

Colorado School of Mines – UNDERGRADUATE COUNCIL MEETING MINUTES  
 October 13, 4:00 – 5:00 pm, via Zoom

**Attendees:**

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

P	Jeff King (chair)	P	Becky LaFrancois (EB)	P	Mike Nicholas (AMS)	P	Randy Haupt (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)
A	Mark Miller (PE)	P	Hongyan Liu (CEE)	P	Oyvind Nilsen (ME)	P	Ethan Lewellin (USG)
P	Gyasi Evans (LB)	P	Chelsea Salinas (EDS)		Chuck Stone (PH)		

**Other Regular Attendees and Guests**

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

**Special Guest(s):** Xiaolong Yin (PE), Suzy Beeler (QBE), Susan Reynolds (CEE)

**Welcome**

Jeff King

**Approval of Minutes – September 22, 2021**

Jeff King

**MOTION:** To approve the Council minutes of September 22, 2021 by Barankin, seconded by Nilsen. Motion passed unanimously. APPROVED.

**Briefings and Information Items**

Office of Undergraduate Studies

Vibhuti Dave

No updates from the Office of Undergraduate Studies.

Registrar’s Office

Paul Myskiw

Reported there will be curriculum cleanup. Myskiw will bring undergraduate programs to Council that do not have students enrolled for closing, the same will be done for undergraduate courses that have not been taught in three to four years. The options include deactivations or putting the courses in a “sleep state” to avoid student confusion.

**Curriculum Item(s) for Vote – From 9/8/21**

**1.1 PETROLEUM ENGINEERING**

Mark Miller

[CIM 9/1]

**1 course change:** PEGN251: FLUID MECHANICS

*The PE Department wants to change CEEN 241 from a co-requisite to a prerequisite. The PE Fluid Mechanics is now inconsistent with fluid mechanics of other engineering departments at Mines. All other departments require statics before fluid mechanics.*

*Pedagogically, fluid mechanics is a branch of mechanics, and it should be studied after statics for it to be best absorbed.*

*As statics and calculus II are co-requisites of each other, many students who entered fluid*

*mechanics without statics also had no experiences with calculus II subjects such as lines, surfaces, multivariable calculus, vectors, etc., all of which are essential for understanding even the most basic fluid mechanics text. In the past few semesters, my solution was to use two lectures to cover basics of some of these math topics. But, this is not the right solution.*

*The issue is particularly worse in Fall when many international students enroll in fluid mechanics simply because it has no pre-requisite.*

**MOTION:** To approve the course change to PEGN251: Fluid Mechanics by Hudson, seconded by Salinas. **APPROVED.**

### Minor Curriculum Changes –

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

#### 1.2 CHEMISTRY

Christine Morrison

[CIM 7/23; Provost: 7/26]

**1 new course:** CHGN409: BIOLOGICAL INORGANIC CHEMISTRY

*This course has been taught once (in Fall 2020) as a special topics course. 7 students enrolled and completed the course, including 5 graduate students and 2 undergraduate students. It was a highly regarded course, and it received above-average evaluations compared to the department, college, and institution. We are seeking course approval now so that it can be made an official elective for the QBE and uQBE programs. We anticipate higher enrollment numbers after this is accomplished, since the QBE and uQBE programs are seeking additional elective courses. This course will also be made an official elective in the biochemistry degree and track, of which ~50% of undergraduate students in the chemistry department participate in.*

**MOTION:** To approve the new course in Chemistry CHGN409: Biological Inorganic Chemistry by Domaille, seconded by Lafrancois. Motion passed unanimously. **APPROVED.**

### New Curriculum Items

#### Major Curriculum Changes –

#### 2.1 CHEMICAL & BIOLOGICAL ENGINEERING

Michael Barankin

[CIM 9/29; Provost 9/29]

**1 new course:** CBEN372: INTRODUCTION TO BIOENERGY

*Residential. The delivery of the course will continue the longstanding tradition of presenting the content in a classroom format. There will be a technical aspect to the content, but also economic, business, society aspects. Having in-person delivery allows the opportunity for discussion about all these aspects.*

This course has been taught as a 398 course. This was listed by the steering committee as a major change due to its potential impact on the energy minor.

