

Colorado School of Mines – FACULTY SENATE MEETING MINUTES
 March 14, 2:00 – 4:00 pm, Guggenheim Boardroom and Zoom

Attendees:

Voting Members: 15 total (8 needed for quorum). Quorum was present.

P	Jeff King (Chair)	P	Cristian Ciobanu (ME)	P	Linda Figueroa (CEE/MN)	P	Joseph Horan (HASS)
P	Mark Eberhart (CH)	A	Brandon Dugan (GP)* Sabbatical Spring 2023	P	Mansur Ermila (PE)	P	Soutir Bandyopadhyay (AMS)
P	Bettina Voelker (CH)	A	Lawrence Wiencke (PH)	P	Pat Kohl (PH)	P	Ventzi Karaivanov (ME)
P	Sid Saleh (EB)	P	Deb Carney (AMS)				

Other Regular Attendees and Guests

P	Andrew Herring (AA)	P	Rick Holz (AA)	P	Paul Myskiw (RO)	P	Colin Terry (Student Life)
P	Sam Spiegel (Mines Online)	A	*Aidan Lewis (USG) proxy for Emmelia Ashton (USG)	P	Liam Witteman (GSG)	P	Mara Green (AA)
P	Vibhuti Dave (UGS)	A	Tim Barbari (OGS)	P	Lori Kester (EM)	P	Nicole Becwar (LB)
P	Karla Perez-Velez (CASA)	P	Deb Jordan (Trefny)	A	Jen Gagne (Graduate Admissions)	A	Terri Hogue (Dean)
A	John Berger (Dean)	P	Todd Ruskell (PH)				

Special Guest(s): Scott Houser (EB), Dean Nieuwsma (EDS), Derek Morgan (Dean of Students)

Welcome

Jeff King

King welcomed faculty to the meeting. The Higher Learning Commission (HLC) was on campus 3/13 and 3/14. King asked faculty attend the 3/28 meeting for further discussion on the core curriculum and items up for vote by Senate.

Approval of Minutes – February 28, 2023 and Approval of the Agenda

Jeff King

MOTION: To vote to approve the Faculty Senate minutes of February 28, 2023 by Horan, seconded by Ermila. Motion passed unanimously.

MOTION: To vote to approve the Faculty Senate agenda of March 14, 2023 by Horan, seconded by Voelker. Motion passed unanimously.

Academic Affairs Announcements

Rick Holz

HLC visited campus; the visit occurs every ten years alongside a self-report. Open forums occurred 3/13 and 3/14 with an exit interview done noon of 3/14. Holz noted the visit went well; Holz reported the MINES@150 plan had been noted as an outstanding plan for the institution with positive feedback. HLC group commented on the core revision and were excited to see computing and a health and wellness course in the proposed core. Holz thanked the Core Curriculum committee, Undergraduate Council, Faculty Senate, and all involved with the core revision process. HLC had noted the business acumen in MINES@150 had not been solved. HLC commented on departments providing reworked four-year plans and several departments having lowered overall credits for graduation; Holz noted this places departments in a more competitive landscape. HLC overall excited to see accomplishments and uniqueness of Mines.

- **Question** on the timeframe of HLC accreditation and hearing a final decision; Holz reported the HLC group is still in town and had been sequestered to draft their report for 3/14 and the morning of 3/15. The draft report is then expected 3/27 and Mines is provided one week to correct any errors. A final report is provided a few weeks after where Mines is provided with a two-week period to write an institutional response. The response is then sent to the Institutional Actions Committee (IAC). Once IAC had reviewed the revised report and institutional response, a recommendation is provided to the Board of Trustees. Middle to late summer may be a timeframe for final decisions on reaccreditation.

Holz reported the ombuds position had been posted and advertised and will remain open until early April 2023; Holz encouraged faculty and others to apply for the position.

Holz reported the revised teaching faculty contract had been received from Ruskell and the Faculty Contracts ad hoc committee. The proposed revised contract had been reviewed with Herring and legal; noted there were a few inconsistencies with the Faculty Handbook and provided additional revisions. Holz thanked faculty for the effort in continuing shared governance.

Holz noted Spring Break begins 3/20 and encouraged faculty to not provide large assignments or projects for after the break. Faculty and students encouraged to take the break to relax and regroup.

