Colorado School of Mines – UNDERGRADUATE COUNCIL MEETING MINUTES
February 8, 4:00 – 5:00 pm, via Zoom

Attendees:

Voting Members: 19 total (10 needed for quorum). Quorum was present.

P	Joseph Horan (chair)	P	Andrew Pederson (EB)	P	Mike Nicholas (AMS)	P	Chuck Stone (PH)
P	Michael Barankin (CBE)	P	Cortney Holles (HASS)	P	Corinne Packard (MME)	P	Nicole Smith (MN)
P	Dylan Domaille (CH)	P	Ge Jin (GP)	P	Rob Thompson (CS)	P	Dave Benson (GE)
P	Linda Battalora (PE)	P	Hongyan Liu (CEE)	P	Oyvind Nilsen (ME)	P	Emmelia Ashton (USG)
A	Chelsea Salinas (EDS)	P	Brianna Buljung (LB)	P	Hisham Sager (EE)		

Other Regular Attendees and Guests

A	Sam Spiegel (Mines Online)	P	Dixie Cirillo (PA)	P	Mara Green (AA)	A	Kendra Stansbury (RO)
A	Karla Perez-Velez (CASA)	A	Vibhuti Dave (UGS)	A	Deb Jordan (Trefny Center)	P	Paul Myskiw (RO)
P	Katie Ludwin (CASA)	P	Danielle Boileau (CASA)	A	Cheryl Medford (GE)	A	Rachel McDonald (PE)
P	D. Scott Heath (RO)						

Special Guest(s): Josh O'Brien (Writing Center), Colin Terry (Assistant Vice President; Student Life), Cj McClelland (EDS), Peter Aaen (EE)

Welcome Joe Horan

Horan thanked Councilors for attending the additional meetings. Core items and program changes are brought to Faculty Senate for review and vote.

Approval of Minutes – February 1, 2023 Joe Horan

MOTION: To approve the February 1, 2023 Undergraduate Council minutes by Barankin, seconded by Jin. Motion passed unanimously.

Briefings and Information Items

Office of Undergraduate Studies Vibhuti Dave

No updates from the Office of Undergraduate Studies.

Registrar's Office Paul Myskiw

Myskiw notified Councilors Scott Heath would attend while Graduate Council is in session concurrently with Undergraduate Council.

Myskiw reported the Fall 2023 schedule had been released, estimates of freshman core seating needs would be sent out. The target goal for Fall 2023 was reported as 1,450. A similar schedule is planned for Fall 2023 as what was done in Fall 2022.

Dave sent out 2/15 due date for mapping the first two years within program flowcharts to map out the number of seats needed for each section of Fall and Spring semesters. DHs should have received a document for planning core course revisions. Horan recommended Councilors continue to keep track of changes within departments and bringing concerns to Council.

Student Life – Core Curriculum Colin Terry

Terry answered questions related to the four memorandums of Student Life changes related to the core curriculum.

- **Question** on retention and which years lose students due to wellness concerns; Terry reported there are annual investigations on withdrawals but there has been focus the last eight months. Students reason for leaving prior to matriculation or performing permanent or temporary withdrawals was due to wellbeing or personal/family hardships. Following wellness concerns came financial hardship or a lack of desired academic persistence. Terry cited satisfactory academic progress rate or the rate at which students are achieving progress in degrees and good grades. The first and second-year retention was reported as 92-94% in the past decade but a dip is observed starting sophomore year. Students experienced challenges with mental health and wellbeing with a lack of resources between the first and final years at the institution. CSM202 could provide students with networks and recommendations in that second year.
- **Question** on formative or summative assessment plans for CSM101 and CSM202 moving forward; Terry reported there is an extensive course evaluation set up. Senior exit survey provided data on CSM101 and if it had been worth students' time, several saw the value and noted it had been underappreciated at the time. The course is annually assessed, and students must provide responses alongside peer mentor feedback.