##### 2.1.1 [CIM 9/27]

**1 course change:** CBEN422: CHEMICAL ENGINEERING FLOW ASSURANCE

*Modality update. Will be offering course online.*

The instructor has completed the relevant Trefny Center process to provide this course in an online

format. Question raised on the availability of the online format for a single semester, or ongoing. Information will be brought to Council regarding continued online delivery.

Modality changes do not need approval from Council. Concern for additional online courses being brought forward where a student can complete upwards of 50% of their degree online affecting the university's HLC accreditation or a student completing an online undergraduate degree.

## 2.2 QUANTITATIVE BIOSCIENCES AND ENGINEERING

Josh Ramey

[CIM 9/28]

### **1 program change:** BS-QBE: Quantitative Biosciences and Engineering

*Moving CBEN120 to the spring semester of the students' 1st year will allow majors to experience a full year of biology versus splitting the two semesters by a year. This will also allow for innovative future curriculum changes such as adding a combined 110-120 honors section where students can be exposed to a yearlong course based undergraduate research experience. The move will also allow the QBE program to predict student enrollments earlier. To accommodate this move we have shifted the physics sequence back one semester. (PHGN1 fall sophomore year and PHGN 2 spring sophomore year). We have spoken with Physics about this change and are in support of their plans to expand their Studio Physics capacity.*

*The faculty would like to have Math201 as a co-req for BIOL300, which deals with biological data analysis which aligns nicely with Math201. The QBE faculty have informed the Math department about the proposed move.*

Ramey presented the largest change as requirement of a tech elective for students and making CSCI478: Bioinformatics a required course in the fall of senior year. When the curriculum of the QBE program was initially proposed, CSCI478 was not yet approved.

The data science course was moved into a tech elective as it did not fit within the curriculum prior to BIOL300 and was moved into technical electives to make room for the addition of probability and statistics, which would assist students in BIOL300.

BIOL120, a second semester sequence of the introductory biology course, has been moved from spring of the sophomore year to spring of the first year to increase continuity between the first and second sequences. This affects the arrangement of physics, which is taken in spring of the first year, to the fall of the first year.

Question on the expected number of students due to the bioinformatics course; Ramey reported ten declared students in the QBE program with the expectation falling between ten and twenty students for sophomores and thirty to fifty first-years. The movement of BIOL120 early on allows for the program to make these predictions.

### 2.2.1 [CIM 9/28; Provost 9/28]

#### **1 new course:** BIOL300: INTRODUCTION TO QUANTITATIVE BIOLOGY I

*Introduction to Quantitative Biology I (BIOL300) is the first semester of a two-semester sequence designed to explore the interface between biology, mathematics, and computer science. BIOL300 is the first degree-specific course for QBE majors and provides foundational knowledge in Python programming, allowing students to analyze and visualize biological datasets and gain intuition for the stochastic nature of many biological processes.*

Beeler reported on the course's development and taking pieces from data science and ensuring there is a biological focus on the concepts. The course will be taught in Python on accessing and manipulating plotted data from a biological context.

### 2.3 CIVIL & ENVIRONMENTAL ENGINEERING

Susan Reynolds

[CIM 10/5]

**1 course change:** CEEN360: INTRODUCTION TO CONSTRUCTION ENGINEERING  
*Request for modality change from face-to-face to online. Changed offering from Spring to Summer.*

This modality change will not be voted on by Council. The course will be offered online in the Summer and in-person during regular semesters. Change of language from "modality change" to modality addition.

#### Minor Curriculum Changes –

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

### 2.4 COMPUTER SCIENCE

Jeffrey Paone

[CIM 9/22]

**1 course change:** CSCI477: ELEMENTS OF GAMES AND GAME DEVELOPMENT  
*Students will have more experience with object-oriented programming and will be introduced to event driven engines from CSCI 306. CSCI 306 has CSCI262 as a pre-req so this change is advancing the pre-req one step down the chain. CSCI 477 is an upper-level elective course taken mainly by second semester seniors. This change should not have a practical impact on student registration.*

#### 2.4.1 [CIM 9/28]

**1 course deactivation:** CSCI447: SCIENTIFIC VISUALIZATION  
*The course was last offered Spring 2013 by a faculty member who is no longer at Mines. There are no plans to offer in the near future so would like to remove from the catalog to avoid student confusion.*