Registrar's Office Announcements

Paul Myskiw

Myskiw participated in several HLC sessions; thanked faculty for working collaboratively across the board.

Myskiw reported on 3/20 a new user interface will be setup in Trailhead to help modernize the technology alongside the new identity management system Okta. Myskiw presented a brief visual of the new user interface; noted the site provides a unique experience on Trailhead. Students will see eight locked cards with information, the rest is customizable. Announcements can be pushed out to students on Trailhead.

- **Question** if the link to the list of courses coming from Banner is available on the Registrar's Office website; Myskiw reported the link will be provided in Trailhead to allow for easy access to course information. Banner 8 pages are going away and would be replaced with SSB9 or Banner 9.

Committee Reports and Presentations

Core Curriculum

STFutures - Resolutions 2.f and 2.g

Scott Houser
Dean Nieuwsma

Nieuwsma and Houser provided presentation update on the status of Sociotechnical Futures and H&SS electives.

The Futures' pilot structure would host a lecture with seventy-five students led by a theme instructor and seminars of twenty-five students each in four-week rotations, led by a seminar instructor. Students would move through different seminars, seeing three seminar instructors over a four week period. The theme instructor would bring the concepts together with the theme of Global Energy Futures.

Houser reported a budget request had been submitted to AA in Spring 2023. Pilot faculty had been identified as Ali Kerr (HASS, coordinator), Adrienne Kroepsch (HASS faculty lead), Marie Stettler Kleine (EDS faculty lead), and Ben Gilbert (EB Faculty lead). For Summer 2023, the theme instructor would coordinate pilot development while pilot faculty develop course content. Fall 2023 prepared to pilot seventy-five first-semester students. Houser reported, with positive pilot in Fall 2023, the pilot could expand to two sections with new students and faculty for Spring 2024. Houser clarified first semester students are students in their first semester at Mines.

Senator noted the course had once been considered a second-year course; Houser reported there had been a request for the course to have no prerequisites to create space in students' schedules.

Nieusma noted the faculty listed were not to create the course content for an extended period; the faculty are creating a structure for different faculty of different disciplinary backgrounds can teach within the articulated structure. The assignments, deadlines, and grading are determined in advance but the content and assessments are created by faculty participating in each cycle.

- **Question** if there is information on the structure of the assignments; Nieusma reported the pilot team is charged with clarifying assignments.

The theme instructor would be responsible for integration of the seminars into the central theme.

- **Question** if the course would be taught to the whole first-year class, where would the instructors come from; Nieusma noted instructors would come from all three departments (HASS, EB, and EDS). Nieusma reported it would be important for the course content to remain agnostic and flexible for instructors of varying backgrounds.
- **Question** if this course could involve faculty from other departments; Nieusma noted this was to be determined. The model allows for integration of other departments, but the course focus is on the social dimension of science and technology.

Senator noted consideration of a core competency for the course would allow for paring with HASS100.

- **Question** if there is intention to cover content from EBG201 to satisfy ABET; Houser reported the course had never been intended to replace the content in EBG201 or HASS200. Dave clarified that economics is not spelled out as an ABET requirement; a standalone economics course would not be a requirement.

Houser reported on the H&SS electives revision process. The leadership supported the renaming of the electives to Culture and Society (CAS) electives. Horan volunteered to lead a comprehensive review of the CAS electives in Fall 2024 and, based on review, the leadership would provide a proposal for changes to the CAS electives for the 2024-2025 Catalog.

- **Question** on rollout of the STFutures and CAS electives; Dave reported STFutures would be piloted for Fall 2023 and would not appear as a core requirement for 2023-2024. STFutures would be implemented for 2024-2025 alongside finalized CAS electives.
- **Question** if it is feasible for the course to scale to a full core requirement in a year or if delays had been factored in; Nieusma noted there are two major questions for the course including how the structure solidifies and expanding to cover the entire first-year class. Nieusma reported the course expectations should remain realistic.

Faculty Contracts

Todd Ruskell

Faculty Senate Ad Hoc Committee

Ruskell thanked Holz and Herring for efforts in reviewing and providing feedback on the contracts. Ruskell briefly reviewed what was provided by AA and would provide additional details with committee. Larger changes should be propagated across all contracts.

