

Colorado School of Mines – GRADUATE COUNCIL MEETING MINUTES
February 15, 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)	A	Michael Heeley (EB)
P	Jeffrey Shragge (GP)	P	Juan Lucena (EDS)	P	Jim Ranville (GC)	P	Luis Zerpa (PE)
A	Kester Clarke (MME)	P	Uwe Greife (PH)	P	Danica Roth (GE)	P	Dong Chen (CS)
A	Jay Straker (HASS)	P	Dave Marr (CBE)	P	Liam Witterman (GSG)	P	Lori Tunstall (CEE)
P	Christine Morrison (CH)	A	Atef Elsherbeni (EE)	P	Gabriel Walton (UCTE)		

Other Regular Attendees and Guests

P	Tim Barbari (OGS)	P	Carolyn Freedman (OGS)	A	Jenny Briggs (OGS)	A	Mara Green (AA)
A	Wendy Adams (HNRS)	A	D. Scott Heath (RO)	P	Paul Myskiw (RO)	A	Roxane Aungst (OGS)
P	Sam Spiegel (Mines Online)	A	Suzanne Beach (Payne)	P	Jen Gagne (Grad Admissions)	P	Kendra Stansbury (RO)

Special Guest(s): Mary Doherty (GE), Kelsie Diaz (CS/EE), Wendy Zhou (GE)

Welcome

Tina Voelker

Briefings and Information Items

Office of Graduate Studies

Tim Barbari

Barbari reminded Councilors of the April 15th Resolution from the Council of Graduate Schools; period where offers of financial aid are being sent to thesis students for Fall 2023. Students have until 4/15 to accept a financial aid offer. Students cannot be pressured into accepting offers earlier than 4/15. A reminder would be sent in the Graduate Admissions newsletter. Barbari noted the importance of the reminder for new faculty.

- **Question** if the preferred language is codified and if that language can be circulated; Barbari could provide the language to Council, the language had been shared on an individual basis.

Suggestion made to provide the wording of the April 15th Resolution. Barbari noted the template admissions offer has language dedicated to the Resolution with a link to more information.

Registrar’s Office

Paul Myskiw

Myskiw reported a new degree audit analyst position had been hired to the Registrar’s Office. The position would allow to scribe degree requirements of graduate programs; the first focus would be master’s non-thesis and certificate programs. Outreach expected from the Registrar’s Office on codification of non-course requirements for degrees. The data would be input into Cognos.

Barbari reported the desire to add non-course degree requirements like qualifying exams and proposal defense to Degree Works may allow for replacement of the degree audit process; change may allow departments running systems to track these non-course requirements to view the information in Banner.

An email had been sent to faculty that are advisors on campus with advisees. Registrar’s Office has worked the last six to seven months cleaning up advisee lists due to complaints of inaccuracy. Students that have graduated or are no longer attending have been removed from the list; advisors had been

asked to verify that the list is accurate. Next steps include a front-end service to allow advisors to do self-maintenance of advisee lists once assigned.

Graduate Student Government

Liam Witteman

GSG held a townhall with a DI&A focus; GSG gathered feedback from graduate students in an open session.

GSG preparing for the Graduate Research Symposium coming up April 5-6, 2023; advertisements had been established on the student side but Witteman asked Councilors to disseminate information to faculty and departments ([click here for more information](#)). Deadlines for submission of presentation to GRADS 2/28.

Items for Council Vote – from 1/18/23

1.1

MINING ENGINEERING

Jamal Rostami

[CIM 1/17]

1 program change: MSPHD-ERSE: MS and PhD Program in Earth Resources Science and Engineering

Dept of Mining engineering offers MS and PhD degrees under Earth Resource Development Engineering (ERDE). This program allows faculty in our dept to recruit and advise students from various engineering backgrounds to work on mining and minerals related topics. There has been much demand and inquiry to allow students with science background to join the program and work on these topics. ERDE by nature is multi-disciplinary and we are opening it to the possibility of having students with Science background to join the program. With this change, we are also proposing to change the name of the program to "Earth Resources Science and Engineering (ERSE)".

In brief this program change involves:

- Change the requirements for ERDE admission so that students from non-engineering backgrounds can also be admitted without having to fulfill the requirements for an engineering undergraduate degree*
- Change the name of ERDE – Earth Resource Development Engineering to ERSE Earth Resources Science and Engineering*

MOTION: To approve the program change to MSPHD-ERSE: MS and PhD Program in Earth Resources Science and Engineering by Shragge, seconded by Rostami. Motion passed unanimously.

1.2

MECHANICAL ENGINEERING

Owen Hildreth

[CIM 12/13]

1 program change: MSPHD-MECH: MS & PhD – Mechanical Engineering
Updating list of approved Research Core Courses to ensure that enough courses are taught so that students can graduate on time.

Hildreth provided context for the change. Graduate students are required to take three courses from a handful of courses in a different division; problem had been identified that not enough of the courses were offered in a timely manner for students to graduate on time. As a temporary fix while reevaluating if this is the path for the degree, the course listing has been expanded for each category with courses always taught once or twice a year.

