

Colorado School of Mines – GRADUATE COUNCIL MEETING MINUTES
December 1, 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)
A	Ebru Bozdag (GP)	P	Juan Lucena (EDS)	A	Jim Ranville (GC)	P	Luis Zerpa (PE)
A	Geoff Brennecka (ML)	P	Jeramy Zimmerman (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)	P	Salman Mohagheghi (EE)				

Other Regular Attendees and Guests

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

Special Guest(s): Angel Abbud-Madrid (ME)

Welcome

Tina Voelker

Briefings and Information Items

Office of Graduate Studies

Tim Barbari

Barbari reported on discussions in graduate admission recruitment events on whether or not non-thesis master's programs will require the GRE. Mines and other institutions had waived the GRE due to COVID and students being unable to access testing centers. Programs have the autonomy to decide what materials is necessary for admissions decisions, and this will remain. Some programs have noted no longer requiring the GRE. It is noted that there is an option to have the GRE be optional and not explicitly required.

Comment made on bias for optional GREs and students' submission of GREs leading to preference over those who have not; Barbari encouraged programs to speak with the undergraduate admissions office to work on those biases and improve and conduct a fair process. Anecdote provided for students that fell in lower quartiles in specific subjects struggling in graduate-level coursework; it was noted that GRE options will remain up to the discretion of the programs. Voelker encouraged Councilors to bring this discussion to departments and programs.

Comment made on some programs providing a holistic perspective while providing the GRE as an optional submission; the program would view the student transcript, coursework, any attached letters, and submitted test scores.

Registrar's Office

Paul Myskiw

Myskiw briefed Councilors on a discussion regarding graduate students taking undergraduate-level courses; these courses remain in the Catalog as undergraduate but are manually changed to appear on the graduate transcript. One suggestion made was cross-listing 400-level courses with 500-level courses; Councilors noted there may be an issue of additional workload for faculty to create graduate-level content in a cross-listed course. Graduate students that take non-cross-listed 400-level courses can count upwards of six credits. Additional suggestion made to have these non-cross-listed undergraduate

courses not have the same impact on the graduate GPA; these courses are currently changed in order to appear on the graduate transcript.

Graduate Student Government

Maxwell Silver

No updates from Graduate Student Government.

Graduate Council Operations

Graduate Council will meet 12/15; Voelker proposed Council does not meet on 1/5/22 as there may be lack of attendance due to travel and holiday.

Graduate Council Membership

Discussion continued on graduate council membership and inclusion of interdisciplinary programs; suggestion was made for smaller programs to have a represented position as a non-voting member. Suggestion raised on offering council membership to interdisciplinary programs that offer thesis and non-thesis degrees.

It was noted that many policies surround thesis and PhD degrees versus graduate certificates.

Councilor noted that restricting membership based on the growing size of Council would not be a good excuse for excluding representation. It was also noted that Council's ability to reach quorum is an additional factor to consider should Council's size increase.

Suggestion was made to provide programs with optional representation; programs would not be forced to attend Council. Topics of interest could be highlighted in the Council agenda and representatives can attend at their own discretion. With this suggestion, quorum could be defined as a percentage of the number of opted in representatives.

Councilors were encouraged to send thoughts and ideas to Voelker.

New Curriculum Items

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| 1.1 | CHEMICAL & BIOLOGICAL ENGINEERING
[CIM 11/19] | David Marr |
| 1 program change: MSPHD-CBE: MS & PhD – Chemical and Biological Engineering
<i>In the current catalog, both Ph.D. and master students are required to register every semester for CBEN605 Colloquium; however, it is not currently specified how many colloquium credits can be counted towards each degree. Here, we are applying a three-credit maximum for counting towards the degree requirements.</i> | | |

Graduate students are required to attend seminar each semester; the number of credits that can be applied to the degree has been restricted to a maximum of three credits. This had been standard practice but had not been reflected in the Catalog.

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| 1.2 | GEOLOGY & GEOLOGICAL ENGINEERING
[CIM 11/18] | Danica Roth |
| 1 program change: MPMEMSPHD-GE: MP, ME, MS & PhD – Geology & Geological Engineering
<i>Updating GE Ph.D. catalog language - the current language is unnecessarily vague about</i> | | |

the number of course credits required as part of the program. Changed: "At least 24 of the hours must be research credit hours" to "At least 24 of the hours must be research credit hours, and at least 24 of the hours must be earned through completion of coursework".

