

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

Attendees:

Voting Members: 23 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	Soutir Bandyopadhyay (AMS)	P	Jamal Rostami (MN)	P	Michael Heeley (EB)
P	Ebru Bozdag (GP)	P	Juan Lucena (EDS)	P	Jim Ranville (GC)	A	Luis Zerpa (PE)
P	Kester Clarke (MME)	A	Uwe Greife (PH)	P	Danica Roth (GE)	A	Bo Wu (CS)
P	Jay Straker (HASS)	P	Dave Marr (CBE)	A	Liam Witteman (GSG)	P	Lori Tunstall (CEE)
P	Christine Morrison (CH)	A	Salman Mohaghegi (EE)	P	Gabriel Walton (UCTE)		

Other Regular Attendees and Guests

P	Tim Barbari (OGS)	P	Carolyn Freedman (OGS)	A	Jane Ko (AA)	P	Mara Green (AA)
A	Wendy Adams (HNRS)	A	Denise Winn-Bower (PE)	A	Paul Myskiw (RO)	A	Roxane Aungst (OGS)
P	Sam Spiegel (Mines Online)	P	Angela Dunn (Mines Online)	P	D. Scott Heath (RO)		

Special Guest(s): Şebnem Düzgün (MN), Roelof Snieder (GP), Craig Brice (ME)

Welcome

Tina Voelker

Briefings and Information Items

Office of Graduate Studies

Tim Barbari

No updates from the Office of Graduate Studies.

Registrar’s Office

Paul Myskiw

No updates from the Registrar’s Office.

Graduate Student Government

Liam Witteman

No updates from Graduate Student Government.

Items for Council Vote

Committee Form Alignment

Tim Barbari

Comment was raised on the Catalog language allowing an external member to be the committee chair; language was updated to include:

“The 2nd or 3rd member, not the advisor or co-advisor, must serve in the role of committee chair. The committee chair must be Mines faculty and cannot be off-campus or adjunct/affiliate faculty.”

MOTION: To approve the Committee Form Alignment Catalog language by Heeley, seconded by Hildreth. Motion passed unanimously.

1.1

MINING ENGINEERING

Priscilla Nelson

[CIM 8/24, Provost 8/24]

6 new courses:

MNGN581A: FUNDAMENTALS OF TAILINGS ENGINEERING I: INTRODUCTION

MNGN581B: FUNDAMENTALS OF TAILINGS ENGINEERING I: TSF
PLANNING AND SITING
MNGN581C: FUNDAMENTALS OF TAILINGS ENGINEERING I:
TAILINGS GEOTECHNICS
MNGN582A: FUNDAMENTALS OF TAILINGS ENGINEERING II: TSF
WATER MANAGEMENT
MNGN582B: FUNDAMENTALS OF TAILINGS ENGINEERING II: TSF
OPERATIONS AND GOVERNANCE
MNGN582C: FUNDAMENTALS OF TAILINGS ENGINEERING II: TSF
CLOSURE AND RECLAMATION

Mines Online, Nelson, and Registrar meeting to discuss details of course. Council tabled vote on the six new MNGN courses.

New Business

Graduate Stipends

Kester Clarke

MME has a recommended stipend; note made that the NSF Graduate Research Fellowships program (GRFP) will increase starting Fall 2023.

Institutional minimum set by what is available budget-wise for TAs, primarily. Barbari had worked on plan with Budget prior to inflationary increase; had liked to increase minimum by 4.5-5% each year for three to four years. Interest in increasing from current \$27k minimum into the low thirties. Suggestion made to differentiate between TA and RA stipends. Three departments remain at minimum, remaining departments have continued to increase to remain competitive with peers.

Cost of attendance over nine months, not factoring tuition and fees, and adjusted for a year was around \$29,500. This cost is reported to the federal government for loans. Category of housing and meals have increased five percent from 2021. Some stipends are above cost of attendance, others remain at \$27k.

Analysis done around 2016, minimum stipend was below the cost of living in Golden. Plan at the time had been to increase stipend every year for three years to continue at a steady rate. One year had been missed with no increase for 2020; budget was affected due to pandemic and inflation. Institution would like to remain competitive and provide for cost of living. Suggestion that some departments may need to be pushed to raise the minimum, Councilor noted there may be issues internally regarding equity.

