Colorado School of Mines – UNDERGRADUATE COUNCIL MEETING MINUTES
December 14, 4:00 – 5:00 pm, via Zoom

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Attendees:

Voting Members: 18 total (10 needed for quorum). Quorum was present.

P	*Jeff King (MME) proxy for Brandon Dugan (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)	A	Ge Jin (GP)	P	Rob Thompson (CS)	P	Bruce Trudgill (GE)
P	Linda Battalora (PE)	P	Hongyan Liu (CEE)	P	*Adam Duran (ME) proxy for Oyvind Nilsen (ME)	P	Emmelia Ashton (USG)
P	Chelsea Salinas (EDS)	P	Brianna Buljung (LB)				

Other Regular Attendees and Guests

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

Special Guest(s): Toni Lefton (HASS), Scott Houser (EB), Sandy Woodson (HASS), Joe Horan (HASS), Derek Morgan (Student Life), Amy Nave (Trefny Center), Dean Nieusma (EDS), Iris Bahar (CS)

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Welcome   Jeff King

Faculty Senate appointed Joseph Horan to serve as Undergraduate Council chair beginning Spring 2023 while Brandon Dugan is on sabbatical.

King notified Councilors of Faculty and Staff Trivia Night following finals, table hosted "El Caudillo de Metallica".

Faculty Senate asked Undergraduate Council to begin meeting every week through February and March 2023 in preparation of the core curriculum changes submitted in CIM. The Council chair has the ability to cancel meetings that are no longer needed during that time. Councilor noted that these weekly meetings may more closely align with faculty meeting frequencies.

-   **Question** if Faculty Senate will be meeting weekly as well; King noted Faculty Senate may convert its informal working meetings into official business meetings as needed.

Comment raised on piloting the new CASES/Student Signature Experience course as an X98 course prior to a number being established. King reported administration would like an official number for the course.

Approval of Minutes – November 9, 2022   Jeff King

MOTION: To approve the Undergraduate Council minutes of November 9, 2022 by Barankin, seconded by Battalora. Motion passed unanimously.

Briefings and Information Items

<u>Office of Undergraduate Studies</u>   Vibhuti Dave

Dave working with Core Curriculum Taskforce to figure out ways to implement the revised core, what is needed in the Catalog, and guidelines for students. Transfer student conversation is currently underway. Submissions of overarching Catalog changes are expected following course and program vetting through Councils and Senate. A survey and instructions would be provided to DHs and ADHs providing guidelines on what changes are happening; survey would be a centralized database for changes and feedback. With a database the Registrar could make informed decisions on seat offerings, sections, and details.

- **Question** on the tentative deadline for submissions; all submissions should be expected in CIM by 1/11 to ensure time for processing and voting. Course and program submissions can move simultaneously. Programs have been approved pending course approvals.

<u>Registrar's Office</u>   Paul Myskiw

Final Exams

Myskiw reported on an adopted final exam schedule for specific courses, effective Spring 2023. AMS, CH, CS, and PH proposed a new schedule in order to proctor exams with the large enrollment growth. AMS tests on the first day, CH on the second day, CS on the third day, and PH on the fourth day. The remaining course exam schedule would stay the same. RO will work to make sure students are not in more than two to three exams in one day.

Brown Bag Lunch – 1/11

An invite will be provided to faculty and staff on mental health. Brown bag lunch hosted by the RO on the topic of supporting and having conversations around mental health and care in the classroom.

Graduate Students Unrestricted 400-level courses

Myskiw raised question to Councilors on allowing graduate students to register before seniors or allowing undergraduate seniors to register for all 400-levels before graduate students. Myskiw noted that the 400-levels are required and graduate students are typically taking the courses as electives.

- **Question** if this is occurring in large numbers and creating a problem for students; Myskiw reported this is affecting graduating seniors, students are not able to get into their desired section.

Suggestion made to create a form or workflow; Myskiw noted there is a desire to avoid creating additional administrative steps. Priority is given to students that need accommodation due to disability, students that need to travel for practice and competition, and veteran students.

<u>CSCI128 Update</u>   Iris Bahar

CSCI128 began in Summer 2022 and led by Rob Thompson, current instructor of CSCI101 and Neil Dantam, chair of the undergraduate curriculum for CS.

CSCI128 would cover basic programming constructs; file I/O, functions, and objects in Python 3, and computing. Topics vital to STEM as well as software ethics. The course is intended for students with no prior experience.