Committee to also review library contracts.

Bylaws and Rules

Jeff King

Faculty Senate Ad Hoc Committee

King reported committee focus had been paused; King expecting proposal in April 2023.

Student Signature Experience

Linda Figueroa

Faculty Senate Ad Hoc Committee

Figueroa reported the committee was gaining final reports from SSE teams and had been provided a partial report on projects that had sunset.

Council Reports and Presentations

Undergraduate Council

Student Life

Colin Terry

Terry provided a formal presentation on the Success and Wellness (S&W) category and the new CSM202 course. The presentation outlined an overview of changes to PAGN courses, CSM101 and CSM201 changes, the introduction of the new CSM202 course, and an overview of the S&W category of the core curriculum. Terry noted Undergraduate Council had reviewed and approved the provisioned changes from January through March 2023.

Terry reported all existing half credit PAGN2XX courses would be converted to one credit, PAGN101 and PAGN102 would then be eliminated as the two courses would no longer be needed in the core revision. Additional PAGN courses are planned. The PAGN waiver would be adjusted to only include honorably discharged military. The consecutive semester PAGN rule would be eliminated, too, which had previously barred multiple PAGN courses in the same semester.

CSM101 and CSM201, originally half credit courses, would be converted to one credit courses. Terry noted CSM201 is an optional course for transfer students. The CSM101 curriculum had been revised and updated with the forthcoming wellness course. The courses would be continually assessed with orientation, student screening and outreach, student surveys, and the Trefny Center.

CSM202: Introduction to Student Well-Being at Mines would be a new, required one credit courses beginning in Spring 2024 with a prerequisite of CSM101. The course coordinators are Emma Griffis, director of Student Wellness and Promotion, and Derek Morgan, Dean of Students. The delivery logistics had been vetted and designed alongside the Registrar's Office. CSM202 would serve 750 students per semester with sixteen sections of forty to fifty students. Each section would then be taught by one current faculty or staff member and three to four student assistants in their junior or senior year. The delivery model, informed by the Trefny Center and the faculty design team, would have students prepare with content prior to class; discuss, apply, and practice learning during class, and attend to small group work, refinement of well-being plans, and practice new skills after class. Topics to be addressed in CSM202 include: seven dimensions of well-being (physical, emotional, social, environmental, spiritual,

financial, and intellectual), mindset, mental health, physical activity, stress reduction, and sleep. Additional topics include nutrition, resilience, substance misuse and abuse, sexual health, healthy relationships, QPR suicide training, and bystander intervention training. Terry noted the course is one credit and not an “end-all-be-all” at Mines and the course would be part of the larger Every Oredigger initiative. The course would then act as a step for students to gain information and practice skills. If approval occurs, Morgan reported faculty would be gathered and hired to build out the curriculum and what the sixteen weeks would look like. The learning outcomes of the course were outlined:

- Analyze your personal well-being using tools and resources associated with seven well-being dimensions.
- Incorporate well-being practices into your routine.
- Construct a personal well-being plan based on your personal experiences and learning through the course.
- Implement and apply feedback to your personal well-being plan, continuously reflecting on your personal goals and progress.
- Utilize campus and local resources that provide support around the seven well-being dimensions.
- Infer best practices to support your personal resiliency, based on your personal history, the internal and external resources available to you, and potentially tough situations that might arise.

The course description is:

“How do you feel when you’re stressed? How do you feel when you’re thriving? When do you feel resilient? What do you do to get through tough times? How do you celebrate when things are good? What do you do to try to achieve balance in your life? This course will help you answer these questions and lay the foundation for all Orediggers to identify, practice, and build skills that are needed to support your own holistic well-being during your time at Mines and beyond. Even if you have it all figured out, you can use the information and skills practiced in this course to support your friends and classmates who may need assistance. You will identify and understand seven interconnected dimensions of well-being (physical, emotional, social, environmental, spiritual, financial, and intellectual), as well as best evidence for behaviors that support your wellness in these various ways. This course will focus on health and wellness concepts important in making informed choices about your well-being, as well as the utilization of appropriate resources when help is needed. By the end of the course, you will develop a well-being plan with tangible strategies to help you thrive throughout your life.”

