

Colorado School of Mines – GRADUATE COUNCIL MEETING MINUTES
February 16, 4:00 – 5:00 pm, via Zoom

Attendees:

Voting Members: 22 total (12 - majority needed for quorum). Quorum was present

P	Bettina Voelker (Chair)	P	Christine Baker (LB)	P	Andy Osborne (NSE)	P	Owen Hildreth (ME)
P	Eric Anderson (HSE)	P	Karin Leiderman (AMS)	P	Jamal Rostami (MN)	P	Michael Heeley (EB)
P	Ebru Bozdag (GP)	P	Juan Lucena (EDS)	P	Jim Ranville (GC)	P	Luis Zerpa (PE)
P	Geoff Brennecka (ML)	P	Zhexuan Gong (PH)	P	Danica Roth (GE)	P	Qi Han (CS)
P	Elizabeth Davis (HASS)	P	Dave Marr (CBE)	P	Maxwell Silver (GSG)	P	Lori Tunstall (UCTE / CEE)
P	Christine Morrison (CH)	A	Salman Mohagheghi (EE)				

Other Regular Attendees and Guests

P	Tim Barbari (OGS)	P	Carolyn Freedman (OGS)	A	Deb Jordan (Trefny)	P	Mara Green (AA)
A	Jennie Kenney (AA)	P	Denise Winn-Bower (PE)	P	Paul Myskiw (RO)	P	Kendra Stansbury (RO)

Special Guest(s): Tyrone Vincent (EE), Kevin Moore (PE)

Welcome

Tina Voelker

Briefings and Information Items

Office of Graduate Studies

Tim Barbari

No updates from the Office of Graduate Studies. Additional information to be brought to Council on the thesis committee composition.

Registrar’s Office

Paul Myskiw

An updated academic calendar has been published to the Registrar’s Office webpage ([click here](#)) which provided information on shorthand terms that may be unknown to students, faculty, staff, and others; pertinent dates such as add/drop dates and billing deadlines absent in previous versions have been added.

Add/Drop Date

The current add/drop date is twelve days long for students to add courses to their schedule; faculty provided feedback on the disruption this causes in courses to provide information to students that have missed two and a half weeks of the semester. Formal proposal to be presented to Undergraduate Council. Councilor noted these should go through both Councils simultaneously; Myskiw agreed. Department representatives on UGC should provide this information to departments.

Graduate Student Government

Maxwell Silver

No updates from the Graduate Student Government.

Graduate Council Operations

No discussion for Graduate Council Operations.

Curriculum Item(s) for Vote – from 1/19/22

1.1 **CHEMICAL & BIOLOGICAL ENGINEERING**
[CIM 1/7; Provost 1/7]

Ning Wu

1 new program: XCRTG-CEPET: Chemical Engineering Processes in Energy Transitions

This program addresses specifically several Mines@150 goals by (1) fostering the education of engineering solutions in the societal context of producing use-inspired research and innovation to address industrial and societal challenges, (2) nurturing differentiated and desired STEM-educated leaders, and (3) providing STEM education for students and professionals in the area of energy production, storage, and associated environmental remediation. We sent out surveys to alumni from the Departments of Chemical Engineering and Petroleum Engineering in June 2021. The proposed online certificate program and its associated courses are well-received based on the feedback. This online certificate program is developed by leveraging existing and new online courses taught in the Department of Chemical & Biological Engineering and a course already approved by the online CCUS certificate program.

This Certificate program aims to provide students with much-needed working knowledge in addressing challenges in energy production (oil & gas), storage (electrochemical systems such as batteries), and associated environmental remediation (CO₂ capture & storage). It is a subject that receives a wide range of interests from companies producing energy based on both conventional and renewable resources. Therefore, this program will provide both enhanced understanding and new career opportunities for students working in the relevant industry.

Council discussed grammatical nuance of “in Energy Transition” vs “in *the* Energy Transition” vs “in Energy Transitions”; offline communication confirmed the name change to “Chemical Engineering Processes in Energy Transitions”.

MOTION: To approve the new program in Chemical and Biological Engineering XCRTG-CEPET: Chemical Engineering Processes and Energy Transition by Brennecka, seconded by Hildreth. Motion passed unanimously.

