Colorado School of Mines – UNDERGRADUATE COUNCIL MEETING MINUTES December 11, 4:00 – 5:00 pm, via Zoom

Atte	ndees:						
Voti	ng Members: 19 total (10 nee	eded	for quorum). Quorum was pre	esent.			
Р	Ventzi Karaivanov (chair)	Р	Erik Menke (CH)	Р	Adam Olsen (LB)	Р	Rennie Kaunda (MN)
Р	Jason Ganley (CBE)	Р	Jeremy Suiter (EB)	Р	Emmanuel De Moor (MME)	Р	Mathias Burisch Hassel (GE)
Р	Rob Thompson (CS)		Ge Jin (GP)	Р	Jeff Wheeler (ME)	Р	Eliza Buhrer (HASS)
Р	Linda Battalora (PE)	Р	Hongyan Liu (CEE)	Р	Hisham Sager (EE)	Р	Tom Powell (USG)
Р	Jack Bringardner (EDS)	Р	Gus Greivel (AMS)	Р	Chip Durfee (PH)		
Othe	er Regular Attendees and G	uests					
	Sam Spiegel (Mines Online)	Р	Vibhuti Dave (UGS)	Р	Kristeen Serracino (AA)	Р	Paul Myskiw (RO)
	Karla Pérez-Vélez (CASA)		Danielle Boileau (CASA)		Cheryl Medford (GE)	Р	D. Scott Heath (RO)
	Katie Ludwin (CASA)		Megan Sanders (Trefny Center)		Colin Terry (SL)		
	Luke Contreras (UA)		Julia Cable (UA)				

Special Guest(s): Karen Gupta, Molly Hutchison

#### Welcome

Ventzi Karaivanov

Ventzi Karaivanov

### Approval of Minutes – November 20, 2024

**<u>MOTION</u>**: The motion to approve the previous meeting minutes was moved by L. Battalora and seconded by G. Greivel. The motion to approve the previous meeting minutes was approved with 15 approved, 0 opposed, and 1 abstention.

### **Briefings and Information Items**

Registrar's Office

P. Myskiw reminded that Council that grades are due Monday (12/16) at 4:30 pm. There is a quick turnaround time for end-of-term processing so any missed grades will be addressed on Tuesday morning. Communication went out from the Registrar's Office reminding students and faculty about course evaluations (due on December 13<sup>th</sup> at midnight). There was an issue with Watermark and Canvas which caused a delay in evaluations being available to students. Lastly, the common exam policy had some changes that were implemented into the catalog last year. However, due to enrollment growth, there have been conflicts with courses ending and common exams. Therefore, there will be a pilot in 2025-26 where common exams for PHGN100 will be pre-arranged in the schedule. This means that when students register, they will be able to see the common exam dates and times. If successful, this will be rolled out to the rest of the Core courses. More details to come.

- **Question:** Greivel asked, is there a plan to have the Calculus sequence receive a fixed set of dates that will be known in advance?
- <u>Answer:</u> P. Myskiw answered that this is the goal. Physics is requesting weeks 3, 10, and 14 on Tuesdays but were concerned about having alignment with Calculus II. The hope is that having this available in the schedule during registration will help students to not create conflicts for themselves (not have to choose between attending a class or the common exam or having to do significant makeups for common exams) and make the call for common exams less burdensome on departments.



## Paul Myskiw

- **Question:** T. Powell asked, will there be a predefined protocol for contingency dates such as snow days or campus closures?
- <u>Answer:</u> P. Myskiw answered because the need for contingency has been rare, that has not been discussed. The contingency plan could remain as it currently is.
- <u>Question</u>: R. Thompson asked, do any of these plans include final exams or it only for common hour during the regular term?
- <u>Answer:</u> P. Myskiw answered prescheduling of courses with a common type of exam (Chemistry, Physics, and Math) on the same date and time has already been implemented.
- **Question**: J. Wheeler asked, would it be possible to do something similar with non-Core courses?
- <u>Answer:</u> P. Myskiw answered that it is the goal to have the whole exam schedule done, including finals, when registration begins.
- **Question:** V. Karaivanov asked when will common exam and final exam dates be visible for the Spring?
- <u>Answer:</u> P. Myskiw answered that the class scheduler just returned from maternity leave so these dates will be available soon.

