

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

Attendees:

Voting Members: 19 total (11 - majority needed for quorum). Quorum was present

P	Jeff King (chair)	P	Becky Lafrancois (EB)	P	Mike Nicholas (AMS)	P	Mona El Helbawy (EE)
P	Michael Barankin (CBE)	P	Derrick Hudson (HASS)	P	Corinne Packard (MME)	P	Nicole Smith (MN)
P	Dylan Domaille (CH)	P	Ge Jin (GP)	P	Jeff Paone (CS)	P	Bruce Trudgill (GE)
P	Linda Battalora (PE)	P	Hongyan Liu (CEE)	P	Oyvind Nilsen (ME)	P	Ethan Lewellin (USG)
P	Gyasi Evans (LB)	P	Chelsea Salinas (EDS)	P	Chuck Stone (PH)		

Other Regular Attendees and Guests

A	Fran Aguilar (MS)	P	Dixie Cirillo (PA)	A	Jennie Kenney (AA)	A	Kendra Stansbury (RO)
A	Karla Perez-Velez (CASA)	P	Vibhuti Dave (UGS)	P	Mara Green (AA)	P	Paul Myskiw (RO)
A	Jen Drumm (CASA)	A	Josh Ramey (QBE)	A	Cheryl Medford (GE)	P	Terri Snyder (PE)
P	Katie Ludwin (CASA)	P	Deb Jordan (Trefny)				

Special Guest(s):

Welcome

Jeff King

Approval of Minutes – November 10, 2021

Jeff King

MOTION: To approve the Undergraduate Council meeting minutes of November 10, 2021 by Barankin, seconded by Nilsen. Motion passed unanimously. APPROVED.

Briefings and Information Items

Office of Undergraduate Studies

Vibhuti Dave

Dave noted that the Student/Course Learning Outcomes (CLO) are not a required field in the Curriculum Inventory Management (CIM) system; Dave suggested to Councilors if this field could be required for future documentation and record-keeping. Councilor noted that CLO are handled and approved at the department level; Dave stated that work is being done with the Trefny Center to centralize CLO in an accessible base, accessibility to the CLO would be necessary for HLC and ABET accreditation. Councilor noted that input of CLO into existing CIM courses will be large.

Prior to adopting CIM, faculty filled out a form that asked for course outcomes. Word documents with these learning outcomes exist but there has been trouble finding a repository for these documents to be stored.

Question on CLO changes being considered course changes and if these would need to go through Council; King noted that additional consideration is needed. The Trefny Center advises faculty that the CLO [when submitted in CIM] approved by Council must be used beyond minor wordsmithing tweaks. Councilor noted that this would assist in synchronizing instructors across different sections and ensure that the exact learning outcomes are being taught.

Dave stated that with additional interdisciplinary programs CLO may not remain within a single department and could impact other departments or degree programs relying on these courses.

MOTION: To create an ad hoc committee for the management of Course Learning Outcomes (CLO) by

Barankin, seconded by Hudson. 16 for, 1 against, 1 abstention. APPROVED.

Chair: Vibhuti Dave

Volunteers:

- Michael Barankin
- Deb Jordan
- Jeff King

Registrar's Office

Paul Myskiw

Incomplete Grading

Registrar's Office will work on a workflow for incomplete grades. Several students and faculty have reported confusion on the process, some faculty assigned incomplete grades in Leave where students were unaware of what to do to make-up this incomplete. The finalized workflow will allow students requesting an incomplete and faculty having the ability to insert a deadline of assigning the incomplete and the specific work needed to make-up and finish the incomplete. Myskiw noted students have re-registered for an incomplete course. The workflow will not be in place for Fall 2022. Registrar's Office will send an email to students who received an incomplete encouraging them to reach out to faculty and collect the due date and work needed for the incomplete, and not re-register for the course. An email will also be sent to faculty that have assigned these incompletes and encourage them to connect with students.

Question on assessing prior terms and changing incompletes into F's; Myskiw affirmed that a process is in place to expire incompletes at the end of the semester.

500-level courses

Undergraduate students that take a 500-level course and wish to count it toward their undergraduate degree will have the course registration level to UG to ensure it translates into the undergraduate transcript and factored into the undergraduate GPA. The Catalog and transcript legend indicate 500-level courses as graduate courses. Myskiw has informed Graduate Council and will move on a proposal to add language clarifying this process in that 500-level courses equal advanced undergraduate/graduate courses. This clarification will assist financial aid auditors.