Clarifying language had been added for the number of course credits required within the program.

1.3

HUMANITIES, ARTS, AND SOCIAL SCIENCES

Elizabeth Davis

[CIM 11/29; Provost 11/29]

2 new courses: HASS526: INTERCULTURAL COMMUNICATION

By providing a forum for students to study current and emerging intercultural communication issues, this course will make Mines more attractive to qualified students from all backgrounds (including groups that are currently underrepresented in the Mines student body), particularly students interested in researching how intercultural communication is contoured by issues of globalization, history, and power.

This course has been well received among undergraduates and would add value to the graduate offerings since no other single course covers the same content. It was cross listed as HASS 425 and 598 in Fall 2021.

HASS527: RISK COMMUNICATION

By providing a forum for students to study current and emerging risk communication issues, this course will make Mines more attractive to qualified students from all backgrounds (including groups that are currently underrepresented in the Mines student body), particularly students interested in researching how fairly a given risk is distributed systemically.

This course was initially piloted as an undergraduate course in the McBride Honors Program in Spring 2018, then taught as a regular HASS course (427), most recently in Spring 2021. The course is scheduled for Spring 2022, cross listed as HASS 427 and 598.

Both courses, HASS526 and HASS527, had been taught for several years at an undergraduate level and had been taught as 598 courses at the graduate level. These courses are being assigned permanent numbers.

The courses will not only apply to HASS, but will be listed by EDS as well.

The class work is similar in 400- to 500-level courses, but the requirements for writing and presentations include higher expectations for the graduate students.

1.3.1

1 program change: MS-NREP: Natural Resources & Energy Policy
Addition of thesis option to the existing MS program.

The thesis option will be added to the existing non-thesis master program; the program is expected to be small. Masters students will find a professor to work with them on their thesis prior to acceptance into the thesis program; students looking to apply directly to the thesis master's program would be current Mines students that have completed their undergraduate degree—students would then have access to professors to assist in the thesis process. Most students would begin in the non-thesis program and switch into the thesis program.

Anecdote provided by Councilor in that AMS requires one letter upon application to identify the advisor of the thesis.

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| 1.4 | CIVIL & ENVIRONMENTAL ENGINEERING
[CIM 11/30]
1 program change: XCR-ENVMOD: Graduate Certificate in Environmental Modeling
<i>Update to required courses from three to two courses (removal of CEEN566). Electives list added.</i> | Lori Tunstall |
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CEEN566 had been in the process of development for online format, but was not provided in time for Spring. Students are enrolled in the certificate, and the course has been removed from the required course list. An elective list was added to offset the removal of the required course; students can select from a list of four elective courses.

Councilor noted that if this course has not been developed for remote for Spring, a course substitution could be done for the Spring to avoid changes to the listed Catalog entry; Tunstall noted this course may not be developed for remote at all.

The certificate is fully online and CEEN566 remaining as a residential course on the required course list would cause concern. The status of CEEN566 will be monitored.

An expedited voting process was suggested for the program change requested. Program change will be up for Council vote on 12/15.

Adjourn

Tina Voelker

Meeting adjourned: 5:00 pm.

Next meeting: December 15, 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.

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| 2.1 | Approval of Minutes – November 17, 2021 | Tina Voelker |
| 2.2 | MECHANICAL ENGINEERING
[CIM 11/24]
4 course changes:
MEGN502: ADVANCED ENGINEERING ANALYSIS
MEGN514: CONTINUUM MECHANICS
MEGN551: ADVANCED FLUID MECHANICS
MEGN571: ADVANCED HEAT TRANSFER | Owen Hildreth |
| | <i>The Mechanical Engineering Department is adding an online modality to the Master Non-Thesis (MSNT) program. This course is one of the key online courses necessary enable this online modality</i> | |
| 2.3 | MINING ENGINEERING
[CIM 11/29]
1 course change: | Jamal Rostami |
| | MNGN527: SOLID WASTE MINIMIZATION AND RECYCLING | |

This course is offered as MTGN 527 and with the change of location of the faculty responsible for this course to MN dept, we would like to co-list the course to promote graduate students taking the course in MN dept. In preparation of new degree in mineral processing and extractive metallurgy.