MOTION: To approve the program change to MSPHD-MECH: MS & PhD – Mechanical Engineering by Rostami, seconded by Morrison. Motion passed unanimously.

1.3

GEOPHYSICS

Jeffrey Shragge

[CIM 1/10]

1 program change: MPMSPHD-GP: MP, MS & PhD – Geophysics & Geophysical Engineering

The structure of the GP graduate degrees is currently over-prescriptive in the courses required to satisfy the three presently listed coursework focus areas of theory, applied and computation. This structure also appears to downplay the importance of the "Earth and Space" focus area by not required such coursework in the GP graduate degree programs. We are seeking a programmatic change that affords GP graduate students (and their committees) a greater flexibility in choosing the courses to fulfill their GP graduate degree program and is better tailored to our student's specific research and career goals. We are also looking to rebalance the degree emphasis by requiring coursework in the "Earth and Space" focus area in addition to the three others identified above. These modifications are consistent with the recent broadening the scope of the departmental research and teaching activities over the past few years. In addition, through this programmatic change the GP Department will be expanding the offerings and diversifying the delivery of GP graduate program available to students, which is consistent with the stated Mines@150 goals.

The program has three themes in theory, application, and computing. A single course was required to satisfy those requirements but the department found it was too prescriptive. The program changed proposed would expand a broader range of courses under the three themes along with an added "Earth and Space" theme.

Owners of the courses listed in CIM were contacted.

MOTION: To approve the program change to MPMSPHD-GP: MP, MS & PhD – Geophysics & Geophysical Engineering by Morrison, seconded by Hildreth. Motion passed unanimously.

New Business

Incorporating Internships into Degree Programs

Tim Barbari

Barbari reported Mines was out of compliance with Curricular Practical Training (CPT). A zero-credit placeholder course was given to students looking to do internships in the summer and academic year but not part of the curriculum.

CPT refers to three ways to make it part of the curriculum: the internship is required for the degree, the internship is part of a credit bearing course, or an internship that is related to research.

Barbari provided two options for faculty consideration and feedback: an institutionally created internship track that would apply to the degree of the student or a credit-bearing internship course for non-thesis master's degrees which would be three credits; both options allow students to be paid. Barbari noted a course would require more approval at the program level, the course may be listed under a generic prefix. Barbari reported a credit-bearing internship may require more work; each faculty member listed as instructor of record would make learning outcomes and goals alongside assessments

and other deliverables of the course. Either option would be open to domestic and international students. CPT would not appear in Catalog language but would link to the International Student and Scholars Services (ISSS) office.

Barbari had floated the options at a meeting with department heads present; non-thesis master's degree with internship option had been discussed as a less onerous route.

The non-thesis master's degree with internship would not be a degree that appears on the application form; the option could be opted into by students.

- **Question** if the degree option would apply to existing degree programs; Barbari reported the degree option with internship would then be applied to all non-thesis master's currently offered.

Myskiw reported the international rule for students being eligible to work in the United States requires work to be related to the academic program they are in; the options presented by Barbari would not only be limited to international students, however. The degree option with internship would double the number of non-thesis master's degrees tracked in the system.

- **Question** on why the credit-bearing course is three credits; Barbari chose the three-credit figure as a common model. The hours of a full-time internship would match with a three-credit course.
- **Question** if international students cannot work during the summer unless participating in an internship; Barbari confirmed an international students' student visa requires work be completed through the university. Work done during the summer can reduce the hours of Optional Practical Training (OPT). The OPT done during a program counts against the total hours; CPT does not do so.
- **Question** if this has been distributed to stakeholders for credit pricing with the three-credit course internship model; Barbari reported this has been discussed among senior leadership and would be proposed to the Board.
- **Question** if this has been asserted as cost-neutral for research groups; Barbari noted if the credit-bearing course is chosen, information would be marshalled to see how research programs are affected what it would look like for tuition recovery on grants.

Councilor noted faculty and staff feel disregarded by university administration; faculty would be interested in seeing tuition models. Barbari reported administration would like a decision to allow time between February and September to make needed adjustments for grant budgets and current budgets.

The credit-bearing course option could be submitted now, without Catalog language, and be used as an elective.

- **Question** if departments can choose an option, rather than implementing only one option; Barbari confirmed this could be an option.

Councilor noted the non-thesis master's with internship option would be less disruptive. Barbari clarified the non-thesis master's with internship would not substitute any course credits.

