

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

**Attendees:**

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

P	Ventzi Karaivanov (chair)	P	Andrew Pederson (EB)	P	Mike Nicholas (AMS)	P	Chuck Stone (PH)
P	Michael Barankin (CBE)	P	Jay Straker (HASS)	A	Gerald Bourne (MME)	P	Rennie Kaunda (MN)
P	Dylan Domaille (CH)	P	Ge Jin (GP)	P	Zibo Wang (CS)	P	Kevin Cannon for Mathias Burisch Hassel (GE)
P	Linda Battalora (PE)	P	Hongyan Liu (CEE)	P	Jeff Wheeler (ME)	P	Mark Bowen (USG)
P	Jack Bringardner (EDS)	P	Brianna Buljung (LB)		Hisham Sager (EE)		

**Other Regular Attendees and Guests**

	Sam Spiegel (Mines Online)	P	Dixie Cirillo (PA)		Nichole Bigley (AA)		Paul Myskiw (RO)
	Karla Perez-Velez (CASA)		Vibhuti Dave (UGS)		Deb Jordan (Trefny Center)		Kendra Stansbury (RO)
P	Katie Ludwin (CASA)	P	Danielle Boileau (CASA)		Cheryl Medford (GE)	P	D. Scott Heath (RO)
			Colin Terry (SL)				

**Special Guest(s):** Jeff Ackerman (ME)

**Welcome**

Ventzi Karaivanov

Faculty Senate has a couple of requests:

1. If all departments can provide a brief explanation of how you evaluate incoming transfer courses (if you have challenge exams, what are the cut scores?). Please send a quick memo of what is being done in your department.
2. Another request is to review what courses have not been taught in several years and determine if they can be removed from the catalog.
3. Finally, please review your department's 4-year plan and make sure that they are all correct. Since there were changes to the core curriculum last year, many departments will have changes that should be made especially when it comes to EBG321.

Just a reminder that there are only 3 more meetings for this semester as we only have 1 meeting in both November and December and one meeting remaining in October.

*Approval of Minutes – September 27, 2023*

Ventzi Karaivanov

**MOTION:** Motion to approve previous minutes were moved by Michael and seconded by Hongyan. Minutes were approved with 0 opposed and 0 abstentions from those present.

**Briefings and Information Items**

*Registrar's Office*

Paul Myskiw

Paul is out so Scott Health provided an update to Mara's replacement. We are in final interviews with the candidates so an offer should be going out this week.

**Curriculum Item(s) for Council Vote**

1.1 **CHEMICAL AND BIOLOGICAL ENGINEERING**  
 [CIM N/A ]

Michael Barankin



Needs actual course number.

- i. 1 credit hour
- ii. Similar to other PAGN Varsity sport class
- iii. Gives these athletes credit for their participation in their sports
- iv. Fall 2023 first time taught

PAGN251 – GOLF

Course Description: Please add “Course is taught at a local course, requires personal transportation”

**MOTION:** Motion to approve the changes in PAGN was moved by Michael and seconded by Jeff. Motion to approve program change was approved by all present. Zero opposed and one abstention.

1.4 PE

[CIM 9/26/23]

**1 Course change:** PEGN430 - Environmental Law & Sustainability

Prerequisite: HASS100 - NATURE AND HUMAN VALUES

Co-requisite: HASS200 - GLOBAL STUDIES

“PEGN430 Environmental Law & Sustainability is approved for HASS 400-level course credit. To be consistent with other HASS 400-level courses, the following prerequisite and corequisite need to be added to PEGN430 Environmental Law & Sustainability: Prerequisite: HASS100. Co-requisite: HASS200

This topic was discussed with Dr. Cortney Holles, HASS UG Advisor. Dr. Holles agrees with the addition of the above prerequisite and corequisite.”

**MOTION:** Motion to approve the course change in PE for PEGN430 was moved by Michael and seconded by Jeff. Motion to approve program change was approved by all present. Zero opposed and zero abstentions.

1.5 CEE

[CIM 9/21/23]

**1 Course change:** CEEN314 - Structural Theory

name change to: CEEN314 Structural Analysis

This change is to align the course name with other universities/programs national widely. Majority of the programs in the U.S. name this course as Structural analysis.

Most textbooks on this topic (e.g. Hibbeler’s book) are also named as Structural Analysis or similar terms. This will benefit the students as the course name in their transcript can be better understood.

**MOTION:** Motion to approve the course change in CEE for CEEN314 was moved by Michael and seconded by Jeff. Motion to approve program change was approved by all present. Zero opposed and zero abstentions.