1.2 **GEOLOGY & GEOLOGICAL ENGINEERING** Danica Roth
[CIM 1/7]
1 course change: GEOL558: EARTH RESOURCE DATA SCIENCE 2: APPLICATIONS
AND MACHINE LEARNING
Adding prerequisites to the course: GEOL557 and DSCI403 (or CSCI303).

MOTION: To approve the course change to GEOL558: Earth Resource Data Science 2: Applications and Machine Learning by Brennecka, seconded by Hildreth. Motion passed unanimously.

New Curriculum Item(s)

2.1 **MINING ENGINEERING** Jamal Rostami
[CIM 2/4]
1 course change: MNGN510: FUNDAMENTALS OF MINING AND MINERAL
RESOURCE DEVELOPMENT
Adding prerequisite: “Completion of Mathematics Courses through Calculus”.

SENSING AND ITS APPLICATIONS

Distributed fiber optic sensing has become more and more important in the field of Geophysics, both in fundamental research and in the industry. This course will introduce this new technology to the students and demonstrate its applications through realistic field case studies. This course will be offered online as part of the petroleum geophysics certificate program.

Council had requested information on modality changes to courses taught in-person being taught online; remained an open question. Faculty Senate has a committee on online standards with Mines Online for new course development. The course was taught in a residential format as a special topics course.

- 3.3.1 [CIM 1/25] Jeffrey Shragge
1 course change: GPGN590: INSTRUMENTAL DESIGN IN APPLIED GEOSCIENCES
*- Previous instructor departed Mines
- Expanding instrumentation applications from geophysics to more broadly geosciences
- Course now more welcoming to students in applied geoscience and related engineering disciplines, including environmental, civil, electrical, mining, petroleum, and mechanical engineering.*

- 3.4 **QUANTITATIVE BIOSCIENCES AND ENGINEERING** Carolyn Freedman
[CIM 2/1]
1 course change: BIOL500: CELL BIOLOGY AND BIOCHEMISTRY
Update to course information to include the lab section, increased credits to four (4).

Councilor noted the course should be offered in Fall, not Spring. Prerequisite listed BIOL500; requested change.

- 3.4.1 [CIM 2/1; Provost 2/1]
2 new courses: BIOL590: QUANTITATIVE BIOSCIENCES & ENGINEERING GRADUATE SEMINAR
The Quantitative Biosciences and Engineering (QBE) Graduate Seminar provides a forum for QBE graduate students to participate in seminars given by QBE professionals, develop an enhanced understanding of the breadth of quantitative bioscience disciplines, and present their research projects.
BIOL501: ADVANCED BIOCHEMISTRY
This graduate course will be taught in-person to be consistent with the other core QBE graduate courses and the cross-listed chemistry course (CHGN 428). With the growing interest in biological research and instruction on campus, along with the unique contributions Mines students and faculty can offer towards quantifying challenging biological phenomenon, we developed a series of new core courses in recent years to serve the QBE graduate courses. This course will follow BIOL500 in the graduate curriculum.
- 3.4.2 **1 program change:** MSPHD-BIO: MS & PHD – Quantitative Biosciences and Engineering

be recognized on the transcript, a department must ask for this to be done.

Comment made on placing interdisciplinary tracks on the transcript and how this could be done. Myskiw noted a UGC subcommittee is reviewing the terminology for tracks/emphasis/specialties/ASIs within the Undergraduate Catalog to provide continuity.

MOTION: To approve the program change to MSCR-HES: Humanitarian Engineering and Science by Rostami, seconded by Lucena. Motion passed unanimously.

Adjourn

Tina Voelker

Meeting adjourned: 5:02 pm.

Next meeting: March 2, 4:00-5:00 pm via Zoom.

Consent Agenda The following proposals will not be discussed unless specifically requested by Council. Please review the following items. With no objections, approval is implied and items will be processed accordingly.

4.1 **Approval of Minutes – February 2, 2022**

Tina Voelker

4.2 **GEOPHYSICS**

Carolyn Freedman

[CIM 2/1]

1 program change: XCRTG-CCUS: Carbon Capture, Utilization, and Storage

This revision was made to bring more clarity to the wording around the courses. No changes to the actual program.