The course would be assessed through written reflections and journals, engagement with skill building practices, creation of an individualized well-being plan, and classroom and small group participation.

The S&W category within the core would come together as CSM101 for one credit, CSM202 for one credit, and a third S&W elective for one credit. The current S&W elective list is CSM250, CSM275, CSM350, and any PAGN2XX course. Courses added to the S&W elective category would need to be vetted and approved by Undergraduate Council and Faculty Senate. The definition of S&W was provided:

“Courses in this category facilitate personal growth and encourage a balanced and healthy campus lifestyle. Success and wellness courses are applied, experiential courses that impart foundational, practical, and lifelong skills or competencies to the benefit of a student’s future scholastic efforts and/or personal and professional aspirations.”

Student Life had worked with AA and the Dean of Undergraduate Studies on mapping the implementation change with consideration of Catalog changes. Terry reported the correlation between wellness and withdrawal, resource-demand, and academic success at Mines; Terry reported the number one reason students leave is due to wellness concerns. Terry noted the CSM202 course had been requested by Graduate and Undergraduate Student Government.

- **Question** if transfer students with significant life experiences, were required to take the course with first-year students; Terry noted the provision of CSM101 that students with more than thirty credits were not considered first-year students. Terry believed the value of CSM202 as a wellness course as an elective for transfer students remained.

Senator suggested reconsidering the requirement for older or experienced students; Terry reported students coming from different areas may still struggle with mental health and wellness, consideration could be made for a transfer student section. A wellness course is available for graduate students, but is not required.

- **Question** on rollout and staffing needs; Terry reported Student Life would work with AA on rollout. The course would be straightforward for future students and continuing students. Continuing students’ CSM101, PAGN, and Varsity athletics would be recognized and changes would be articulated with student advisors. Student Life recognized the need for CSM202 and pursued a fulltime position for course coordinator. The coordinator position had been approved and was part of the 2022 budget. Sections taught by faculty and staff would be trained to pick up the curriculum. Budget would be set aside for interested parties.
- **Question** on the criteria for someone qualified to teach the course; Terry reported anyone interested in the topic and willing to teach can teach CSM202. Senator noted student experience can depend on the people involved with the course; suggestion made to consider individuals with mental health training. Terry noted experts could be brought in for specific modules.
- **Question** on how department work hours are used to teach the course; Terry reported CSM courses are discussed between employee and manager/director/supervisor.
- **Question** on extra compensation for teaching; Terry reported the compensation depends on the course.

Terry reported HLC asked regarding scaling the course; Terry noted one on one counseling could not be the only answer and could not be scaled to a large body of students.

Senator noted students, faculty, and staff hold unrealistic expectations and wellness efforts are often not coordinated with the source of anxiety for students. Senator noted the institution may not be reducing stress that is placed on students through academic success in the form of a GPA rather than what had been learned in the course. Senator noted practices in CSM202 may not be applied outside of the course.

Terry noted other recommendations related to policy, procedure, and practice are critically important and should be brought forward. Morgan reported the subcommittee of faculty for Every Oredigger would look at policies and procedures within the institution at a larger scale.

Senator noted student success mentally and academically can be improved through a good relationship with at least one professor providing mentorship. Senator noted students may not see a full or tenured professor until their junior year.

Senate recommended establishment of minimum criteria or qualifications for teaching the class; Terry noted training is needed for the course and could be considered the minimum criteria.

Student government had overwhelmingly supported the plan. USG noted wellness is a priority for students, several students are unwell. Students place overwhelming amount of worth on grades and GPA.

Core Curriculum Catalog Language

Horan reported Undergraduate Council opposition to CSCI128 phased rollout and were in favor of full rollout of CSCI128 without piloting. Horan noted Council in support of CS' ability to implement the CSCI128 course. Horan noted conclusive evidence should be available that the core revision will not work or that there had been a substantive departure from the framework approved in the Faculty Senate resolution. Council discussed efficacy of revising the core repeatedly and Council advised against large, repeated changes.

Dave noted the columns originally presented in the Core Curriculum revised Catalog language included desired implementation, this was removed to avoid confusion. H&SS had been updated throughout the document to CAS. Language on staggered or phased approval had been removed, as well.