Mandatory Dismissal below 2.0 GPA

Tim Barbari

Barbari provided background on probation and dismissal; students on probation for two semesters in a

Master of Science and Doctor of Philosophy

- *Geochemistry Degree Track*
MS Course List
Reordered list for ease of reference
Removed GEOL 535 Litho Ore Forming Processes, as the course is no longer being offered.
PhD Course List
Reordered list for ease of reference
Removed GEOL 535 Litho Ore Forming Processes, as the course is no longer being offered.
- *Environmental Biogeochemistry Degree Track*
Reordered course list for ease of reference
Under 4. One Earth Science-Focused class,
Added GEGX 571 Geochemical Exploration
- *Graduate Certificate of Analytical Geochemistry*
In the Electives list:
Reordered the list of ease of reference
Added CEEN 562 Environmental Geomicrobiology
- *Professional Masters in Environmental Geochemistry*
Removed a sentence about requiring 1 lab course—this is a vestigial sentence mistakenly missed during a prior year’s edit.
In the Electives list:
Added CEEN 562 Environmental Geomicrobiology
Removed GEOL 535 Litho Ore Forming Processes, as the course is no longer being offered.
Added GEGX 571 Geochemical Exploration

3.3

ENGINEERING, DESIGN, AND SOCIETY

Carolyn Freedman

[CIM 2/14]

2 course changes: EDNS515: INTRODUCTION TO SCIENCE AND TECHNOLOGY STUDIES

Changing course name to Introduction to Science and Technology Studies (from Introduction to Engineering in Society) and updating Catalog description listing. No other changes to course learning objectives or content.

EDNS590: RISKS IN HUMANITARIAN ENGINEERING AND SCIENCE

Updating the course Catalog description. No other changes to course content or learning objectives.

3.3.1

[CIM 2/13; Provost 2/14]

1 new course: EDNS579: COMMUNITY-BASED RESEARCH METHODS

The new course supports alignment with Higher Learning Commission guidance that required courses for graduate level programs formally both require graduate-level work of students and offer graduate level credit to students.

This course is to be cross listed with existing course EDNS479, incorporating additional assignments appropriate to students seeking graduate-level credit. It is planned to be delivered as a Residential course.

This course supports the Humanitarian Engineering and Science Program’s efforts to advance the MINES@150 vision, specifically by:

- *Expanding offerings for post-graduate education by assuring that a greater diversity of students to enroll in the HES master's degree and take our courses for appropriate credit*
- *Growing the scale and impact of our research by facilitating potentially new interdisciplinary partnerships among HES faculty and students.*
- *Strengthen affinity for Mines among our students by supporting an intellectual space for students to find a home and core group of peers and faculty.*

3.3

METALLURGICAL & MATERIALS ENGINEERING

Nancy Progar

[CIM 2/9]

24 course deactivations: MTGN505: CRYSTALLOGRAPHY AND DIFFRACTION
 MTGN516: MICROSTRUCTURE OF CERAMIC SYSTEMS
 MTGN517: REFRACTORIES
 MTGN518: PHASE EQUILIBRIA IN CERAMIC SYSTEMS
 MTGN534: CASE STUDIES IN PROCESS DEVELOPMENT
 MTGN541: INTRODUCTORY PHYSICS OF METALS
 MTGN542: ALLOYING THEORY, STRUCTURE, AND PHASE STABILITY
 MTGN543: THEORY OF DISLOCATIONS
 MTGN544: FORGING AND DEFORMATION MODELING
 MTGN546: CREEP AND HIGH TEMPERATURE MATERIALS
 MTGN547: PHASE EQUILIBRIA IN MATERIALS SYSTEMS
 MTGN551: ADVANCED CORROSION ENGINEERING
 MTGN552: INORGANIC MATRIC COMPOSITES
 MTGN554: OXIDATION OF METALS
 MTGN561: PHYSICAL METALLURGY OF ALLOYS FOR AEROSPACE
 MTGN571: METALLURGICAL AND MATERIALS ENGINEERING LABORATORY
 MTGN581: WELDING HEAT SOURCES AND INTERACTIVE CONTROLS
 MTGN582: MECHANICAL PROPERTIES OF WELDED JOINTS
 MTGN583: PRINCIPLES OF NON-DESTRUCTIVE TESTING AND EVALUATION
 MTGN584: NON-FUSION JOINING PROCESSES
 MTGN587: PHYSICAL PHENOMENA OF WELDING AND JOINING PROCESSES
 MTGN591: PHYSICAL PHENOMENA OF COATING PROCESSES
 MTGN671: ADVANCED MATERIALS LABORATORY
 MTGN672: ADVANCED MATERIALS LABORATORY

These classes have not been offered recently and are not planned to be offered. We'd be better off creating new courses with the new faculty in the department as many of our courses were quite faculty-specific.

3.4

MATERIALS SCIENCE

Carolyn Freedman

[CIM 2/13]

1 program change: MSPHD-MATSCI: MS & PhD – Materials Science
This update is to clarify that electives need not be limited to MLGN prefix courses. This is not a change in practice.

3.5

QUANTITATIVE BIOSCIENCES AND ENGINEERING

Carolyn Freedman

[CIM 2/14]

1 program change: MSPHD-BIO: MS & PHD – Quantitative Biosciences and Engineering

This update is to add existing courses to the QBE Elective course list.