### Undergraduate Studies

### Vibhuti Dave

Core Curriculum guidance updates

Now that FUTURES has been given a permanent course number and has been approved to be included in the Core curriculum, there have been changes submitted to the Core catalog page. These changes include: HASS200 will be replaced by HASS215 (Table 1, 4, and 8), the CAS departments requested the addition of five Teach@Mines courses (added to Table 5), guidance for students who have completed HASS200 but want to switch to the 2025-2026 catalog which lists HASS215 as a requirement. In this situation, HASS200 can count as a CAS elective or free elective but HASS215 must be completed. Additionally, students who took the pilot version of FUTURES (HASS298) can remain on the old catalog and have HASS298 substitute for HASS215.

- **Question:** G. Greivel asked, in addition to the tables and Core portion of the catalog, every degree track has a similar table that has HASS200. Will there a global change or will these be done independently by the department?
- <u>Answer:</u> V. Dave answered that this might need to happen on a program level. P. Myskiw answered that in the past, this has been done administratively. The downside of having departments make the program changes is that the changes would need to be reviewed to ensure the course changes are inserted correctly.
- <u>Comment:</u> G. Greivel added that manipulating the degree tables can cause issues. It might be better that this done administratively.
- <u>Comment:</u> V. Dave added that HASS has requested that courses that have HASS200 as a prerequisite will be changed globally to HASS215. We may need to check with EDNS and EB to see if they would like to change the prerequisite or if they want to stick with HASS200.
- **Question:** E. Buhrer asked, what does it mean for students being on different catalogs?
- <u>Answer:</u> V. Dave answered when a student starts at Mines, they will follow the requirements of the catalog year they start in. In this case, students on an older catalog would have taken HASS200 or HASS298. However, if a program changes credit hours, the student might decide to switch to a new catalog to avoid taking extra classes.



- <u>Question</u>: V. Karaivanov asked, will HASS200 continue to be offered as an elective? Since HASS200 had a prerequisite of HASS100, will the substitution to HASS215 affect the prerequisite chain in other courses?
- <u>Answer:</u> V. Dave answered yes, HASS200 will continue to be offered as an elective course. HASS215 does not have any prerequisites so it should not have an impact on other courses. All advanced 300 and 400 level courses that have HASS200 as a prerequisite will have to change to HAAS215.
- <u>Comment:</u> T. Powell added that since HASS200 and HASS215 have similar course codes, it might be a good idea to ensure this is communicated clearly to the students to avoid confusion about which course is required on which catalog.
- <u>Comment:</u> V. Dave added CASA and advising will be aware of this to properly communicate it to students.
- <u>Comment:</u> V. Karaivanov added since the change in the Core has already been approved by Senate, the UG Council will not need to vote on this curriculum item but will be included on the next meeting's agenda for any additional discussion.

# CASA

Intended vs. Declared Continued

Discussion postponed until future meetings in January. K. Perez-Velez provided updated slides with Tableau data which are available on the UGC Canvas page. This conversation was shared with Faculty Senate this week and it was found that there is a discrepancy between this policy and the catalog.

# Student Wellness

Molly Hutchison

Karla Pérez-Vélez

PAGN Courses Memo

There will be an administrative change to all PAGN courses updating course descriptions which currently say, "2-hour lab, 0.5 semester credit hours." Students will earn 1 credit hour for these courses. This was already approved in the past, but the course descriptions are out of date in the catalog.

# 1 Curriculum Item(s) for Council Vote

# \*Please complete Canvas voting for the following curriculum item(s) by December 11<sup>th</sup> at 3:00 pm. 1.1

AMS		Gus Greivel	
CIM 10/17			
1 course change:	I course change: MATH437: MULTIVARIATE ANALYSIS		
	AMS is removing one redundant prerequisite that is other courses in the prereq, lest for this course and o in the catalog description.	s a prerequisite on correcting grammar	
CIM 10/31			
<b>1 program</b> BS-AMS: BS IN APPLIED MATHEMATICS AND STATISTIC change:		D STATISTICS	
	AMS is updating our degree tracks and electives to CSCI303 is no longer offered and has been replaced have updated our electives lists to include relatively Data Science IGP. We have also replaced one AMS explicit requirement of MATH436 since this course the DS/STAT capstone course.	reflect the fact that d by DSCI403. We new courses in the s elective with the e is a prerequisite for	