Discussion on discrepancies between national labs and Mines' labs; some national labs have been hiring MS students and paying significantly more. Suggestion made to loosening the maximum stipend, as well. Equity issue raised for postdocs being paid less than the maximum in some departments; note made that postdocs fall under HR. Discussion continued on graduate student unions, maximum salary caps, and Council's ability to weigh in on the graduate stipend issue.

Comment was made on unpaid students at Mines and how their needs are being addressed; tenure and productivity metrics for peers with unpaid MS students versus paid students differ. Councilor noted that metrics and loan data that is pulled may not consider students with secondary jobs; socioeconomic and disability effect cost of living and living wage calculators may not reflect all students at Mines.

A Council subcommittee had been formed to address issues of graduate stipends in the 2021-2022

academic year and raised the same points brought forward 10/5. Suggestion made to make a case to administration on raising the minimum. Discussion on meeting with HR, ORA, and Council to address Equal Work for Equal Pay alongside graduate stipends.

2.2 **MECHANICAL ENGINEERING**

Craig Brice

[CIM 10/1; Provost 10/3]

1 new course: AMFG591: ECONOMIC CONSIDERATIONS FOR ADDITIVE MANUFACTURING

The Additive Manufacturing program (AMFG) serves to position Mines as a world leader in preparing students for the rapidly growing additive manufacturing industry. Additive manufacturing is sparking a revolution in form and function of parts and products. The creation of the AMFG reflects its importance in advancing the Mines@150 initiatives. This course serves to give students industrially relevant practical knowledge and experience related to additive manufacturing. The content of this course will also be attractive to working professionals which will serve to expand continuing education available at Mines.

Advanced Manufacturing program was created two years ago. Requested to be created for former colleague at Lockheed Martin, has worked in the field for twenty-five years. Desire to create a course that went through the economic factors of both conventional fabrication and additive manufacturing; compare and contrast and assist students in better decision making for additive and knowing cost impacts of part fabrication.

Course is fully online, one credit. Pursuing a series of one credit courses. Ran over Summer 2022 with an enrollment of around eleven. Three, one credit courses ran over the eight-week term of the summer; students can take three credits worth by taking the three individual courses.

Course would not run until Summer 2023.

2.3 **ENGINEERING, DESIGN, AND SOCIETY**

Chelsea Salinas

[CIM 9/27; Provost 9/27]

1 new course: EDNS544: INNOVATE X

Transfer of EBG 544 to EDNS 544-prefix change. Responsible faculty and course lead has recently changed locus of appointment from EB to EDS. CLLOs and course delivery will not change.

Saleh changed locus of appointment from EB to EDS; course prefix is being changed to reflect this shift. Undergraduate and graduate-level cross-listings have been presented.

2.4 **GEOPHYSICS**

Roel Snieder

[CIM 9/29; Provost 9/29]

1 new course: SYGN505: WELLNESS PRACTICES FOR GRADUATE STUDENTS

Student wellness is a concern for Mines, this is the reason of the EveryOregdigger initiative that Mines has started. The report "Supporting Graduate Student Mental Health and Wellbeing" of the Council of Graduate Schools provides ample evidence of the need to assist graduate students in their mental health

(<https://cgsnet.org/graduate-student-mental-health-and-well-being/>). This class helps

graduate students develop practices that support their wellness, in particular their mental health. At this moment there is an undergraduate wellness class (PAGN201) that Roel Snieder taught several times in parallel with Emma Griffis. The proposed class extends that class to graduate students and it adapted to the challenges that graduate students face. Roel Snieder wrote the textbook “The Joy of Science, Seven Principles for Scientists Seeking Happiness, Harmony, and Success” with former Mines professor Jen Schneider.

The pilot has been taught for a second time. Wellness class is available for undergraduate students but the need was extended to graduate students. Course goes over wellness strategies on campus. Course is offered as a half credit for eight sessions to be offered in Spring 2023.