**1.6 PH**  
[CIM 9/22/23]

**1 New Course Modality: Online version of PHGN462 (summer session only) - Electromagnetic Waves and Optical Physics**

We propose the creation of an online version of an existing course (PHGN462). The course is required for the Engineering Physics B.S. degree and the associated combined master’s programs. It is usually taken in the fall of the senior year, and a very long chain of prerequisites makes it unlikely that a student can take it prior to the senior year. Thus, it tends to serve as a bottleneck course, and can produce conflicts with the required senior-year courses from the eleven different combined programs that the physics B.S. anchors.

In response to these problems, the physics department currently offers an in-person version of PHGN462 in the summer. Many students at this stage of their academic careers spend their summers working at internships or research programs, and are not available for in-person courses, but could take an online course. Preliminary data suggest that offering the course online would change the typical enrollment from 10-15 per summer to 20-25 per summer.

This new course primarily satisfies the “Expand offerings and diversify delivery” aspect of MINES@150. The flexibility that it would add to students pursuing combined programs may also improve recruiting, since we lean heavily on the presence and practicality of those combined programs during our departmental recruiting. This could apply to the “Top-of-mind and first-choice university” aspect of MINES@150.

**MOTION:** Motion to approve the new course modality in PH for PHGN462 was moved by Michael and seconded by Jeff. Motion to approve program change was approved by all present. Zero opposed and zero abstentions.

**New Curriculum Item(s)**

2.1

CEE		Hongyan Liu
CIM 09/09/23		

<b>1 New Course:</b>	CEEN 497 – Practices and Principles of Environmental Consulting
	<p>This course provides an in-depth understanding of the environmental consulting industry with a particular focus on problem solving and project delivery to meet expectations of professional services organizations (environmental consulting firms). Using case studies, real-life consulting assignments, and business scenarios, the course offers exposure to the technical, ethical, and business challenges of winning and executing environmental projects.</p> <p>This course was offered as a graduate course (597), but the instructor believes that it would be better to offer this course to attract more senior students to take the course before they graduate.</p> <ul style="list-style-type: none"> <li>- <b>Question:</b> This is not a true cross-list, right? There will be different requirements at the graduate level. I don't think so, they will be going at the same pace – Hongyan will check with the graduate dean for the requirements between 400 &amp; 500 level course.</li> </ul>

2.2

<b>CH</b>		Dylan Domaille
CIM 09/27/23		
<b>1 New Course:</b>	CHGN 423 – SOLID-STATE CHEMISTRY	
	<p>Dependence of properties of solids on chemical bonding and structure; principles of crystal growth, crystal imperfections, reactions and diffusion in solids, and the theory of conductors and semiconductors</p> <p>This is an elective course that is cross listed with CHGN523. Graduate students will be required to write an additional 3-page research proposal.</p>	

2.3

<b>EB</b>		Andrew Pederson
CIM 10/04/23		
<b>1 Course change:</b>	EBGN 305 – FINANCIAL ACCOUNTING	
	EBGN201 is not needed as a prereq.	

2.4

<b>EB</b>		Andrew Pederson
CIM 10/04/23		
<b>1 Course change:</b>	EBGN 345 – PRINCIPLES OF CORPORATE FINANCE	
	Remove unnecessary EBGN201 Pre Rec, and add EBGN305 Accounting	

2.5

<b>EB</b>		Andrew Pederson
CIM 10/04/23		
<b>1 Course change:</b>	EBGN 346 – INTRODUCTION TO INVESTMENTS	
	Remove EBGN201 add EBGN305 Accounting	

2.6

<b>EB</b>		Andrew Pederson
CIM 10/04/23		
<b>1 Course change:</b>	EBGN 485 – BUSINESS STRATEGY	
	Add Necessary Pre Rec for Capstone Class	

Becky will discuss all the changes to the EBGN courses listed above (2.3-2.6). Last year 201 was removed from the core so some of the pre-requisites are being proposed to change to restructure some of those pre-requisites. The goal is to make business classes accessible to students across campus.

- **Question:** All of those (referring to Becky’s presentation) have zero pre-requisites? Not even basic math? None of those courses will have calculus or higher-level math concepts.
- **Question:** Regarding the program change that was introduced last time. You removed 3 credit hours from your electives to require EBGN201, for your majors? Yes, so business engineering and economics majors will be required to take principles of econ. In the business engineering major 321 was not required previously so to make it required we had to remove an elective.