Senator asked faculty continue to gain feedback and engage in discussion on the revised language and core revision. Senate desired an informed decision with consideration of any alternatives available. Senator feared complex advising issues due to multiple changes within the core over coming years.

Senators encouraged to continue reviewing the details provided for the revised Catalog language, STFutures course, and the memorandums from Student Life.

Appendix A – CORE Curriculum Items for Senate Presentation

The program changes in items 1.1 through 1.14 in Appendix A were course flowchart updates done reflecting the revised core changes. Item 1.15 was a course change to the core course HASS100: Nature and Human Values.

Appendix B – Non-CORE Curriculum Items for Senate Presentation

Horan noted curriculum items 2.1 through 2.3 were presented in Undergraduate Council with minimal discussion. Item 2.3 was a program deactivation of the physics minor in biophysics.

Graduate Council

Appendix D – Curriculum Items for Senate Presentation

4.1 Program change to MP, MS & PhD in Chemistry

A change was made to reduce the number of course credits required for a thesis master's degree, which had been twenty-four to eighteen to match the PhD.

4.2 Program change to MS & PhD in Computer Science

The program language added updated language in relation to the revised Core Curriculum in the Undergraduate Catalog.

4.3 Program change to MS in Humanitarian Engineering and Science

The change was made to core courses within the program. Voelker noted items presented to Senate had limited discussion at Graduate Council.

4.4 Program change to MSNT and Certificate in GIS & GeoInformatics

The program transitioned into a fully online master's degree.

4.5 Program change to Graduate Certificate in Energy Geophysics

The program's name was updated from Petroleum Geophysics to Energy Geophysics.

Confirmations and Appointments

Cristian Ciobanu

Faculty Workload

King noted the Faculty Workload committee has important work. Eberhart volunteered to chair the ad hoc committee.

MOTION: To appoint M. Eberhart as chair of the ad hoc Faculty Senate Faculty Workload committee by Ciobanu, seconded by Horan. Motion passed unanimously.

Parking Advisory Committee

King noted the Parking Advisory committee, a university committee, requested a Senate and faculty representative. Voelker volunteered to be the Senate representative on the Parking Advisory committee.

MOTION: To appoint B. Voelker as Faculty Senate representative on the University Parking Advisory committee by Ciobanu, seconded by Horan. Motion passed unanimously.

Senate Business

Jeff King

Distinguished Lecture Nomination 2024 and Excellence in Research Awards

King informed Senators the nominations provided by the Distinguished Lecture committee would be distributed through an email ballot. Saleh reported Research Council had approved the Excellence in Research awardees presented by the Council subcommittee.

Research Council had put forward the junior and senior awardees. The Distinguished Lecture committee asked Faculty Senate to review their top three candidates. Senate was provided the option to vote for or against the top three candidates and, if against, provide an alternative top three of the provided candidates.

MOTION: To vote through an email ballot on the ratification of the Excellence in Research awardees and the nomination for the 2024 Distinguished Lecture by Voelker, seconded by Ermila. Motion passed unanimously.

The information was distributed to Faculty Senate for an online, email vote on 3/14. The results were collected 3/16. Faculty Senate Distinguished Lecture for 2024 received eight (8) for, one (1) against, and one (1) abstention. The ratification of the Excellence in Research awardees was unanimous approval.

Undergraduate Council

Joe Horan

Appendix C – Non-CORE Curriculum Items for Senate Vote

3.1 Program change to Minor in Computer Science

CS proposed deactivation of the ASI in Computer Science.

MOTION: To vote to approve the program change to MINAS-CS: Minor in Computer Science by Horan, seconded by Ciobanu. Motion passed unanimously.

Graduate Council

Tina Voelker

Appendix E – Curriculum Items for Senate Vote

The changes presented in curriculum items 5.1 through 5.7 of Appendix E were considered housekeeping changes and had minimal discussion at Graduate Council.

MOTION: To vote to approve the graduate curriculum items 5.1 through 5.7 in Appendix E in an omnibus Senate vote by Voelker, seconded by Horan. Motion passed unanimously.