# **Canvas Voting Results:**

10 approved, 0 opposed, 0 abstentions, 0 additional discussion needed



ME	
ML	Jeff Wheeler
CIM 10/24	
<b>1 new course:</b> MEGN423: A	APPLIED COMPUTATIONAL FLUID DYNAMICS
Computation engineers to a aircraft in flig design applic and a course of Mines BSI fields with sig Mines 150+ g Mines studen personally pa many design from their int automotive p Online moda Oyvind Nilse Course Online Offer online	al Fluid Dynamics (CFD) is a powerful tool for mechanical analyze problems as varied as air distribution HVAC, ght, cooling in computer cases, and many other engineering ations. CFD is a marketable skill for mechanical engineers aimed at an undergraduate audience would bolster the skills ME graduates who are interested in pursuing careers in gnificant analysis of fluid flows. goals: Studying CFD creates a signature experience for ts by allowing them to study a problem that they are ssionate about. Given the broad applicability of CFD to problems, students could choose to study a design problem ernship or research, a personal hobby such as an roblem, or another topic that piques their interest. lity details: n completed FOCD 2022 e development completed by end of March 2025 Summer II 2025 (then Face to face Fall 2025) stration April 2025

Canvas Voting Results: 10 approved, 0 opposed, 0 abstentions, 0 additional discussion needed

Minor Changes -	- to be	considered	as a	single v	ote
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1.3

CEE		Hongyan Liu
CIM 11/12		
1 course change:	CEEN491: EROSION CONTROL AND LAND RE	ESTORATION
	Mines' Vision literally states leading to shared pros sustainable use of Earth's resources", and the focus on sustainable soil management.	perity and of this new curse is
	Course will be delivered: Residential (less than 50% online) or Online. The course will be delivered 100% taught this course at Mines twice already, both time without any problem.	6 of course delivered 6 online. I have 8 100% online and
	FOCD was completed on 4/15/2024	
	Anticipated date for course development completion define a date because even though the course mater	n. It is difficult to ial is already there,



under the new copyright rules each PPT slide should have the proper authorization to be used, meaning that it could take a long time just to get the PPT material ready. I believe that a year is a good estimate (i.e. Summer of 2025).
Anticipated first semester of delivery: Summer of 2025
Anticipated date you would like the course to open for registration:
Summer of 2025
Added prerequisites: MATH100, CEEN381

## Canvas Voting Results: 10 approved, 0 opposed, 0 abstentions, 0 additional discussion needed

# 2 Continued Business

2.1

PHVSICS	Chin Durfee
CIM 11/20	
1 program change:	BS-PHE: BS IN ENGINEERING PHYSICS
	The Department of Physics is making some adjustments to our curriculum in response to the elimination of the CSCI 250 course (Python-Based Computing: Building a Sensor System), which had been a requirement. That was a programming course centered around interfacing with sensors. As part of the core, the programming instruction our students are getting is sufficient, so we will not be replacing that course with another. The reduction of our credit load by three credits allows us to fix a situation where we had two parts of our Senior Design sequence PHGN 471/472 (Senior Design Principles) and 481/482 (Senior Design Practice) that had 1/2 and 2 1/2 credits, respectively. Mines has moved to making all courses have integer credit assignment, so this makes that change official. The net effect on the program is that we are reducing the credit load for the degree by one credit. Finally, we are moving EBGN 321 (economics) from spring Junior year into the slot vacated by CSCI 250 in spring Sophomore year. This allows them to complete the core earlier and lightens a physics-heavy Junior year.
4 course changes:	PHGN471: SENIOR DESIGN PRINCIPLES I
	Changing credits from 0.5 to 1 credit hour.
	PHGN472: SENIOR DESIGN PRINCIPLES II
	Changing credits from 0.5 to 1 credit hour.
	PHGN481: SENIOR DESIGN PRACTICE
	Changing credits from 2 <sup>1</sup> / <sub>2</sub> credits to 3 credit hours.
	PHGN482: SENIOR DESIGN PRACTICE
	Changing credits from 2 <sup>1</sup> / <sub>2</sub> credits to 3 credit hours.

