# Colorado School of Mines – GRADUATE COUNCIL MEETING MINUTES
## October 2, 2024, 4:00 – 5:00 pm, via Zoom

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**Attendees:**
**Voting Members**: 22 total (14 - majority needed for quorum). Quorum was present.

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|---|---|---|---|---|---|---|---|
| P | John Spear (Chair) | P | Danielle Ostendorf (LB) | | Andy Osborne (NSE) | | Kip Findley (MME) |
| | Ian Lange (EB) | | Bettina Voelker (CH) | | Jaeheon Lee (MN) | P | Uwe Greife (PH) |
| P | Jeff Shragge (GP) | P | Ebru Bozdag (EDS) | P | Adrienne Marshall (HSE) | P | Pejman Tahmasebi (PE) |
| P | Mehmet Belviranli (CS) | P | Adrianne C. Kroepsch (HASS) | P | Ryan Venturelli (GE) | P | Jim Ranville (GC) |
| P | Lori Tunstall (CEE) | P | Nikki Farnsworth (CBE) | P | Kathleen Tomon (GSG) | | |
| P | Rajavasanth Rajasegar | | Yamuna Phal (EE) | | Samy Wu Fung (AMS) | | |

**Other Regular Attendees and Guests**

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|---|---|---|---|---|---|---|---|
| P | Carl Frick (OGS) | | Carolyn Freedman (OGS) | P | Jenny Briggs (OGS) | | Roxane Aungst (OGS) |
| | Wendy Adams (HNRS) | P | D. Scott Heath (RO) | P | Paul Myskiw (RO) | P | Colin Schneider (RO) |
| | Sam Spiegel (Mines Online) | | Suzanne Beach (Payne) | P | Kristeen Serracino (AA) | | Richard Krahenbuhl (GP) |
| P | Jon Johnson (Mines Online) | P | Peter Concepcion (Grad Admissions) | | Luke Contreras (Grad Admissions) | | Kelsie Diaz (CS) |
| P | Cadi Gillette (IGP) | | Rachel McDonald (IGP) | | | | |

**Special Guest(s):** Alison Bodor, Polina Ringler, Paulo Cesar Tebares Velasco

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**Welcome**                                                                                                    John Spear

**Briefings and Information Items**

   *Office of Graduate Studies*                                                   Carl Frick

No discussion at this time.


   *Registrar's Office*                                                              Paul Myskiw

The migration of the student information system to the Cloud is scheduled for the end of October. There will be no apparent changes for faculty. Additional communication will go out to students as GEODE is retiring but is not Cloud-compatible. Spring and Summer rooming assignments are in the works. Please encourage departments to review schedule and reach out if there are any discrepancies as the scheduling coordinator is currently out on maternity leave.

- Question: J. Spear asked who is Mines using for the vendor? Can grad students adjust accordingly with GEODE retired?
- Answer: P. Myskiw answered that the vendor is Ellucian who Mines has used for a significant amount of time. Mines is currently experiencing bandwidth issues so migrating to the Cloud (through Amazon Web) will help with this issue.
- Question: K. Tomon asked what resources will be given to students for schedule planning?
- Answer: P. Myskiw answered that the Registrar's Office will be releasing the schedule one week earlier. Communication will be sent out to students next week and resources will be provided on the website.


   *Graduate Student Government*                                        Kathleen Tomon

GRADS is scheduled for April 1-2 in the Student Center Ballrooms. K. Tomon encouraged faculty to judge poster and oral sessions. GSG is open to suggestions for a keynote speaker.