Comment on the lapse of communication with parents and guardians, especially first generation, that do not know the collegiate processes or challenges and expectations of Mines. Terry noted this was under consideration for additional parent communications and expectations, alongside first-generation resources.

- **Question** on enrollment size of CSM202; Terry reported looking to larger sections compared to CSM101 with more than fifty students and fourteen sections.

Council recommended the CSM202 course be submitted in CIM prior to Council vote to review learning outcomes and details of the course.

New Curriculum Item(s)

1.1 **CSM GENERAL** Josh O'Brien

[CIM 2/6; Provost 2/6]

1 new course: CSM102: INTRODUCTION TO TECHNICAL WRITING

The purpose of this course is to offer undergraduate students a 1.0 credit course where they are introduced to the foundations of both technical writing and oral communication. The course will be offered through the Writing Center as a free elective that can supplement their writing instruction before they take upper-level classes. The class can act as a bridge between their earlier exposure to writing in core courses such as HASS100 and EDNS151 and the more discipline-specific writing they will encounter in 300 and 400-level courses. There will be no pre or co-requisites.

Learning how to communicate STEM topics to a variety of stakeholders is a key skill in both academia and industry. In this course, students explore a variety of common communication topics in STEM such as memos, white papers, pitch decks, executive summaries, figures and tables, and poster presentations. This course examines how

students can draft and revise related forms of communication so that they have the foundation to further develop these skills in their discipline. The course provides students with a strong foundation to transfer academic writing skills they've learned in the core curriculum to more advance forms of technical communication that they will encounter not in their upper-level courses, internships, and future careers. By taking this class, they gain a valuable introduction to technical writing which they can apply and tailor to future communication needs.

O'Brien presented on the one credit course and noted it would count toward the Success and Wellness category of electives within the core curriculum. O'Brien reported departments had requested an elective be offered to support students technical writing skills; O'Brien noted the course would build off earlier introductions to writing provided in HASS100 and earlier design courses.

Comment raised on avoiding departments taking electives and requiring a specific course for a major; suggestion made to make sure electives remain electives for students.

- **Question** on why the course is one credit; Myskiw reported the course would fall into the same category as PAGN and wellness courses and would be one credit.
- **Question** if students can choose to take this course rather than a PA credit or another Success and Wellness course; Myskiw reported PA would be a category within the wellness courses and CSM102 would fall within the Success section of Success and Wellness.
- **Question** on how the course adds to student wellness; Cirillo noted the course falls under leadership and would provide students with resources for success.

General comment made on a one credit course counting as an elective. Councilors discussed the target audience of technical writing and that the course may not be one size fits all with the variations of technical and scientific writing expected of students. O'Brien noted the idea of the course would provide students with confidence in their ability to write between a diverse audience and with their peers.

1.2 **HUMANITIES, ARTS, AND SOCIAL SCIENCES** Cortney Holles
[CIM 2/5; Provost 2/5]
1 new course: HASS314: INTRODUCTION TO THEATRICAL IMPROVISATION
This class will help develop leadership skills - many major companies use improv techniques to help their executive team continue to hone creative flexibility. This class also will help students follow their passions.

Course has been offered in full for several semesters.

1.3 **ELECTRICAL ENGINEERING** Hisham Sager
[CIM TBD]
1 program change: BS-EE: BS in Electrical Engineering
An analysis of the emphasis areas within the department reveals that approximately 70% of our students do not select an emphasis area and instead pursue our general electrical engineering program. Supporting these emphasis areas places a high teaching demand on our small faculty. The department unanimously supports the removal of emphasis areas. Emphasis areas will be converted to pathways for students to identify specialty areas for study.

EE presented removal of emphasis areas in the BS program. Students can select three courses to decide an emphasis area. Sager provided statistics of the program and reported 70% of students choose to not declare an emphasis and remain as a general electrical engineer. Students reported fear of limiting future job prospects by selecting an emphasis. Sager reported the department is still growing and are hiring more faculty. The limited number of faculty restricted the number of emphasis courses that could be taught.