Curriculum Item(s) for Vote – From 10/27/21

Significant Curriculum Changes

1.1 **PETROLEUM ENGINEERING**

Theresa Snyder

[CIM 10/20]

1 program change: MIN-PTDA: Minor in Petroleum Data Analytics

Due to the new pre-requisite requirement (CSCI 101 Introduction to Computer Science, 3 credit hours) for CSCI 261 Programming Concepts, 3 credit hours, the Petroleum Engineering Department's Undergraduate Curriculum Committee has reviewed the minor and proposes the following changes to the Petroleum Data Analytics minor. The changes will allow the student to obtain the minor and the BS degree without having to take three additional credit hours. The changes will also allow the students flexibility for scheduling classes and provide more choices for their particular interest.

MOTION: To approve the program change in Petroleum Engineering MIN-PTDA: Minor in Petroleum Data Analytics by Hudson, seconded by Lafrancois. Motion passed unanimously. APPROVED.

Minor Curriculum Changes –

The following minor course changes will not be discussed unless specifically requested by Council.

1.2 MINING

Jurgen Brune

[CIM 10/13; Provost 10/13]

3 new courses: MNGN203: SOFTWARE FUNDAMENTALS FOR 3D DATA ANALYSIS AND MINE PLANNING
MNGN301: MINE SURVEYING

This is a re-organization of the existing Mining Engineering Summer Field Camp, MNGN300 MNGN300 (3 CR) will be broken up into MNGN203 (1 CR, 1 week) and MNGN301 (2 CR, 2 weeks). Sophomores will take MNGN308 (1 CR, 1 week, existing) and MNGN203 for the first two weeks of the Summer following the Sophomore year.

Juniors will take MNGN301 for the first two weeks of the Summer following the Junior year.

MNGN205: MINING ENGINEERING FIELD EXPERIENCE

The objectives of this course are to provide the student with a fundamental understanding of mine operations, exploration, mineral processing, and the importance of safety, social and community factors, and environmental stewardship through hands-on exercises and tours of mines, processing facilities, and industry-relevant sites. The curriculum within this course has been designed to expose students to a wide array of experiences and provide insights that will aid them in upper-division courses.

1.3 PHYSICAL EDUCATION & ATHLETICS

Dixie Cirillo

[CIM 10/15]

1 course change: PAGN202: SOCCER

Course title change “Indoor Soccer” → “Soccer” to allow for flexibility in offering the class indoors or outdoors depending on the instructor, season, or conditions.

1.4 PETROLEUM ENGINEERING

Linda Battalora

[CIM 10/20]

2 course changes: PEGN382: PROFESSIONAL SKILLS 2

Addition of PEGN282 Professional Skills 1 as a prereq.

PEGN482: PROFESSIONAL SKILLS 3

Addition of PEGN382 Professional Skills 2 as a prereq.

MOTION: To approve the minor curriculum changes listed in items 1.2 through 1.4 in an omnibus Council vote by Barankin, seconded by Liu. Motion passed unanimously. APPROVED.

New Curriculum Items

Significant Curriculum Changes

2.1 MECHANICAL ENGINEERING

Oyvind Nilsen

[CIM 11/17]

2 program changes: BS-MECH: BS in Mechanical Engineering

CHANGE 1 → To allow Mechanical Engineering Students to better select the courses/topics of interest they want and also market them when applying for job, ME plan to implement 4-cours

tracks in 8 different topic areas, that will appear on the student's transcripts. The new tracks will each consist of one (1) ME Advanced Engineering Science elective and three (3) approved ME Electives. In summary, the tracks are; Aerospace, Automation & Controls, Automotive, Biomechanics, Energy, Manufacturing, Materials, and Nuclear.

CHANGE 2 → A second change, giving Mechanical Engineering students more choice (after "request" from our Industrial Advisory Board), is to remove EENG Feedback Control from the required course list and replace it with a ME elective. (EEGN will remain a ME elective).

Nilsen presented on the addition of tracks and how this will allow ME students to take several courses in a specific area and be able to market this on their transcript. Students will have the opportunity to explore various topics in mechanical engineering, gain depth in areas by focusing ME electives, students are not required to align with a track and are suggestions, and specialization may also encourage students to pursue research or graduate studies.