It was brought up in Faculty Senate that there was an issue with the change of moving EBGN321 to the spring Sophomore year because this course requires students to have taken 60 credit hours. Does this



apply to other programs or just Physics? If so, please review program degree plans to ensure compliance with the course requirement.

### 3 New Business

3.1

CEE	Hongyan Liu
CIM 12/4	
3 program change:	BS-CE: BS IN CIVIL ENGINEERING
	The changes are made based on recent CEE faculty vote of reduce credit plan for Civil. Remove GEGN101, MEGN315 and 1 free elective; Add CE version of Engineering Dynamics (CEEN317).
	BS-CONSTR: BS IN CONSTRUCTION ENGINEERING
	Changes are made based on recent CEE faculty vote of reduce credit plan for Construction. Add CEEN315, Remove CHGN122, PHGN200, GEGN101; Make CHGN122/PHGN200/GEGN101, CBEN101 as option for students to choose +4 Material/Env track, add CHGN122 Underground track, add GEGN101 Robotics track, add PHGN200.
	BS-EVE: BS IN ENVIRONMENTAL ENGINEERING
	The changes are made based on the current CEE faculty vote of reduce credit plan for ENV. Remove PHGN200.

The current total credit hours for Civil Engineering is 135, Construction Engineering is 134, and Environmental Engineering is 131. These program changes will reduce the credit hours for all to 130. The Civil change is removing GENG101, MEGN315, and one free elective and adding CEEN317 (1 credit hour courses that will be the Civil version of Dynamics). The Construction change is adding CEEN315, removing CHGN122, PHGN200, and GEGN101 and making CHGN122/PHGN200/GEGN101, CBEN101 an option for students to choose +4 Material/Env track, and adding CHGN122 Underground track, GEGN101 Robotics track, and PHGN200. The Environmental change is removing PHGN200.

### Minor Changes - to be considered as a single vote

3.5

CBE		Jason Ganley
CIM 11/20; Provost 1	1/20	
1 new course:	CBEN428: ADVANCED REACTOR DESIGN	
	Professor Thornburg, whose full-time role is as a Se Engineer at the National Renewable Energy Laborat created a highly unique senior undergraduate and gr elective course on chemical reaction engineering an the worlds of research & development and next-gen manufacturing. Reaction engineering has become ar discipline due to retirement waves, and very few pra means or opportunity to teach a unifying course on s subject matter. This elective teaches a survey of ove of real-world chemical reactors—both traditional un emerging, renewable-energy-powered reactors—syr information from over 185 peer-reviewed research a scholarly texts. For each reactor type, this one-of-a-	enior Reaction tory (NREL), has raduate student d its applications to eration n increasingly rare actitioners have the such an challenging er 16 different types hits as well as nthesizing articles, papers and kind course