Aaen reported the visiting committee commented on the number of courses that must be taught to offer an emphasis area. The department decision had been strategic to look at internal efficiencies, focusing on research aspects, and allowing for development of new courses.

- **Question** on alternative pathways and if the alternative appears on student transcripts; Aaen reported the courses appear as a menu and do not appear on a students' transcript.

Continuing Curriculum Item(s) – from 1/25/23 and 2/1/23

2.1 **MECHANICAL ENGINEERING** Oyvind Nilsen
[CIM 1/16]
1 course change: MEGN340: COOPERATIVE EDUCATION
New grading scheme, use pass/fail.

Nilsen reported there are no issues with ABET requirements when offering a pass/fail course. Nilsen noted problems in requiring a report as a form of assessment and that the learning objectives of the company may not reflect within the report alone.

- **Question** if it is possible for cooperative education courses to be granted credit like a transfer course without a grade or pass/fail option; Myskiw reported it is not common but it is a possibility. Tuition is charged for the course. Myskiw noted Mines only allowed pass/fail for a semester during the COVID-19 pandemic.

2.2 **COMPUTER SCIENCE** Rob Thompson
[CIM 1/17]
3 course changes: CSCI404: ARTIFICIAL INTELLIGENCE
CSCI436: HUMAN-ROBOT INTERACTION
CSCI437: INTRODUCTION TO COMPUTER VISION
Updating prob/stat prereq to align with new CS degree plan. Updated responsible faculty.

MOTION: To approve the three (3) course changes presented in item 2.2 in an omnibus Council vote by Barankin, seconded by Nilsen. Motion passed unanimously.

2.3 **GEOLOGY & GEOLOGICAL ENGINEERING** Dave Benson
[CIM 1/9]
7 course changes: GEGN203: ENGINEERING TERRAIN ANALYSIS
This course has long had a separate but related lab class (GEGN205 - Advanced Physical Geology Laboratory) and we wish to combine the two to simplify the structure for students and remove the possibility of students not taking both the lecture and laboratory components

GEGN204: GEOLOGIC PRINCIPLES AND PROCESSES

We wish to add a laboratory to this class increasing from 2 to 3 credit hours to better strengthen student learning.

GEGN212: THE ROCK CYCLE

Remove prerequisites as they are no longer needed. GEGN217 is being removed as a co-requisite so that course can be offered every semester. Change offering to both fall and spring to better serve students. Change name to be more descriptive and attractive to students who are not geological engineers, also reduced confusion with the similarly named GEGN306; Petrology. Name change "Petrology for Geological Engineering" → "The Rock Cycle".

GEGN217: GEOLOGIC FIELD METHODS

We are changing the prerequisite to GEGN101 to make it easier for students to progress through our program if they take a pathway that doesn't perfectly match the flowchart. Also adjusting contact hours to match the actual hours.

GEGN316: FIELD GEOLOGY

The department has increased the field component of program in other courses and wants to reallocate one credit hour to the sophomore year course GEGN204. Reducing to five weeks also allows students to complete field camp earlier reduces the risk of burnout. GEGN205 is being removed as a prerequisite as it is being deactivated.

GEGN466: GROUNDWATER ENGINEERING

The fluid mechanics prerequisite (GEGN351 or MEGN351) is no longer required and frequently overridden, so we want to remove it.

GEOL309: STRUCTURAL GEOLOGY AND TECTONICS

Change prerequisites due to changes to 200-level courses in GE. Fixed syntax in contact and credit hours.

MOTION: To approve the seven (7) course changes presented in item 2.3 in an omnibus Council vote by Nilsen, seconded by Jin. Motion passed unanimously.

2.3.1 **1 course deactivation**: GEGN205: ADVANCED PHYSICAL GEOLOGY LABORATORY

We have submitted proposals to move this credit hour into GEGN203 as an associated lab, so the standalone GEGN205 is no longer needed.

MOTION: To approve the deactivation of GEGN205: Advanced Physical Geology Laboratory by Nilsen, seconded by Jin. Motion passed unanimously.