The tracks include aerospace, automation and controls, automotive, biomechanics, energy, manufacturing, materials, and nuclear.

The second change to the ME program was based on feedback from the alumni board and students desiring additional electives. The ME elective list has increased from three electives to four.

2.2 **COMPUTER SCIENCE**

Jeffrey Paone

[CIM 11/29; Provost 11/30]

1 new course: CSCI200: FOUNDATIONAL PROGRAMMING CONCEPTS & DESIGN
Last academic year, CSCI 101 was added as a prerequisite to CSCI 261. This change caused approximately two-thirds of the CSCI 261 material to become redundant and a repeat of the material from CSCI 101 with the only change being the programming language used (C++ instead of Python). By reducing the time spent on the language translation, a significant amount of new content can be introduced into the course.

CSCI 200 and CSCI 261 have less than 40% overlap of content and CSCI 200 is a much more rigorous introduction & application of foundational programming concepts and design. With the combination of CSCI 101 and CSCI 200, students will have a stronger foundation of programming after two classes as opposed to the current arrangement of needing three classes. Students will be better served with the necessary knowledge to fully succeed in their degree program (CS or otherwise).

This new course is the beginning of a larger CS curricular redesign by better aligning content through the existing CSCI 261-262-306 sequence. We are working towards the common goal of having an introductory programming course in the Mines core for all students.

Paone presented on the current status for CS students in which CSCI101 was added as a prerequisite for CSCI261 which aligned course content and provided foundation for students moving into CSCI261. In CSCI101, students learn how to program using Python and CSCI261 had been for C++. CSCI200 will focus on C++. This change is intended to strengthen the course material and student exposure to programming languages. CSCI200 would replace CSCI261, CSCI261 will be updated to reflect these changes.

Question on the recommended sequence of courses for outside students; Paone recommended beginning with CSCI101 and moving to CSCI261 for deeper applications of programming. CSCI200 would serve CS students.

Minor Curriculum Changes –

The following minor course changes will not be discussed unless specifically requested by Council.

2.3 MECHANICAL ENGINEERING

Oyvind Nilsen

[CIM 11/8]

2 course changes: MEGN330: INTRODUCTION TO BIOMECHANICAL ENGINEERING
MEGN212 added as prerequisite.

MEGN413: AEROSPACE STRUCTURES

This course has been offered as a 498 for the last two years. Course will be an essential part of the Mechanical Engineering Aerospace Minor and aerospace focus areas at CSM. It is also a Mechanical Engineering technical elective.

[CIM 11/9; Provost 11/9]

2.3.1 1 new course: ORWE481: OPTIMIZATION MODELS IN MANUFACTURING

Helps with the OR MS-NT program and provides an elective within the Advanced Manufacturing Certificate and MS Program. the course delivery is on-line.

This course was offered as a 498 option in the fall of 2020.

2.4 GEOLOGY & GEOLOGICAL ENGINEERING

Chery Medford

[CIM 11/16]

1 course change: GEGN403: MINERAL EXPLORATION DESIGN

Changing the EDNS 251 prereq to EDNS 264 as this is correct in our Exploration and Engineering flowcharts.

2.5 HUMANITIES, ARTS, AND SOCIAL SCIENCES

Elizabeth Davis

[CIM 11/29]

1 course deactivation: HASS492: ENERGY AND SECURITY POLICY

There is no longer an instructor for this course.

2.6 MINING ENGINEERING

Nicole Smith

[CIM 11/29; Provost 11/29]

7 new courses: MNGN251: METALLURGICAL AND MATERIALS THERMODYNAMICS
New course created for cross listing with MTGN251.

MNGN334: CHEMICAL PROCESSING OF MATERIALS

New course created for cross listing with MTGN334.

MNGN426: HYDRO- AND ELECTRO-METALLURGY

New course created for cross listing with MTGN431.

MNGN430: PHYSICAL CHEMISTRY OF IRON AND STEELMAKING

New course created for cross listing with MTGN430.

MNGN432: PYROMETALLURGY

New course created for cross listing with MTGN432.

MNGN461: TRANSPORT PHENOMENA AND REACTOR DESIGN FOR
 METALLURGICAL AND MATERIALS ENGINEERS

New course created for cross listing with MTGN461.

MNGN462: SOLID WASTE MINIMIZATION AND RECYCLING

New course created for cross listing with MTGN462.