curriculum emphasizes conceptual chemical engineering design			
principles and practical scale-up strategies to teach students how to			
derive the information required to successfully deploy the technology.			
Overall, this course prepares Mines students for career paths in applied			
academic or industrial research & development environments that			
demand knowledge of the design and commercialization of cutting-edge			
chemistry technologies. The course has been taught to completion once			
in-person in Spring 2024 (cross-listed as a CBEN 498/598 Special			
Topics elective) with exceptional student reviews, and it is currently			
being taught for a second time in Spring 2025. We seek to make it a			
permanent part of the Mines course catalog to be offered annually to			
seniors and graduate students. To the best of the Chemical and			
Biological Engineering (CBE) Department's knowledge, no academic			
course like this exists anywhere else within U.S. chemical engineering			
programs, offering a highly differentiated curriculum for Mines CBE.			
Emmanuel De Moor			
11/21			
MTGN440: MAGENTIC MATERIALS AND MODERN TECHNOLOGIES			
Magnetism is a fundamental property of materials that is essential in			
their implementation in technology. However, few institutions			
incorporate magnetism into the curriculum for more than a single class			
period. By offering this course, Mines demonstrates the breadth of its			
expertise in materials to make it a top-of-mind institution for materials			
science and engineering. The Metallurgical and Materials Engineering			
department has thematic strengths in characterization of materials			
properties, and this course supports those areas, which also improves the			
scale and impact of Mines in these focus areas.			
Hongyan Liu			
2/0 CEEN217, EVDLODING ENGINEEDING DVNAMICS			
CEENSI7: EXPLORING ENGINEERING DYNAMICS			
Dynamics, a fundamental engineering mechanics subject, is the study of			
forces and their effect on the motion of bodies. Engineers need to			
appreciate how structures (buildings, bridges, roads, etc.) respond to			
various loads, such as gravity, wind, earthquakes, and traffic. It is			
essential that engineers can recognize when static analysis is insufficient			
for making sound decisions regarding design recommendations for			
public health and safety regarding construction of our built environment.			
This knowledge is fundamental to ensuring that structures are safe,			
stable, and durable.			
This course will emphasize practical problem-solving skills tailored to			
design engineering principles. The course is fully intended to be a highly			
accessible, low impact exploration focusing on fundamental concepts. In addition, the offer is critical as it provides content to round out the			
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addition, the offer is critical as it provides content to round out the Engineering Mechanics Series which includes. Statics, Dynamics,			
addition, the offer is critical as it provides content to round out the Engineering Mechanics Series which includes. Statics, Dynamics, Mechanics of Materials, and Fluid Mechanics.			
addition, the offer is critical as it provides content to round out the Engineering Mechanics Series which includes. Statics, Dynamics, Mechanics of Materials, and Fluid Mechanics. Exploring Engineering Dynamics (CEEN 317) also embraces the goals			
addition, the offer is critical as it provides content to round out the Engineering Mechanics Series which includes. Statics, Dynamics, Mechanics of Materials, and Fluid Mechanics. Exploring Engineering Dynamics (CEEN 317) also embraces the goals of Mines@150 keeping intact the sound fundamental base our graduates			



in their careers.
The course will be delivered 100% in person, at least initially. However,
movement to an on-line format is not precluded from future offerings if
deemed necessary.

### **Additional Discussion**

- **Question:** E. De Moor asked if there was any discussion regarding the change in the dates of the course evaluations and their validity and weight in FDRs this semester?
- <u>Answer:</u> P. Myskiw answered that when the date changes, the rolling out of grades were postponed (no new grades will be released until after December 13<sup>th</sup>). After discussion on course evaluations during the Faculty Senate meeting, we may want to consider deciding who should own course evaluations. They used to be managed by D. Jordan in the Trefny Center. When she retired, ownership was transferred to someone else who has since left Mines. Course evaluations should probably be managed on the academic side.
- **<u>Comment</u>**: T. Powell added that for some courses, it is possible for students to find their final grade in the class before course evaluations end.
- <u>Comment:</u> P. Myskiw added that currently, course evaluations are pushed out into Canvas with an automated message to students reminding them to complete them. The return rate is ~57% which is a bit low. To address this, there needs to be established ownership and more campus-wide communication to faculty and students.
- <u>Comment:</u> G. Greivel added that this issue may be best addressed by Academic Affairs with a statement from the Provost regarding the appropriate use of this term's evaluations in FDRs. Even if grades are not posted, if the final exam is perceived to be heard, there will be downward pressure to complete evaluations.
- <u>Comment:</u> V. Karaivanov added that there is a section in the Procedures Manual (Section 5.5) that provides additional information on the process of student evaluations. There is also link in this section (Mines knowledge-base article) which has helpful FAQs. One of the questions includes "I have concerns regarding student feedback, what should I do?" which links to a Canvas page that lists the Mines' Community Standards. This used to be distributed back with paper evaluations, but we may want to think how to relay this information to students again.

## 5:00 pm Adjourn

### Ventzi Karaivanov

Next meeting: January 8<sup>th</sup>, 4:00-5:00 pm via Zoom. Please send agenda items to Ventzi Karaivanov (<u>vkaraiva@mines.edu</u>) and Kristeen Serracino (<u>kristeen.serracino@mines.edu</u>) one week prior.

