

Colorado School of Mines – GRADUATE COUNCIL MEETING MINUTES
 April 20, 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)	A	Juan Lucena (EDS)	A	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)	A	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)	A	Denise Winn-Bower (PE)	P	Paul Myskiw (RO)	A	Kendra Stansbury (RO)

Special Guest(s): Wendy Adams (PH), Toni Lefton (HASS)

Welcome

Tina Voelker

Briefings and Information Items

Office of Graduate Studies

Tim Barbari

Program 3.0 GPA requirement

Drafted Catalog language sent to Councilors to gain feedback and input, Catalog language expected for 2023-24. Work being done in Registrar’s Office on what can be done through Degree Works and the degree audit form. Piloting program GPA of 3.0 would be piloted with a couple departments in the next academic year.

- **Question** on student’s ability to select program requirements from previous Catalogs, and if this can be done for the proposed Catalog language; Barbari noted not many students on probation. Language proposed to avoid providing credentials if a student is receiving C’s within a degree program.
- **Question** on using only program GPA and not cumulative; Barbari noted other universities use either cumulative alone or cumulative plus the program of study. The cumulative assists with gauging academic standing; cumulative GPA plus program study assists in determining credentials earned.

New graduate student orientation scheduled for Fall, August 18 from 10am-12pm.

Registrar’s Office

Paul Myskiw

Add date recommendation

Add date recommendation provided and endorsed by Undergraduate Council. Myskiw reported on reduction of faculty burden with students joining courses sixteen days into the semester. Myskiw intended Graduate Council endorsement and discussion with Faculty Senate. Proposed add date change to one full week, the following Monday, into the semester. The drop date remains the same.

Exceptions to be made for independent studies; unusual circumstances required for other courses to be added following Census Day. New add dates to be added to the Academic Calendar with explanation on

science, mathematics, and computer science teacher preparation. As such, it is one of the most rigorous programs in the nation with five courses specifically focused on pedagogical content knowledge (ie. how to teach science/mathematics/computer science) using best practices learned from that discipline's field of education research. Additionally, it will be focused on deliberate professional development and all courses are hands-on with 800 hours of practice in a K-12 classroom.

This program will be Online with over 50% of the courses delivered online with a substantial secondary classroom component.

Non-thesis Master of Science with specialties in science teaching, mathematics teaching, and computer science teaching. Expected student population of Mines undergraduates, Mines alumni, and new Mines graduate students. Program expected as a 4+1 with BS, MS, and licensure; working with state on licensure accreditation. All courses are specific to STEM with graduate coursework requiring additional readings in education-research literature and deeper involvement in final projects based on research in the field.

Program to be mixed online and residential with residential components on Saturday or evenings. SCED533 and SCED563 developed into online courses, teaching techniques courses would be hybrid. Program expects 800 hours in-school, in-person interactions. Program is interdisciplinary and housed within the University Honors and Scholars Program (UHSP). Undergraduates expected to take coursework later in BS or after completion to assure new learning built off of existing degree program.

Adams worked with University of Northern Colorado (UNC), worked on program for seven years. Found UNC program too general with less positive feedback. Teach@Mines to be STEM-focused with students welcomed from every degree program. Benefits to Mines include recruitment, retention, and revenue. STEM students of color have reported higher interest in teaching. Teach@Mines would place Mines alumni in local classrooms.

- **Question** on degree name, suggested against Teach@Mines; Adams to work with students and districts for a final degree name.
- **Question** on what is currently being done with Mines undergraduate students; Adams reported undergraduate courses having been developed a few years ago combining nine state and national standards. Coursework has been delivered since 2019; exception for Capstone II. Most filled to capacity when run.
- **Question** on adding new sections; Adams expects MS courses to add additional sections as time progresses.
- **Question** on state of Colorado recognition of Mines; program applying to state for undergraduate courses' licensure, once approved MS level can be reviewed.
- **Question** on who is teaching the classes, who will teach classes, and commitment from administration on lines to teach future classes; Adams teaching some classes, CS teaching techniques course, field experience course taught for some time. Program sought practicing teachers with advanced degrees, commitments made with current instructors to continue.
- **Question** on tie in with departments; suggestion made to present at department faculty meetings to gauge interest from faculty and graduate students.