### 2.5 APPLIED MATHEMATICS & STATISTICS

Mike Nicholas

[CIM 9/16]

**1 course change:** MATH310: INTRODUCTION TO MATHEMATICAL MODELING  
*Add MATH213 as a prereq.*

*We have MATH201 and MATH225 as prereqs for this class, but since MATH213 (Calc III) is not a prereq for MATH225, we could have students in MATH310 who have not yet had Calc III. This change should not affect many (if any) students.*

### 2.6 CHEMICAL & BIOLOGICAL ENGINEERING

Michael Barankin

[CIM 9/28]

**1 program change:** BS-CHE: BS in Chemical Engineering  
*Allowance of additional electives to help student to complete graduation requirements.*

#### 2.6.1 **2 course deactivations:** CBEN306: ANATOMY AND PHYSIOLOGY: BONE, MUSCLE, AND BRAIN

*Course not offered in at least two years; replaced by CBEN304.*

CBEN309: ANATOMY AND PHYSIOLOGY: BONE, MUSCLE, AND BRAIN  
LABORATORY

*Course not offered in at least two years; replaced by CBEN305.*

2.7 **METALLURGICAL & MATERIALS ENGINEERING**

Corinne Packard

[CIM 9/29]

**2 program changes:** BS-MME: BS in Metallurgical and Materials Engineering  
*Addition of one course to our distributed science list (CSCI101) allows student to broaden their technical experience in preparation for multidisciplinary careers. We were already approving this course on a case by case basis, but this change makes it clear to students that they have additional options.*

MIN-MME: Minor in Metallurgical and Materials Engineering  
*This change deletes one course and renumbers one course in the minor to reflect changes that were approved in the major program two years ago. Not changing the minor program at the same time as the major was an oversight that we are correcting now. The change requires students to take at least 4 credits of 300- or 400- level electives (instead of 3 before) in order to meet the minimum credits for a minor. The course flow is only a suggestion, not requirement, and only non-majors can take the minor. The only expected impact is that students may have to take 1-2 more credits than 18 total credits for the minor depending on the number of credits granted by the courses they choose.*

2.7.1 **14 course changes:** MTGN219: ART AND SCIENCE OF GLASSBLOWING

*This adds wording to the course description to make it clear that the course does not count for MTGN elective credit to clarify routine confusion students in our major taking this course have. Students have assumed it counts, but our major description states that only 300+ level courses count towards electives. This change is to provide clarification to students registering to the course, but does not fundamentally change any requirements.*

MTGN281: INTRODUCTION TO PHASE EQUILIBRIA IN MATERIALS  
SYSTEMS

*Minor wording change to description to encompass more analysis techniques beyond Gibbs phase rule to more accurately reflect the current and historical content of the course.*

MTGN315: ELECTRICAL PROPERTIES AND APPLICATIONS OF MATERIALS

*Course description change to reflect current and future course content.*

MTGN334: CHEMICAL PROCESSING OF MATERIALS

*Grammar fix in course description.*

MTGN348: MICROSTRUCTURAL DEVELOPMENT

*Minor description change with modern terminology in field of materials engineering.*

MTGN333: INTRODUCTION TO BLADESMITHING

*Description change: removal of mention of summer offering. Course is not offered in the summer.*

MTGN350: STATISTICAL PROCESS CONTROL AND DESIGN OF  
EXPERIMENTS

*Minor course description edits to reflect current content of the course.*

MTGN430: PHYSICAL CHEMISTRY OF IRON AND STEELMAKING

*Course description updated to remove frequency of offering, which will depend on the department's ability to staff the course.*

MTGN442: ENGINEERING ALLOYS

*Updating course description to reflect current frequency of offering.*

MTGN451: CORROSION ENGINEERING

MTGN464: FORGING AND FORMING

*Updating course description for grammar.*

MTGN465: MECHANICAL PROPERTIES OF CERAMICS

MTGN475: METALLURGY OF WELDING

MTGN475L: METALLURGY OF WELDING LABORATORY

*Updating course description to reflect current offering schedule.*

2.7.2 **11 course deactivations:** MTGN311: STRUCTURE OF MATERIALS

MTGN311L: STRUCTURE OF MATERIALS LABORATORY

*Courses no longer offered. Replaced by MTGN211.*

MTGN351: METALLURGICAL AND MATERIALS THERMODYNAMICS

*Course no longer offered. Replaced MTGN251.*

MTGN381: INTRODUCTION TO PHASE EQUILIBRIA IN MATERIALS SYSTEMS

*Course no longer offered. Replaced MTGN281.*

MTGN407: STEEL BAR MANUFACTURING

*Course no longer offered.*

MTGN412: CERAMIC ENGINEERING

*Elective course is no longer offered. Replaced by lower-level ceramics course required in program, rather than elective.*