2.4 **UNIVERSITY HONORS PROGRAMS** Cj McClelland

[CIM 1/9; Provost 1/9]

2 new courses: HNRS150: ENTERING RESEARCH

This class was successfully piloted as 198 courses in 2018, 2019, 2021 and 2022 fall semesters. Special permission was obtained from the faculty senate to teach it during the fall 22 semester. It will continue to be an offering for the University Honors and Scholars Programs.

HNRS496: PAYNE SCHOLARS PROGRAM

The class has developed into a more traditional course with clearer objectives, research areas, and interactions between Payne fellows and students. Considering this, the Registrar has requested we no longer complete the Independent Study form and submit, but that the students register through the traditional processes.

MOTION: To approve the two (2) new courses presented in item 2.4 in an omnibus Council vote by Barankin, seconded by Nilsen. Motion passed unanimously.

2.4.1 [CIM 1/24]

2 course changes: HNRS105: INNOVATION AND DISCOVERY IN ENGINEERING, ARTS, AND SCIENCES I
HNRS115: INNOVATION AND DISCOVERY IN ENGINEERING, ARTS, AND SCIENCES II

Per the core revision, vetted and approved by faculty senate, first year honors is revising to align with only full credit-hour courses.

MOTION: To approve the two (2) course changes presented in item 2.4.1 in an omnibus Council vote by Barankin, seconded by Jin. Motion passed unanimously.

2.5 **MECHANICAL ENGINEERING** Oyvind Nilsen

[CIM 1/18; Provost 1/18]

1 new course: MEGN479: OPTIMIZATION MODELS IN MANUFACTURING

New course, was 498 before.

MOTION: To approve the new course MEGN479: Optimization Models in Manufacturing by Barankin, seconded by Nilsen. Motion passed unanimously.

2.6 **PHYSICS** Chuck Stone

[CIM 1/16]

2 core course changes: PHGN100: PHYSICS I – MECHANICS
PHGN200: PHYSICS II – ELECTROMAGNETISM AND OPTICS

PHGN100 & 200 reduction of credits from 4.5 to 4.0. Has been approved by the Physics Department Undergraduate Council and by the Physics Department Faculty. This is part of the revision of the core curriculum.

MOTION: To approve the two (2) core course changes in an omnibus Council vote by Nilsen, seconded by Barankin. Motion passed unanimously.

2.7 **UNIVERSITY HONORS PROGRAMS** Cj McClelland

[CIM 1/27; Provost 1/30]

2 new courses: HNRS110: LEADERSHIP BY DESIGN I

The class was successfully piloted as 198 courses in the falls of 21 & 22. It will continue to be an offering for the University Honors and Scholars Programs. This is a signature first-year experience for our students. Other Info: This course sequence of HNRS 110 and 120 currently counts as equivalent credit for HASS100 and EDNS151 with the understanding that Core revisions are underway, and revisions may be required.

HNRS120: LEADERSHIP BY DESIGN II

The class was successfully piloted as 198 courses in the spring of 22 and is currently being offered now. It will continue to be an offering from the University Honors and Scholars Programs as a signature first-year experience. Other Info: This course sequence of HNRS 110 and 120 currently counts as equivalent credit for HASS100 and EDNS151 with the understanding that Core revisions are underway, and revisions may be required.

2.8 **APPLIED MATHEMATICS & STATISTICS** Mike Nicholas
[CIM 1/26]
1 course change: MATH332: LINEAR ALGEBRA
CS requested we revisit the prerequisites of this class. We did and decided that we could loosen the prereqs from Calc III to Calc II/Phys 1 (students need vectors for linear algebra).

Miscellaneous Business Joe Horan
Horan would notify Councilors if an additional meeting is needed on 2/15.

Adjourn Joe Horan
Meeting adjourned: 4:59 pm.
Next meeting: February 15, 4:00-5:00 pm via Zoom. Please send agenda items to Mara Green (mgreen1@mines.edu) one week prior.