MNGN and MTGN course cross-listings have been approved by MT.

Continuing Curriculum Items – Continued Discussion (from 11/10/21)

Significant Curriculum Changes

3.1 **PETROLEUM ENGINEERING**

Linda Battalora

[CIM 10/20]

1 program change: BS-PTE: BS in Petroleum Engineering

Move free elective (3cr) from Fall Junior to Fall Senior. Move HASS200 (3cr) from Spring Sophomore to Fall Junior. Move PEGN282 (1cr) from Spring Junior to Spring Sophomore. Move PEGN382 (1cr) from Fall Senior to Fall Junior. Move PEGN482 (1cr) from Spring Senior to Spring Junior.

The changes will allow students entering the PE department in spring of Sophomore year to begin the Professional Skills series. It will also allow transfer students to the PE Department to begin adding earlier the Professional Skills courses to their schedules. By moving the series earlier in the program, students will complete the series prior to Senior year, when implementation of professional skills such as technical writing, Capstone design teamwork, team writing, oral communication skills such as presentations and interviews, cover letters, resume writing are required.

Minor Curriculum Changes

The following minor course changes will not be discussed unless specifically requested by Council.

3.2 **CIVIL & ENVIRONMENTAL ENGINEERING**

Lori Tunstall

[CIM 10/27; Provost 10/27]

1 new course: CEEN426: DURABILITY OF CONCRETE

Industry is shifting away from strength-only considerations for concrete design and is moving toward designing for both durability and sustainability as well. This course will prepare students for this inevitable shift in design. As such, it will not only expand the current offerings, but will also support two Mines@150 goals: 1) to be a leader in educating STEM students and professionals and 2) to be an accessible and attractive option for qualified students from all backgrounds.

3.3 **ECONOMICS & BUSINESS**

Becky Lafrancois

[CIM 10/23; Provost 10/24]

1 new course: EBGN496: PAYNE SCHOLARS PROGRAM

This course has been offered as an independent study in Economics and Businesses and the Honors program for the past several years. There are consistently 15-17 students who are enrolled each semester. 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.

Subcommittees Updates

Common Exam and other exam scheduling

Mike Nicholas

The subcommittee has intent to bring a document to UGC that would outline options being considered for common exams; one option being considered requires additional investigation for feasibility.

Tracks and Emphasis Definitions

Vibhuti Dave

Dave presented on current references in the Catalog for pathways outside of the defined Minor and Area of Special Interest (ASI) including: Emphasis areas or Areas of Emphasis (AoE), tracks, focus areas, and concentrations. Credits for these vary from nine to twenty-four credits. These appear in a student's transcript, but not diploma. The subcommittee researched data related to the number of minors and ASIs awarded. The subcommittee had found, out of the 5,136 degrees awarded in the past four years, 964 were awarded with a minor, 63 with two minors, two degrees awarded with three minors. In the past four years, twenty-four ASIs have been awarded.

Subcommittee noted student interested is directed more so toward graduate degree 4+1 options and is a common discussion amongst CASA advisors. Around 50% of students arrive at Mines with free elective requirements fulfilled.

Preliminary recommendations provided by the subcommittee included: no changes to the current structure of minors and recommendation to re-evaluate this in Fall 2023, phase out ASIs by Fall 2023, and proposal of an institutional framework for degree programs to introduce sub-disciplinary or interdisciplinary specializations built into degree requirements without student need to enroll in additional courses.

Subcommittee recommended use of "concentration areas" as the universal terminology for degree programs that list clustered courses between nine and eighteen credits. Recommended using the "+option" for degree programs that have greater than eighteen credits of coursework built into the program with an interdisciplinary focus. Recommended use of the "+option with distinction" if the learning outcomes of an interdisciplinary area can be satisfied with a combination of course work and experiential learning. Subcommittee also recommended a means of transcribing these pathways for student benefit.

The subcommittee encouraged Councilors to bring these recommendations back to departments for feedback or questions.

Miscellaneous / New Business

Jeff King

Consistency in Grading – Subcommittee between UGC and GC
Tabled.

Council Representation

Tabled.

Adjourn

Jeff King

Meeting adjourned: 4:55 pm.

Next meeting: January 12, 4:00-5:00 pm via Zoom. Please send all agenda items to mgreen1@mines.edu 1 week prior.