Course learning outcomes include the following:

1. Analyze simple empirical problem, breaking it into smaller components and designing algorithmic solutions to subproblems
2. Implement a design into programmatically correct Python code
3. Communicate in a programming language through code reading, writing, critique
4. Critically discuss and reflect on role of technology in society
5. Model how basic numeric and non-numeric data is represented in a computer
6. Navigate and utilize a computer file system through a GUI, text console, and code
7. Demonstrate effective debugging practices to find, characterize, and correct code errors

Topics include variables, operators, reading code, types, data representation, Boolean logic, branches and conditionals, loops, algorithmic thinking, software ethics, complex logic, debugging, files and shell basics, data science, functions, sorting and searching, and classes and objects.

- **Question** on student ability to test out of the course and if testing is Python-specific; Thompson noted the current CSCI102 challenge exam is used which is currently Python-specific. Thompson reported it is difficult to create a language agnostic programming test; there is discrepancy with AP which is in Java.
- **Question** on ability to create a one credit course for students to learn Python quickly; Thompson reported there is an accelerated version of CSCI102 for programming. It is intended for students with prior programming experience but not enough to test out of it.

Course teaches fundamental programming skills with Python appearing the best choice as a single language and most popular. Councilor noted that teaching a new language can take up time in class.

If a student has taken CSCI101/102 and chose to use the Catalog with CSCI128, the two courses can be substituted. If a student has only taken 102 and not 101, Thompson suggested the student take CSCI128. A suggestion was made for a similar challenge exam for this scenario.

- **Question** on how in depth the topic of software ethics is; Thompson reported this would be done through programming assignments and consideration of who is using the code, what data is being represented in the data analysis and any ethical issues presented by the data. Spring and Summer 2023 expected for further development of assignments. Course structure was recently finalized and content had not been decided. Course could be seen as an opportunity to bring ideas and questions from other departments and programs.
- **Question** on faculty ability to take a refresher to become better versed in programming; faculty welcome to take an online version of CSCI101/102 over the summer. CSCI128 could be considered for online offering in the summer, as well.

Bahar noted plotting would be done early, considering doing away with object-oriented programming. Topic may be brought up briefly at the end of the course as an introduction in preparation for more advanced programming.

CASES Update   Dean Nieusma
                                                                   Scott Houser
                                                                   Sandy Woodson

CASES has been renamed to "Sociotechnical Futures", Woodson noted suggestions are welcome for the course name. STF would be the only Student Signature Experience in the Mines' core. The course would focus on exploration of future-oriented themes at the science-society-technology intersection and focus

on project-based learning and interdisciplinary instruction. Possible themes include global energy futures, climate futures, mineral futures, water futures, and innovation futures.

Course learning outcomes include the following:

1. Knowledge of Self Explore and pursue interests and passions...
2. Knowledge of the World Integrate perspectives and tools from the sciences, engineering, design, business, humanities, arts, and social sciences to enhance disciplinary and professional awareness.
3. Build Community & Conversation Collaborate effectively with and be supportive of communities and individuals with diverse perspectives, experiences, and backgrounds.
4. Define Challenges & Opportunities Identify interconnections among technical and societal dimensions of problem identification and solution.
5. Create Meaning and Impact Explore challenges from a variety of perspectives and through multiple representational modalities.

Nieusma introduced the proposed course structure of seventy-five student lecture lead by a theme instructor and seminars of twenty-five students each over four-week rotations lead by a seminar instructor. The seminar instructors interpret and process the theme through their individual disciplinary lens. The theme instructor oversees the entire theme.

Houser presented the proposed pilot for 2023-2024. Fall 2023 pilots with a single cohort of seventy-five students, one theme instructor, and three seminar instructors. Spring 2024 continues with two cohorts of seventy-five students each, two theme instructors, and six seminar instructors. The course would be presented and proposed to Undergraduate Council; the DHs of HASS, EB, and EDS would identify the four-pilot faculty, and the DHs would work with other faculty to refine learning outcomes, assessments, and the delivery model.

Houser presented the resource implications. An expected total increase of eighty faculty sections predicted per academic year with twenty lecture sections and sixty seminar sections per academic year and a STFutures HASS course coordinator.

- **Question** on when and how the projects are administered, with either the theme instructor or seminar instructor; Nieusma reported the theme would create a coherence across the sections but each section would have its structure. The course would have discipline-focused assessments and integration assessments at the theme instructor level.
- **Question** on guidelines for the assessment theme; specifics have not been created but section instructors would have freedom to create the assessment. Section instructors would not report to the theme instructor.
- **Question** on onboarding adjuncts; the course would not be amenable to adjunct instruction with a strong preference for full-time faculty. Adjuncts are not out of the question, but the course is not optimized for adjuncts. Councilors noted this would be a tough sell for departments with a lot of adjuncts.