MTGN415: ELECTRICAL PROPERTIES AND APPLICATIONS OF MATERIALS

*Course no longer offered. Replaced by required course MTGN315.*

MTGN450: STATISTICAL PROCESS CONTROL AND A DESIGN OF EXPERIMENTS

*Course no longer offered. Replaced by MTGN350.*

MTGN461: TRANSPORT PHENOMENA AND REACTOR DESIGN LABORATORY

*Course no longer offered.*

MTGN463: POLYMER ENGINEERING

*Course no longer offered.*

MTGN466: MATERIALS DESIGN: SYNTHESIS, CHARACTERIZATION AND SELECTION

*Course longer offered. Replaced by two-semester senior design course under numbers MTGN467 and MTGN468.*

Packard reported a number of courses have been deactivated. These courses were replaced with other courses with different numbers but the same content.

When a course has been removed, it will need to be removed from the program manually to avoid CIM and the Catalog reading the course as “no longer available”.

2.8 **ECONOMICS AND BUSINESS**

Becky Lafrancois

[CIM 9/29]

**2 course changes:** EBG437: REGIONAL ECONOMICS

*We would like to change the pre-requisites for this course to enable more students to take it. The intermediate level pre-requisites are not really necessary for this course. The campus needs more 400 level writing approved H&SS courses, and this will help fulfill the need.*

### EBCN443: PUBLIC ECONOMICS

*We would like to change the pre-requisites for this course to enable more students to take it. The intermediate level pre-requisites are not really necessary for this course. The campus needs more 400 level writing approved H&SS courses, and this will help fulfill the need.*

### 2.9 PETROLEUM ENGINEERING

Terri Snyder

[CIM 10/5]

**1 course change:** PEGN440: INTRODUCTION TO THE DIGITAL OILFIELD

*The Petroleum Engineering Department would like to change the name of this course to "Introduction to The Digital Oilfield" to better reflect the content of the capstone course for the minor. This change would also eliminate confusion with the PEGN 438 "Petroleum Data Analytics" course which is a requirement for the PE major.*

Course was originally named "Petroleum Data Analysis".

### Continuing Curriculum Items – Continued Discussion (from 9/22/21) Major Curriculum Changes –

### 3.1 HUMANITIES, ARTS AND SOCIAL SCIENCES

Derrick Hudson

[CIM 9/15; Provost 9/15]

**1 program change:** MIN-ESS: Minor in Environment and Sustainability

*Introduced the following potential credit option to align the program with signature student experience opportunities: "Student involvement in campus sustainability initiatives, student environmental groups, and other activities that complement the ESS minor's coursework, may count as credit toward the minor (in consultation with the ESS director)."*

*Suggest (but do not require) students take Global Studies: Environment.*

Hudson addressed the potential impacts on other programs. The courses listed have prerequisites that would be open to students in their home major so these changes should not impact other programs. Initially, the program made mention of CLR-esque language. This has been changed to allowing students to include up to three credits of Independent Study with the approval of the ESS Director.

### Minor Curriculum Changes –

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

### 3.2 GEOLOGY & GEOLOGICAL ENGINEERING

Cheryl Medford

[CIM 9/10]

**2 course changes:** GEOL308: INTRODUCTORY APPLIED STRUCTURAL GEOLOGY. minor  
*GEOL308 course description change from "Course require or all PEGN and GPGN students" to "Course required for all PEGN". Reflects updates from GP.*

GEGN316: FIELD GEOLOGY minor

*Removal of "or" in prerequisites list.*

### 3.3 HUMANITIES, ARTS, AND SOCIAL SCIENCES

Seth Tucker

[CIM 9/10]