2.7

<b>HASS</b>		Jay Straker
CIM 9/26/23		
<b>1 New Course:</b>	HASS 329 – REEVALUATION OF DESIGN AND SUSTAINABLE FUTURE OF MUSICAL INSTRUMENT	

	<p>Sustainability is an issue confronting the society these days, and the Mines will do its part in solving this huge puzzle one by one. This course will challenge each student to become an entrepreneur and disrupt the music industry by advancing brand-new designs and sourcing materials ethically. This class will inspire students from all backgrounds to work collaboratively and find the practical solution.</p> <p>History of musical instruments will be surveyed with the particular emphasis on their evolution of designs, materials, and engineering. Musical instrument of choice will be built by each small group of students reflecting their own solution to current design issues identified through their research. Special consideration will be given to sustainable materials, including finishes, and new engineering ideas.</p> <p>This is a new offering in our music program, deploying the talents of our newest full-time faculty. A way to integrate students' love of music, craftsmanship and developing implementation of sustainability. It has been piloted successfully.</p>
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2.8

<b>AMS</b>		Mike Nicholas
CIM 9/27/23		
<b>1 Course change:</b>	MATH 307 – INTRODUCTION TO SCIENTIFIC COMPUTING	
	Just adding CS128 to the list of prereqs.	

2.9

<b>AMS</b>		Mike Nicholas
CIM 9/27/23		
<b>1 Course change:</b>	MATH 332 – LINEAR ALGEBRA	
	Adding CS128 as prereq to MATH307, MATH332, MATH225, and MATH334 to be able to leverage programming ability in these courses.	

AMS is proposing the addition of CS128 as a pre-requisite for the MATH307 and MATH332 courses so that these courses can leverage the programming ability of the students.

2.10

<b>MEGN</b>		Jeff Wheeler
CIM 10/02/23		
<b>1 Course deactivation:</b>	MEGN 436 – COMPUTATIONAL BIOMECHANICS	
	The department is no longer offering this course at the 400 level. There is an equivalent 500 level class which has been taught for quite some time. The department has no plans to offer the 400 level again.	

2.11

<b>MEGN</b>		Jeff Wheeler
CIM 10/03/23		
<b>1 New Course:</b>	MEGN 454 – ORBITAL MECHANICS	
	This new course is being transitioned from an existing 498 course within the department. The course was designed to expand course offerings and help diversify delivery of course material, through its unique approach to combined lectures, course projects, and active learning. The course is structured as a residential course that helps prepare our students for future careers in the aerospace industry as well as to return to our graduate mechanical engineering and space resource programs.	

2.12

<b>MEGN</b>		Jeff Wheeler
CIM 10/02/23		
<b>1 New Course:</b>	MEGN 465 – ELECTRIC VEHICLE POWERTRAIN SYSTEMS	
	<p>Expanding Offerings and Diversifying Delivery: Offering a class on electric vehicle powertrain systems demonstrates the university's commitment to expanding its educational offerings in response to the changing needs of industry and society. Electric vehicles are becoming increasingly important in the transportation sector, and having an applied understanding of their powertrain systems is crucial for students pursuing careers in automotive engineering.</p> <p>Strengthening Affinity for Mines: A practical, hands-on class on electric vehicle powertrain systems will be unique to Mines and can enhance the university's reputation and attract students and alumni who are</p>	



	<p>interested in emerging technologies and sustainability.</p> <p>Being Innovative and Entrepreneurial: The field of electric vehicles is characterized by innovation, particularly in the development of new powertrain technologies. Offering a lab-based class on electric vehicle powertrain systems encourages students to think creatively about addressing real-world challenges.</p>
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2.13

<b>MEGN</b>		Jeff Wheeler
CIM N/A		
<b>1 Course change:</b>	MEGN 315 – DYNAMICS	
	Remove MATH 225 (Differential Equations) as a prereqs, Add MATH 225 as a co-req. Differential equations are not used until the end of the course in a vibrations unit.	

2.14

<b>MEGN</b>		Jeff Wheeler
CIM 10/03/23		
<b>1 Program Change:</b>	MIN-BMECHE : Minor in Biomechanical Engineering	
	The proposed change replaces the elective MEGN 436 (no longer offered) with MEGN 536.	

- **Question:** Would like to remove MEGN436 to the course that was just voted on. Previously we could talk with Mara, and she could edit the workflow in CIM. Is this possible? And who should I reach out to? The Registrar can take a look and make that change.

2.15

<b>MEGN</b>		Jeff Wheeler
CIM 10/03/23		
<b>1 Program Change:</b>	BS-MECH : BS in Mechanical Engineering	
	Updated list of approved electives to include courses approved by the ME faculty.	