2.3.1	10 new courses: MNGN531: THERMODYNAMICS OF METALLURGICAL AND MATERIALS PROCESSING <i>Cross listing with MTGN531.</i> MNGN532: PARTICULATE MATERIAL PROCESSING I – COMMINUTION AND PHYSICAL SEPARATIONS <i>Cross listing with MTGN532.</i> MNGN533: PARTICULATE MATERIAL PROCESSING II – APPLIED SEPARATIONS <i>Cross listing with MTGN533.</i> MNGN534: ADVANCED IRON AND STEELMAKING <i>Cross listing with MTGN530.</i> MNGN535: PRYROMETALLURGICAL PROCESSES <i>Cross listing with MTGN535.</i> MNGN537: EXTRACTIVE METALLURGY OF COPPER, GOLD AND SILVER <i>Cross listing with MTGN528.</i> MNGN541: ELECTROMETALLURGY <i>Cross listing with MTGN537.</i> MNGN542: HYDROMETALLURGY <i>Cross listing with MTGN538.</i> MNGN543: PRINCIPLES OF MATERIALS PROCESSING REACTOR DESIGN <i>Cross listing with MTGN539.</i> MNGN631: TRANSPORT PHENOMENA IN METALLURGICAL AND MATERIALS SYSTEMS <i>Cross listing with MTGN631.</i>	
2.4	HUMANITIES, ARTS, AND SOCIAL SCIENCES [CIM 11/29] 1 course deactivation: HASS592: ENERGY AND SECURITY POLICY <i>There is no instructor for the course.</i>	Elizabeth Davis
2.5	NUCLEAR ENGINEERING [CIM 11/30] 1 program change: MEMSPHD-NU: ME, MS & PhD – Nuclear Engineering <i>Change PhD core elective requirements to four from three. Insert PHGN422 Nuclear Physics as additional Core Elective.</i>	Andrew Osborne

Continuing Curriculum Items – From 11/17/21

3.1	MECHANICAL ENGINEERING [CIM 11/10; Provost 11/11] 1 new course: SPRS507: ADVANCED PLANETARY GEOLOGY	Angel Abbud-Madrid
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The Space Resources fully-online graduate program is the first one in the world educating scientists, engineers, economists, entrepreneurs, and policy makers in the field of space resources. This one-of-a-kind, innovative, multidisciplinary program aims to take the 150-year-old, world-renown expertise at Mines in resource exploration, extraction, production, and utilization to its next frontier by identifying, extracting, and utilizing resources beyond Earth.

This online course provides a detailed look at planetary bodies, from atmosphere to surface to interior with a focus on the geological processes that have formed then transformed these bodies over time, with special attention paid to the formation of space resources.

THE COURSE WAS SUCCESSFULLY RUN AS A SPECIAL TOPICS COURSE IN SPRING 2021 and FALL 2021.

3.2

CIVIL & ENVIRONMENTAL ENGINEERING

[CIM 10/26; Provost 10/26-27]

Joe Crocker

2 new courses: CEEN547: DESIGN OF PRESTRESSED CONCRETE STRUCTURES

The addition of this graduate course will provide our students the opportunity for exposure to increasingly important design concepts that have the potential to significantly reduce the amount of concrete required for construction versus the traditional reinforced concrete design methods and in doing so reduce the impact new construction has on the environment. Such a course is required to maintain our ability to produce structural engineering graduates with knowledge of the most current design technologies.

[CIM 10/26; Provost 10/27]

Chris Higgins

CEEN597: PRACTICES AND PRINCIPLES OF ENVIRONMENTAL CONSULTING

The course introduces students to the business concepts, tools and terminology used in the environmental consulting industry. Depending on Mines requirements, this course may be delivered as a person-to-person (preferred), hybrid, or remote class.

A large share of Mines undergraduate and graduate students find employment, either temporarily or permanently in the environmental/engineering consulting arena. Many are not fully prepared for this line of work, as they've not been exposed to the project-driven, business-oriented implementation aspects of this workplace. This course allows students to explore this field of employment before committing to it and prepares them for success if this is their chosen career.

Class is taught by two highly-regarded industry experts with 50 years of environmental consulting experience between them. Additionally, guest lectures are a key part of the course, with a diverse group of experienced people bringing their perspectives on the environmental consulting industry from municipal, state and federal government, small business ownership, and private sector clients.