coursework for the research-intensive MS degree must be chemistry-focused, and to highlight our new dual degree option with University of Bordeaux.

Approved via consent agenda on 3/6.

MOTION: The motion to approve the MSPHD-ACS program change was moved by J. Rostami and seconded by M. Ermila. The motion to approve the MSPHD-ACS program change was approved with passed unanimously with zero opposed and zero abstentions.

Research Council Updates

REI Funds Mark Eberhart

M. Eberhart announced that the last Research Council meeting was held at the end of February. During that time, there were six to seven REI proposals requesting $120,000. At the end of the proposal call, there were 14 requests totaling $237,000. However, there is only $136,000 available. In the past, the deans have made contributions to the REI funds via request letters. Those letters did not go out this year so M. Eberhart reached out to the deans to see if they will contribute again this year and is awaiting a response.

Research Integrity Mark Eberhart/Seth Vuletich

Scot Allen visited the Research Council and set up a permanent subcommittee made up of RTT and a few Research Council members to review research integrity as it is being moved out of the faculty handbook. S. Vuletich mentioned that the subcommittee is a good move as it makes sure that there are still faculty voices in overseeing the procedures for addressing research misconduct in Section 10.3 of the faculty handbook. It is appropriate to move this information because it needs updates more rapidly than the faculty handbook can handle. Some questions remained, however, as to where to house this information as the Procedure's Manual is more business related instead of research related. RTT has a policies repository that it could better fit, or research integrity could create their own separate repository. The Research Council was concerned about the subcommittee's role in reviewing any changes before implementation and making sure that RC involvement is consistent.

- **Comment:** B. Dugan mentioned this may be confusing for the senators as they have not seen the section 10.3 changes. This discussion segues to upcoming items particularly in the March 26th Faculty Senate meeting. During this meeting, there will be an in-depth discussion on Handbook sections 10.1 and 10.3. B. Dugan will send out the red line versions tomorrow via email and encouraged the senators to review them. Will Vaughan and Scot Allen will be present at the next meeting to answer any questions and then the Senate can have richer discussion about the right place to house the changes and what the process is.
- **Comment:** A. Herring clarified that the Procedure's Manual is a living document that is continuously updated. Anyone can suggest things to change or update in the Procedure's Manual anytime and they will be considered. It is intended to be academic, so research integrity is not necessarily appropriate for the Procedure's Manual. Anything that is removed from the handbook needs to be

transparently posted somewhere such as the policy library or under the research integrity webpage.

- **Comment:** B. Dugan emphasized the means for continuous faculty input and comment is important and that there is a clear definition of whom they should send comments to when questions or concerns come up.
- **Comment:** M. Eberhart added that it would be important to know how Faculty Senate is involved when things change in the Procedure's Manual, how is Senate alerted to that, and how does the Senate bring about reconciliation among the conflict that exist between the Procedure's Manual and the Faculty Handbook.
- **Comment:** B. Dugan mentioned that the job of the Faculty Senate is to write a memo back after we review the Handbook section and provide constructive feedback on what to change or improve, how, and why. That will be a big lift planned for after Spring Break which is why 10.1 and 10.3 was provided to the senators two weeks early.
- **Comment:** R. Holz clarified that it has always been a policy that the Handbook Committee (which is a university committee) take in recommendations for changes in the Handbook, discuss it, and vote on it. It is then released to the faculty and the Senate for at least 30 days for review and comment. For example, last year, the Senate objected to several changes and as a result, they were suspended for further discussion and feedback. The same applies to the Procedure's Manual. It is a live document but is released to faculty whenever changes are being made. Andy and others have been working hard to make the Procedure's Manual more consistent with the Handbook. If you find any inconsistencies, please let them know as there have not been any updates to the Procedure's Manual in several years so they are trying to remedy that. Oftentimes, no feedback is received.

Signature Student Experience Funds Brandon Dugan

Four years ago, the Senate received funds to develop initiatives for signature student experiences. Not all funds have been spent. There is about $100,000 left. Therefore, this week there will be a new call for proposals of up to $25,000 to develop signature student experiences for both undergraduate and graduate students. As a caveat, the funds must be spent by the end of the academic year so there will be a quick turnaround time. The proposals will be due April 12th with decisions made in early May. It will be a 3-page proposal covering the following questions: What is the impact? What is the scalability and supportability beyond that? How are you going to spend your funds within one year as it cannot carry over? In the background, B. Dugan will work on a committee which Andy will chair and include Justin Schaefer, Jenny Briggs, a GSG and USG student representative. There is an open call for a member of the Faculty Senate to also sit on the committee.

- **Question**: R. Holz asked if there will be any limitations on who can apply for one of these?
- **Answer**: B. Dugan answered that there will be no limitations and open to any faculty member on campus.
- **Answer**: A. Herring answered that the only rule is the money must be spent by May of next year.
- **Comment**: B. Dugan mentioned that a detailed spending plan will be included in the proposals request.

Upcoming Items Brandon Dugan

Handbook Sections 10.1 and 10.3 [March 26]
Online Content Ownership and Delivery [March 26]

Beck Venture Center Ribbon Cutting [April 4, 3:00 pm]
GenAI survey results (TBD)
By-laws revisions (online document sent to Senators for input)

Senate Business (Senators only) Brandon Dugan

3:40-3:45 pm **Adjourn** Brandon Dugan

Next meeting: March 26, 2024, in the Guggenheim Boardroom. Please send agenda items faculty_senate@mines.edu 1 week prior.