**New Business**

| 2.1 | **UCTE** | Lori Tunstall |
|---|---|---|

[CIM 9/18]

**2 program changes:**  MSPHD-UEEG: MS & PHD IN UNDERGROUND CONSTRUCTION AND TUNNELING ENGINEERING

*Replace MNGN509 with CEEN532 in the required course list.*

XCRTG-UCTE: GRADUATE CERTIFICATE IN UNDERGROUND CONSTRUCTION AND TUNNEL ENGINEERING

*Replace MNGN509 with CEEN532 in the required course list.*

Table for next meeting to gather more information.

| 2.2 | **CEE** | Lori Tunstall |
|---|---|---|

[CIM 9/20; Provost 9/20]

**1 new course:**  CEEN585L: INTRODUCTION TO COMPUTATIONAL METHODS IN HYDROLOGY

*All undergraduates now take a computer course to advance the Mines@150 goals. In a similar way, this class introduces new graduate students in the HSE program to concepts of computational hydrology, using Matlab and Python platforms, and parallel environments MPI and OpenMP. All projects enhance the students' ability to code basic problems germane to hydrology.*

*Over the last two years, several graduate students outside of HSE (including GP, CEEN and GEGN) have taken the class for computer skills. I anticipate that this will continue and grow as the course becomes more well-known.*

| 2.3 | **GE** | Ryan Venturelli |
|---|---|---|

[CIM 9/20; Provost 9/20]

**1 new course:**  GEGN585L: INTRODUCTION TO COMPUTATION METHODS IN HYDROLOGY

*All undergraduates now take a computer course to advance the Mines@150 goals. In a similar way, this class introduces new graduate students in the HSE program to concepts of computational hydrology, using Matlab and Python platforms, and parallel environments MPI and OpenMP. All projects enhance the students' ability to code basic problems germane to hydrology.*

*Over the last two years, several graduate students outside of HSE (including GP, CEEN and GEGN) have taken the class for computer skills. I anticipate that this will continue and grow as the course becomes more well-known.*

Question: Is this a cross-listed courses?
Answer: Yes.

Tabled until the next meeting to gather additional information.

**2.4**  **ME**  Rajavasanth Rajasegar
[CIM 9/24]
**1 program change:**  MSPHD-ME: MS & PHD IN MECHANICAL
ENGINEERING

*Modernizing MSNT, MST, and Ph.D. programs to better meet the needs of the students,
Department, and University.*
*1) Reduced Ph.D. required Course Credit Hours from 36 credit hours down to 30 credit
hours to provide more time for students to graduate with a Ph.D. on time.*
*2) Replaced separate Research Cores with broader Mechanical Engineering Core to
broaden student coursework and reduce the number of required courses that need to be
taught both in person and online. 3) Streamlined the catalog description by eliminating
unnecessary text from the catalog (text that is already located elsewhere in the catalog
or is outside the scope of the catalog).*

**MOTION:** Motion to approve program changes was moved A. Kroepsch, seconded by J. Shragge. The
motion to approve the program change was approved with 13 approved, 0 opposed, 0 abstentions.

**2.5**  **AMS**  Ebru Bozdag
[CIM 9/24; Provost 9/24]
**1 new course:**  MATH533: TIME SERIES ANALYSIS AND
ITS APPLICATIONS

*The goals of this course are to develop an appreciation for the richness and versatility of
modern time series analysis as a tool for analyzing data and still maintain a commitment
to theoretical integrity. The advent of inexpensive powerful computing has provided both
real data and new software that can take one considerably beyond the fitting of simple
time domain models. This course is designed to be useful for students facing the analysis
of time-correlated data in the physical, biological, and social sciences. It is intended for
upper-level undergraduate students and beginning graduate students. This course will
be taught interactively with some hands-on data manipulation using R. Industry
expectations dictate a certain amount of expertise in data manipulation and analysis.
The goal of this course is to better prepare the students for statistical computing in
future course work and their careers once they graduate from Mines.*

**MOTION**: The motion to approve this course was moved by A. Kroepsch and seconded by J. Shragge.
The motion to approve the new course was approved with 14 approved, 0 opposed, and 0 abstentions.