Seminar units are not tightly scripted or highly coordinated to allow faculty to bring unique disciplinary expertise to the theme.

- **Question** on expanding disciplines across the university; Nieusma noted the course would be predominantly within HASS with consideration for EB and EDS. The course would pay deep attention to social, environmental, and organizational contexts.

New Curriculum Item(s)
Minor Curriculum Changes –
The following minor course changes will not be discussed unless specifically requested by Council. All proposed changes make courses more accessible (e.g., remove prereqs, minimize RAFs) to students and only affect the departments making the proposed changes and elective courses for Design Engineering.

1.1 **CHEMICAL AND BIOLOGICAL ENGINEERING** Michael Barankin
[CIM 11/30]
5 course changes: CBEN310: INTRODUCTION TO BIOMEDICAL ENGINEERING
The CBEN210 prereq excludes new QBE students because they do not need it for their degree, replaced with Calc II which all students are required to take.
CBEN314: CHEMICAL ENGINEERING HEAT AND MASS TRANSFER
Moving CBEN200 from prereq to coreq to enable students to take 200 a year later and still graduate in a reasonable time.
CBEN357: CHEMICAL ENGINEERING THERMODYNAMICS
CBEN358: CHEMICAL ENGINEERING THERMODYNAMICS LABORATORY
Department policy is already to accept CHGN209 as a course substitute, change made to reduce RAF forms.
CBEN402: CHEMICAL ENGINEERING DESIGN
Moving CBEN358 from a prereq to a coreq which, correspondingly, enables students to take CBEN200 a year later and still graduate in a reasonable time.

1.2 **MECHANICAL ENGINEERING** Oyvind Nilsen
[CIM 11/9]
1 course change: MEGN467: PRINCIPLES OF BUILDING SCIENCE
Removal of co-requisite MEGN471.

Continuing Curriculum Item(s) – from 11/9/22

2.1 **APPLIED MATHEMATICS AND STATISTICS** Mike Nicholas
[CIM 10/28; Provost 10/28]
1 new course: MATH324: STATISTICAL MODELING
1 course deactivation: MATH424: INTRODUCTION TO APPLIED STATISTICS
We just want to change the name and number of an existing course, and a new course proposal is the only way to do that. We'd like to change the name of MATH424 (Introduction to Applied Statistics) to "Statistical Modeling" to better fit in sequence with the follow up course "Advanced Statistical Modeling" (MATH436). The current name is vague and is quite similar to some of our other (vague) stats course names.

We'd also like to re-number this course as MATH324. A 300-level is more appropriate for where this course lies within the AMS BS programs.

2.2 **METALLURGICAL AND MATERIALS ENGINEERING** Corinne Packard

[CIM 9/23]

1 course change: MTGN202: ENGINEERED MATERIALS

We are proposing to remove the Chemistry 2 pre-requisite requirement from this course for multiple reasons:

1- Having the pre-req was responsible for a large % of our departmental overrides, which were essentially automatically granted.

2- Removal of the pre-req allows for ease of Mechanical Engineering to still use this course in their major.

3- All course instructors agree that students not taking Chem 2 beforehand are not at a disadvantage in the course.

We also propose adding CHGN121 as a prerequisite for this course, as its content is necessary to student success in MTNG202. CHGN121 was a hidden pre-req before, as Chem 2 versions required it. Some version of Chem 2 remains required in our major, despite this pre-requisite change.

Minor Curriculum Changes –

The following minor course changes will not be discussed unless specifically requested by Council. Space Resources confirmed the proposed change for PHGN 324 would not affect its use as an elective in their ASI. Engineering, Design & Society confirmed the proposed change for MEGN 391 would not affect its use as an elective in the BS in Engineering Design.

2.3   **PHYSICS**   Tim Ohno
[CIM 11/2]

1 course change: PHGN324: INTRODUCTION TO ASTRONOMY AND
                                             ASTROPHYSICS

Designation of "Spring" removed from course description and form; changed to Fall offering.

2.4   **MECHANICAL ENGINEERING**   Oyvind Nilsen
[CIM 11/2]

1 course change: MEGN391: INTRODUCTION TO AUTOMOTIVE DESIGN
Course title change and Catalog course description change to better fit content of course. (Automotive Design:SAE Collegiate Design Series (Formula SAE) → Introduction to Automotive Design).

Adjourn   Brandon Dugan

Meeting adjourned: 5:06 pm.

Next meeting: January 11, 4:00-5:00 pm via Zoom. Please send agenda items to Mara Green (mgreen1@mines.edu) one week prior.

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