Open Floor

Jeff King

USG had a roundtable discussion on investments at the school; it had come to USG's attention that faculty do not have the option, if interested, to place retirement funds into environmental sustainability indexes. Several faculty have PERA, which has some investment opportunities, but options outside of the state-offered financial options are unknown or may not be available.

Adjourn

Jeff King

Meeting adjourned: 4:00 pm.

Next meeting: March 28, 2:00-4:00 pm in the Guggenheim Boardroom and Zoom. Please send all agenda items to Mara Green (mgreen1@mines.edu) 1 week prior.

Appendix A
CORE Curriculum Items for Senate Presentation

- 1.1 **APPLIED MATHEMATICS & STATISTICS**
[CIM 2/27]
1 program change: BS-AMS: BS in Applied Mathematics and Statistics
THE FOLLOWING ARE NEW CORE CHANGES: We will drop 3 hours of free elective credit. Not much else will change for us in the new core. The new flow chart has been input. At the same time, we will remove MATH530 from the elective lists for the CAM and STAT BS degrees (that is a service course containing material already required in other major classes)
- 1.2 **CIVIL & ENVIRONMENTAL ENGINEERING**
[CIM 3/6]
3 program change: BS-CE: BS in Civil Engineering
 BS-CONSTR: BS in Construction Engineering
 BS-EVE: BS in Environmental Engineering
Core course flowchart changes.
- 1.3 **CHEMICAL & BIOLOGICAL ENGINEERING**
[CIM 2/13; UGC 3/1]
1 program change: BS-CHE: BS in Chemical Engineering
Updating program requirements in accordance with core revision.
- 1.4 **CHEMISTRY**
[CIM 2/24]
1 program change: BS-CHM: BS in Chemistry
Updated flowchart to include new core requirements: Chemistry track, Environmental Chemistry track, Biochemistry track, BS in Biochemistry.
- 1.5 **ECONOMICS & BUSINESS**
[CIM 3/1]
2 program changes: BS-BEMS: BS in Business Engineering and Management Science
 BS-ECO: BS in Economics
Core revision; course flowchart updated.
- 1.6 **ENGINEERING, DESIGN, AND SOCIETY**
[CIM 2/24]
1 program change: BS-EGN: BS in Design Engineering
Updates to program due to core revisions.
- 1.7 **GEOLOGY & GEOLOGICAL ENGINEERING**
[CIM 3/1]
1 program change: BS-GLE: BS in Geological Engineering
Changes are related to meeting the changes in core curriculum being implemented in 2023-24, also reducing required credit hours to 133 from 137.5.
- 1.8 **GEOPHYSICS**

[CIM 2/15; UGC 3/1

1 program change: BS-GPE: BS in Geophysical Engineering

The GP department conducted an update on core courses to fit the campus-wide adjustment. The department also proposes the addition of six tracks that would guide our undergraduate students in their course selection and career development. This is an approach that has been adopted by various other programs, such as Mechanical Engineering.

1.9 **MECHANICAL ENGINEERING**

[CIM 3/1]

1 program change: BS-MECH: BS in Mechanical Engineering

*1. Changes according to Mines CORE adjustment.
2. Electives list updated (added/removed).
3. GPA calculation course list trimmed down.
4. Tracks courses updated. 5. Minors and ASI text and credit hours corrections.*

1.10 **METALLURGICAL & MATERIALS ENGINEERING**

[CIM 2/16; UGC 3/8]

1 program change: BS-CERE: BS in Ceramic Engineering
BS-MME: BS in Metallurgical and Materials Engineering

Program grid changes to reflect updates in response to core changes.

1.11 **MINING ENGINEERING**

[CIM 3/1]

1 program change: BS-MNE: BS in Mining Engineering

Updates to the course flowchart reflecting core revisions.

1.12 **PETROLEUM ENGINEERING**

[CIM 2/22; UGC 3/8]

2 program changes: BS-PTE: BS in Petroleum Engineering

These changes are to meet the new core curriculum requirements.

MIN-PTDA: Minor in Petroleum Data Analytics

We are updating the requirements to reflect changes in the core curriculum and the discontinuation of some courses previously listed as part of this minor.

1.13 **PHYSICS**

[CIM 2/24]

1 program change: BS-PHE: BS in Engineering Physics

These changes will better match our undergraduate Engineering Physics degree with the larger campus changes in our core curriculum. Changes to flowchart.