**2.6**  **ENERGY**  Cadi Gillette
[CIM 9/24; Provost 9/24]
**1 new course:**  ENGY550: FUNDAMENTALS OF SOLAR
ENERGY ENGINEERING

*Solar energy is an important and growing component of our energy system. Solar Energy
can not only reduce greenhouse gas emissions and global warming, but distributed
generation can also save homeowners, businesses, and industry considerable amounts of
money through utility cost savings. As opportunities for solar energy grow and
consequences of fossil fuel use mount, we must evolve from goals based on solar electric
capacity (MW) and production (MWh), to consideration of exactly where and when
those MW of solar power are delivered and the resulting effect on the overall energy
system. And in order to save the planet, we must also expand our scope into thermal*

*energy to displace fuels and solar energy to meet transportation requirements.*

**MOTION:** Motion to approve new course A. Kroepsch, seconded by M. Belviranli. The motion to approve new course was approved with 12 approved, 0 opposed, and 0 abstentions.

**Additional Discussion**                                                                        John Spear

Should we consider moving GC to in-person? Would an earlier time work? If implemented, the change would not be made until next semester to allow room scheduling.

- Comment: U. Greife added that the council meetings are more efficient on Zoom especially due to the large size.
- Comment: N. Farnsworth added she would not be available in person at this specific time due to school pickup.
- Comment: L. Tunstall added she would not be available in person at this specific time due to school pickup but could attend if it was scheduled at an earlier time.
- Comment M. Belviranli added is it possible to do a hybrid meeting (both Zoom and in person).

Poll results – 11 approved, 7 opposed, 3 abstain

M. Belviranli requested an email be sent out after every Council meeting with any announcements that can be easily shared with departments.

**Adjourn**                                                                        John Spear

Next meeting:

October 16, 4:00-5:00 pm via Zoom. Please send all agenda items to John Spear (jspear@mines.edu) or Kristeen Serracino (kristeen.serracino@mines.edu) 1 week in advance.

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

**3.1      Approval of Previous Minutes** – September 18, 2024                 John Spear

**3.2          ME**                                                                        Rajavasanth Rajasegar
               [CIM 9/24]

                  **3 new courses:**                              MEGN565: ELECTRIC VEHICLE
                                                                  POWERTRAIN SYSTEMS
                  *A class on Electric Vehicle Powertrain Systems aligns with the vision outlined in the*
                  *Mines@150 strategic plan for Colorado School of Mines in several ways:*

                  *Expanding Offerings and Diversifying Delivery: Offering a class on electric vehicle*
                  *powertrain systems demonstrates the university's commitment to expanding its*
                  *educational offerings in response to the changing needs of industry and society. Electric*
                  *vehicles are becoming increasingly important in the transportation sector, and having an*
                  *applied understanding of their powertrain systems is crucial for students pursuing*

*careers in automotive engineering.*

*Strengthening Affinity for Mines: A practical, hands-on class on electric vehicle powertrain systems will be unique to Mines and can enhance the university's reputation and attract students and alumni who are interested in emerging technologies and sustainability.*

*Being Innovative and Entrepreneurial: The field of electric vehicles is characterized by innovation, particularly in the development of new powertrain technologies. Offering a lab-based class on electric vehicle powertrain systems encourages students to think creatively about addressing real-world challenges.*

*The course is already listed as an MEGN 465 and students will be given the opportunity to apply these same benefits to a graduate-level course offering.*

## MEGN554: ORBITAL MECHANICS

*This is an upgraded 500 level course being transitioned from the existing 454 course within the department. The course upgrade includes an online version and is made to allow advanced degree takers to use the course credit, and meet growing student demand for graduate-level aerospace course content in Mechanical Engineering. The upgrade also opens the course to participation from students in the Space Resources Program.*

[CIM 9/26]

## MEGN505: ADVANCED DYNAMICS

*We have created a graduate course on dynamics to serve as part of the Mechanical Engineering Core for the graduate curriculum. This is a core topic with broad applicability across the field of mechanical engineering, and will help prepare our graduate students for successful careers. It has been taught once, online in Spring 24, and we would like to make it a permanent part of the catalog now, so that we have a permanent course number in our core curriculum listing. We will offer the course each year, both in-person and online.*