**1 course deactivation:** HASS300: CREATIVE WRITING: FICTION

*This course number will be renewed as HASS302. HASS201 will become HASS303.*

3.3.1 [CIM 9/21; Provost 9/22]

**2 new courses:** HASS303: FOUNDATIONS: THE ART AND CRAFT OF THE CREATIVE WRITING WORKSHOP

*Has been taught as HASS201 for five years. Renumbering to solve problems with student expectations, and advisor and registrar issues.*

[CIM 9/9; Provost 9/13]

HASS302: INTERMEDIATE SHORT FICTION WRITING WORKSHOP

*Shifting HASS201 (300-level restricted HASS course) to course number HASS303. This course had been taught under the course number HASS300 for 10 years. Being done to alleviate confusion from students, registrar, and advisors for recommendation of 300-level courses to students.*

*Once the course number is archived, HASS300 will be renewed as what was previously offered as HASS201.*

3.3.2 **4 course changes:** HASS301: INTERMEDIATE POETRY WRITING WORKSHOP

*Name change from "Creative Writing: Poetry I". Done to make clearer trajectory of learning and progression through the writing courses in HASS to assure consistency for students, faculty and advisors.*

HASS400: ADVANCED SHORT FICTION WRITING WORKSHOP

*Removal of co-requisites HASS301 and HASS401. Change made to ensure clear pattern for learning in writing courses and establish consistent offering from 300-levels (fall) to 400-levels (spring).*

HASS401: ADVANCED POETRY WRITING WORKSHOP

*Name change from "Creative Writing: Poetry II". Course description changed <10%. Done to ensure clarity of course progression and better pattern of offerings from 300-levels (fall) and 400-levels (spring).*

HASS408: CREATIVE NONFICTION WRITING: LIFE STORIES

*Name change from "Life Stores". Meant to clear confusion on what the course investigates and how it is tied to the progression of writing classes offered in HASS.*

3.4 **HUMANITIES, ARTS, AND SCIENCES**

Derrick Hudson

[CIM 9/15; Provost 9/15]

**4 new courses:**

HASS319: INTRODUCTION TO VOICE, MOVEMENT AND IMPROVISION IN PERFORMANCE AND PRESENTATION

HASS317: ACTING, LOCUTION & PUBLIC PERFORMANCE

HASS318: THEATER TECHNOLOGY, PRODUCTION & PERFORMANCE

HASS484: INTELLECTUAL PROPERTY FOR ENGINEERS AND ARTISTS

*Courses have been taught twice, seeking permanent course numbers.*

*Note from steering committee 9/15: HASS498Z needs revised catalog description.*

3.5 **SYSTEMS**

Derrick Hudson

[CIM 9/15; Provost 9/15]

**1 new course:** SYGN469: SCIENCE AND SPIRITUALITY

*This class was originally developed as a McBride class. It has been taught twice as a McBride*



*class and it is taught now for the second time as SYGN498B where it is cross-listed as a McBride class. The SYGN498B course number was a placeholder for a new course. After the class has been taught four times, it is time to put it in the course catalog on a more structural basis.*

### **Subcommittees Updates**

*Tracks and Emphasis Definitions*

#### **Volunteers:**

**Chair:** Vibhuti Dave

- Jeff Paone
- Karla Perez-Velez
- Chelsea Salinas

The committee will have met on 10/15. No updates from the Tracks and Emphasis subcommittee.

*Common Exam and other exam scheduling*

#### **Volunteers:**

**Chair:** Mike Nicholas

- Michael Barankin
- Ethan Lewellin
- Becky Lafrancois
- Hongyan Liu

Nicholas volunteered to chair the Common Exam and scheduling subcommittee.

### **Miscellaneous / New business**

Jeff King

Faculty Senate will vote on the presented Final Exam policy change presented by Undergraduate Council's Student Workload subcommittee.

Faculty Senate has suggested the formation of a joint committee of Graduate and Undergraduate Council to address consistency in grading. The chairs will draft a charge and request volunteers two to three Councilors from each Council.

King put out a request for Councilors to retrieve departmental suggestions for new business for the Undergraduate Council.

### **Adjourn**

Jeff King

Meeting adjourned at 4:46 pm.

Next Meeting: October 27, 4:00 – 5:00 pm, via Zoom.