1.14 **QUANTITATIVE BIOSCIENCES AND ENGINEERING**

[CIM 2/23]

1 program change: BS-QBE: BS in Quantitative Biosciences and Engineering

Updates to course flowchart.

1.15 **HUMANITIES, ARTS, AND SOCIAL SCIENCES**

[CIM 3/1]

1 course change: HASS100: NATURE AND HUMAN VALUES
Credit change from 4 to 3 hours.

Appendix B
Non-CORE Curriculum Items for Senate Presentation

- 2.1 **MECHANICAL ENGINEERING**
 [CIM 2/27]
1 program change: MIN-AERO: Aerospace Engineering Minor
Courses added to list.
- 2.2 **ELECTRICAL ENGINEERING**
 [CIM 2/19; UGC 3/8]
1 program change: MINASI-EE: Minor/ASI in Electrical Engineering
We are being specific about which courses students have to take to get a minor within the Catalog language.
- 2.3 **PHYSICS**
 [CIM 3/3]
1 program deactivation: MIN-BPHYS: Minor in Biophysics
No longer offering the program.

Appendix C

Non-CORE Curriculum Items for Senate Vote from 2/28/23

3.1

COMPUTER SCIENCE

[CIM 1/4]

1 program change: MINASI-CS: Minor in Computer Science

Deactivating ASI. Currently zero students enrolled and ASIs are rarely utilized across campus. Further, due to prereqs a student completing the existing ASI would need 1 more course to complete the minor.

Second version of minor being rolled into Minor in Computer Engineering.

Appendix D
Graduate Curriculum Items for Senate Presentation

- 4.1 **CHEMISTRY**
[CIM 2/8; GC 3/1]
1 program change: MPMSPHD-CH: MP, MS & PhD – Chemistry
Number of credits for MS degree was decreased from 24 to 18 credits, so that it now matches the number of credits required for the PhD degree.
- 4.2 **COMPUTER SCIENCE**
[CIM 2/6; GC 3/1]
1 program change: MSPHD-CS: MS & PhD – Computer Science
Change prerequisite requirements based on core changes in undergraduate Catalog.
- 4.3 **ENGINEERING, DESIGN, AND SOCIETY**
[CIM 2/14]
1 program change: MSCR-HES: Humanitarian Engineering and Science
*Changes to the program are:
Replacing two core courses: Adding EDNS 515, Intro to Science & Technology Studies (a currently existing, but renamed course) to replace EDNS 590 Risks in HES. Adding EDNS 579 Community Based Research Methods (a new graduate level version of this course) to replace the 400 level of this course. Adding HASS 590, Energy & Society and EDNS 590 Risks in HES to the Elective List.*
- 4.4 **GEOLOGY & GEOLOGICAL ENGINEERING**
[CIM 2/7]
1 program change: CRMS-GISG: GIS & GeoInformatics – Certificates and MSNT
GIS Programs. Because this is newly formed into the GIS Master's Degree as an ONLINE degree, there are a few changes for this program.
- 4.5 **GEOPHYSICS**
[CIM 1/31; GC 3/1]
1 program change: XCR-PEGP: Graduate Certificate in Energy Geophysics
We are requesting both a name and programmatic change for the existing Graduate Certificate in Geophysics. The name change is also consistent with market research (including by Mines personnel) that finds "energy" to be a more compelling term than "petroleum" with the demographic most likely to enter the Graduate Certificate program. Thus, it is likely to have broader appeal and likely increase enrollment. The programmatic change would allow us to broaden the types of courses offered in this program beyond petroleum (i.e., distributed fiber optic sensing; carbon capture, utilization, and storage), and provide a path for future extensions in the direction of geothermal, geophysical engineering (e.g., solar and wind resources), and locating the minerals required for the energy transition. It would also provide prospective students with greater flexibility in designing a graduate certificate program that is better aligned with their career goals and objectives. Finally, we note that all the listed courses already exist as online 8-week asynchronous courses; thus, there is minimal overhead for contributing faculty associated with this proposed name and programmatic change

Appendix E
Graduate Curriculum Items for Senate Vote from 2/28/23

5.1

MINING ENGINEERING

[CIM 1/17; GC 2/15]

1 program change: MSPHD-ERSE: Earth Resources Science and Engineering
Dept of Mining engineering offers MS and PhD degrees under Earth Resource Development Engineering (ERDE). This program allows faculty in our dept to recruit and advise students from various engineering backgrounds to work on mining and minerals related topics. There has been much demand and inquiry to allow students with science background to join the program and work on these topics. ERDE by nature is multi-disciplinary and we are opening it to the possibility of having students with Science background to join the program. With this change, we are also proposing to change the name of the program to "Earth Resources Science and Engineering (ERSE)".