Continuing Business – from 9/7/22

3.1

MINING ENGINEERING

Şebnem Düzgün

[CIM 9/7; Provost 9/7]

2 new courses: MNGN502: GEOSPATIAL BIG DATA ANALYTICS

Expand offerings and diversify delivery: The course provides a solid background for geostatistical big data analytics, which is essential for resources engineering. Students will work with real world problems to implement geospatial big data analytics methods. Although there are various data analytics courses at Mines, geospatial data analytics and its big data aspects in resources engineering are not sufficiently covered in the existing courses. Hence this course will provide experiential learning and technical competency on geospatial big data analytics to not only MN students but all students across Mines. It is interdisciplinary and provides technical competency. Experiential learning and technical competency are the critical pillars of student signature experiences. The course will develop student signature experience at graduate level and fully aligned with Mines@150 mission

The course not only serves for MN graduate program but also the GIS and Geoinformatics interdisciplinary program and CEE’s The Environmental modeling graduate Certificate, which are all online programs.

MNGN566: INNOVATE X

Expand offerings and diversify delivery: Innov8x fills an entrepreneurship and innovation gap in our curricula in the area of problem definition: the investigation and framing of a wicked problem in the context of ambiguity, uncertainty, and complexity and hands-on, and the iterative process of solving problems creatively. The course provides professionally oriented pre- and post-graduate education options and is already attracting new students to Mines. Innov8x significantly expands students’ opportunities to connect with potential employers and alumni mentors. It has been piloted using face-to-face, remote, and hybrid modalities expanding our delivery capabilities. Moreover, Innov8x provides critical programming to bring to life our planned Labriola InnoHub and the Beck Venture Center and launch them as vibrant entrepreneurship and innovation anchors within the Mines community.

Be more innovative and entrepreneurial: Innov8x offers a distinctive student learning experience at Mines and abroad. The course has been singled out for recognition by the Dept. of Defense’s National Security Innovation Network across 55 universities and by the Dept. of Homeland Security (DHS) (<https://bit.ly/3oRv7he>). The course served as

*DHS's first nation-wide pilot for innovating homeland security. It continues to provide rich ongoing opportunities for alumni engagement and industry/government outreach with minimal use of available resources. The course will cover various sociotechnical problems from resources engineering as well as mineral supply chains
Provide detail about how the course will be delivered: Residential (less than 50% of course delivered online) or Online. If it is not offered online, explain why.
Innov8x is versatile. It is offered as a residential face-to-face course. It is also offered online for remote students who have participated successfully. Due to Covid-19 restrictions, some face-to-face students have participated using a hybrid modality.*

Discussion was linked between the new Innovate X course in Mining and the renumbering in EDS. Düzgün reported discussion with Registrar's Office and no issue with the cross-listing between MN and EDS; MN will be offering a different version of Innovate X. MN and EDS would meet together for the course. EBN version would be deactivated with the new locus in EDS.

- **Question** on how the courses are different; Düzgün explained that the innovation principles of the course are the same, students will diverge after a few weeks for a different set of problem definitions. Resource industry problems are provided to MN students.
- **Question** if students can take the course more than once in different departments; Düzgün reported that this issue had occurred last semester. Each course begins with a new offering of problem sets with different domain information. Instructors are careful about students taking the course multiple times, Düzgün noted the workload of the course may be overwhelming. Undergraduate students may retake at a graduate-level. Some students had launched company ideas following course work with industry professional sponsorship.

Councilor suggested that cross-listing may not be the correct way of framing if the majority of the course is not the same; courses may be separate but share the first few weeks. Düzgün reported students are meeting in the same time, place, in large groups.

3.2 **ECONOMICS AND BUSINESS** [CIM 9/15]

Michael Heeley

2 course changes: EBN578: BUSINESS OPERATIONS AND SUPPLY CHAIN
MANAGEMENT

We have changed the supply chain course (EBN559) to just focusing on supply analytics and wanted to include the management side of supply chain in the business operations class.

EBN566: TECHNOLOGY ENTREPRENEURSHIP

Updating the course description in the course catalog to more accurately reflect what is currently being taught.

Adjourn

Tina Voelker

Meeting adjourned: 4:59 pm.

Next meeting: October 19, 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 – September 21, 2022

Tina Voelker