	<p>Biomechanics track: Updated list of electives to remove MEGN 436 Computational Biomechanics (no longer offered) as an elective. Added MEGN 536 Computation Biomechanics as an elective to the track.</p> <p>Automotive track: Updated list of electives to include new course offerings.</p> <ul style="list-style-type: none"> <li>- <b>Question:</b> Is project management an elective? It was on the list. There was a faculty member who was planning on offering a similar class. Now the faculty will not be offering that course, so it must be voted on.</li> </ul>
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2.16 **Minor changes – to be considered as a single vote.**

<b>MEGN</b>		Jeff Wheeler
CIM N/A		
<b>1 Course Change:</b>	MEGN200 - Intro to ME Programming and Hardware Interface	
	Add PHGN200 (Physics II) as a co-req to ensure students have some experience prototyping electronic circuits on a breadboard	
<b>MEGN</b>		Jeff Wheeler
CIM N/A		
<b>1 Course Change:</b>	MEGN300 - Instrumentation and Automation	
	Remove MEGN 201 (Intro to ME Design and Fabrication) as a pre-req, Add MEGN 201 as a co-req to increase the flexibility for students to make up a semester in the ME design sequence.	
<b>MEGN</b>		Jeff Wheeler
CIM N/A		
<b>1 Course Change:</b>	MEGN301 - Mechanical Integration and Design	
	Add MEGN 381 (Manufacturing Processes) as a co-req as the course content synergizes and students should have manufacturing knowledge before Capstone Design.	
<b>MEGN</b>		Jeff Wheeler

CIM N/A	
<b>1 Course Change:</b>	MEGN417 - Intro to ME Programming and Hardware Interface
	Remove MEGN 315 and MEGN 324 as prereqs. Retain MEGN 391 as the prereq. MEGN 324 isn't needed as a prereq after a course revision and MEGN 315 is a prereq for MEGN 391. Therefore having it listed as a prereq for MEGN 417 is redundant.

### Continuing Curriculum Item(s) – from 9/27/23

#### Update on Proposed changes to absence policy

Jeff Ackerman

We have been collecting feedback and parsing through that feedback and update by adjusting the language. The biggest thing that came up was the idea of dropping vs. excusing grades. There are arguments that dropping grades should be allowable with the policy, but the other die is legal arguments and potential for discrimination. As a student you can choose to drop a grade, but they can't choose to be sick. This is something that is still being adjusted, which is why it will not be voted on today so we can make sure we are all on the same page.

- **Question:** Was there follow up in the committee about the request to require students to submit the form online. We will encourage faculty but won't require it. If the student doesn't use the form the student is not notifying all their professors – so there is a convenience factor, there too.
- **Question:** Will it have to be put into the syllabus? We are still discussing that. There is still a lot of latitude there as long as it doesn't directly conflict with the policy. We are trying to preserve the pedagogical practice of drops and where it becomes a challenge is when drops are used in an excused absence situation. It is unfair that students benefit from never having an excused absence and you are penalized for being in the hospital. We are trying to find a way that honors and find a way to argue that faculty have a lot of that agency, but we must make it fair for the students that have an excused absence.

3.1

#### CHEMISTRY

Dylan Domaille

[CIM N/A]

**1 New Course:** CHGN 435 - Physical Biochemistry

This course stresses the importance of an interdisciplinary approach to science, discussing biological topics from the perspective of a physical chemist. It will expand and diversify the course offerings in the chemistry department, with a particular focus on serving the growing population of biochemistry and QBE students.

Supporting information is posted on Canvas.

3.2

#### CEE

Hongyan Liu

[CIM N/A]

**1 Course change:** CEEN442/542 - Timber and Masonry Design

Change: CEEN442 - Design of Wood Structures.  
Supporting information is posted on Canvas.

[CIM N/A]

**1 New Course:** CEEN478/578 - Erosion control and land restoration

This course was previously offered as 498/498 and now needs a new number.  
Supporting information is posted on Canvas.

### 3.3

#### Economics and Business

Andrew Pederson

[CIM N/A]

**1 Program change:** Business Engineering and Management Science degree

Proposing the following changes to the BEMS curriculum:

- Require students to take EBG201 or equivalent
- Reduce free electives from 12 credit hours to 9 credit hours

This results in a net zero change in total credit hours, keeping the BEMS program at 122 credit hours.

Supporting information is posted on Canvas.

Meeting adjourned: 5:03 pm.

Next meeting: October 25, 4:00-5:00 pm via Zoom. Please send all agenda items to Ventzi Karaivanov (vkaraiva@mines.edu) one week prior.