In brief this program change involves:

- Change the requirements for ERDE admission so that students from non-engineering backgrounds can also be admitted without having to fulfill the requirements for an engineering undergraduate degree*
- Change the name of ERDE – Earth Resource Development Engineering to ERSE Earth Resources Science and Engineering*

5.2

CHEMISTRY

[CIM 2/10; GC 2/15]

1 program change: CRTG-GE: MSPHDCERT – Analytical Geochemistry
This submission reflects only program elective updates and the removal of an outdated sentence. Specifically:

Master of Science and Doctor of Philosophy

Geochemistry Degree Track

MS Course List

Reordered list for ease of reference

Removed GEOL 535 Litho Ore Forming Processes, as the course is no longer being offered.

PhD Course List

Reordered list for ease of reference

Removed GEOL 535 Litho Ore Forming Processes, as the course is no longer being offered.

Environmental Biogeochemistry Degree Track

Reordered course list for ease of reference

Under 4. One Earth Science-Focused class,

Added GEGX 571 Geochemical Exploration

Graduate Certificate of Analytical Geochemistry

In the Electives list:

Reordered the list of ease of reference

Added CEEN 562 Environmental Geomicrobiology

Professional Masters in Environmental Geochemistry

Removed a sentence about requiring 1 lab course—this is a vestigial sentence mistakenly missed during a prior year's edit.

In the Electives list:

Added CEEN 562 Environmental Geomicrobiology

Removed GEOL 535 Litho Ore Forming Processes, as the course is no longer being offered.

Added GEGX 571 Geochemical Exploration

5.3

GEOPHYSICS

[CIM 1/10; GC 2/15]

1 program change: MPMSPHD-GP: MP, MS & PhD – Geophysics & Geophysical Engineering

The structure of the GP graduate degrees is currently over-prescriptive in the courses required to satisfy the three presently listed coursework focus areas of theory, applied and computation. This structure also appears to downplay the importance of the "Earth and Space" focus area by not required such coursework in the GP graduate degree programs. We are seeking a programmatic change that affords GP graduate students (and their committees) a greater flexibility in choosing the courses to fulfill their GP graduate degree program and is better tailored to our student's specific research and career goals. We are also looking to rebalance the degree emphasis by requiring coursework in the "Earth and Space" focus area in addition to the three others identified above. These modifications are consistent with the recent broadening the scope of the departmental research and teaching activities over the past few years. In addition, through this programmatic change the GP Department will be expanding the offerings and diversifying the delivery of GP graduate program available to students, which is consistent with the stated Mines@150 goals.

5.4

QUANTITATIVE BIOSCIENCES AND ENGINEERING

[CIM 2/13; GC 2/15 Consent Agenda]

1 program change: MSPHD-BIO: MS & PHD – Quantitative Biosciences and Engineering

This update is to add existing courses to the QBE Elective course list.

5.5

ELECTRICAL ENGINEERING

[CIM 1/25; GC 2/1 Consent Agenda]

1 program change: MSPHD-EE: MS & PhD – Electrical Engineering

Renaming Technical electives.

5.6

MATERIALS SCIENCE

[CIM 2/13; GC 2/15 Consent Agenda]

1 program change: MSPHD-MATSCI: MS & PhD – Materials Science

This update is to clarify that electives need not be limited to MLGN prefix courses. This is not a change in practice.

5.7

MECHANICAL ENGINEERING

[CIM 12/13; GC 2/15]

1 program change: MSPHD-MECH: MS & PhD – Mechanical Engineering

Updating list of approved Research Core Courses to ensure that enough courses are taught so that students can graduate on time.