No permanent tenure lines have been associated with the program so far; suggested to avoid instability

of program. Adams full-time teaching faculty.

UHSP supporting adjuncts salaries; have put together financial and strategic plan presented to Provost and President that outlined net excess and need for dedicated faculty lines to remain sustainable. State licensure expected to bring large impact.

- 2.1.1 [CIM 4/8; Provost 4/9]
13 new courses: MAED505: MATHEMATICAL PRACTICES AND THE SOCIAL CONTEXT OF MATHEMATICS
MAED525: PRE-ALGEBRA AND ALGEBRA TEACHING TECHNIQUES
MAED535: COMPUTER SCIENCE TEACHING TECHNIQUES
MAED562: K-12 FIELD EXPERIENCE AND BUILDING STUDENT RELATIONSHIPS
MAED564: CAPSTONE CURRICULUM DESIGN I
MAED565: CAPSTONE CURRICULUM DESIGN II
SCED515: SCIENTIFIC PRACTICES VS ENGINEERING DESIGN AND THE NATURE OF SCIENTIFIC KNOWLEDGE
SCED533: EDUCATIONAL PSYCHOLOGY AND ASSESSMENT
SCED545: PHYSICS AND CHEMISTRY TEACHING TECHNIQUES
SCED562: K-12 FIELD EXPERIENCE AND BUILDING STUDENT RELATIONSHIPS
SCED563: DYNAMIC TEACHING: MOTIVATION, CLASSROOM MANAGEMENT, AND DIFFERENTIATION INSTRUCTION
SCED564: CAPSTONE CURRICULUM DESIGN I
SCED565: CAPSTONE CURRICULUM DESIGN II

For course information, please reference the agenda items or search (<https://nextcatalog.mines.edu/courseadmin/>) in CIM. Contact mgreen1@mines.edu for access to CIM.

- 2.2 **PHYSICS**
[CIM 4/1]
1 program change: CRTG-OPTICS: Optics for Engineering
Request made to consolidate tracks into one path. Had been approved by GC and FS with two (2) tracks, was approved by BoT with one (1) track.

- **Question** on who had initiated change with physics department, and if department made aware; Durfee made aware of change and asked to make change within CIM.

MOTION: To approve the program change in Physics to CRTG-OPTICS: Optics for Engineering by Gong, seconded by Davis. 14 for, 1 abstention. Motion passed.

- 2.3 **GEOLOGY & GEOLOGICAL ENGINEERING** Danica Roth
[CIM 4/18, Provost 4/18]
1 new course: GEGN568: POINT CLOUD DATA ANALYSIS IN EARTH SCIENCE AND ENGINEERING
This proposal seeks to assign a course number to a course that has been previously

taught as a Special Topic 598 course. The course is fully developed and has been taught twice (2020, 2021) and was well received. We now seek to formalize this course and schedule it every other year beginning in 2023.

Course comprised of mostly geologists with potential for CEE and geophysics students. Course structured to avoid conflicts with core courses in other departments. Suggestion made to check with CS and AMS for overlap. Roth noted change in CIM form, course to review spatial spectral analysis of topography.

New Business

Council Membership

Tabled.

Adjourn

Tina Voelker

Meeting adjourned: 5:09 pm.

Next meeting: May 4, 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.

3.1 **Approval of Minutes – April 6, 2022**

Tina Voelker

3.2 **COMPUTER SCIENCE**
[CIM 4/7; Provost 4/8]

Qi Han

1 new course: CSCI538: AUGMENTED REALITY

This course will be taught in person. It has been offered twice as a special topics class and has been popular, and the department has secured a donation of headsets to use explicitly for the course. The field of augmented reality is rapidly developing both in academia (with two conferences in the top 20 venues of human-computer interaction (https://scholar.google.com/citations?view_op=top_venues&hl=en&vq=eng_humancomputerinteraction) and industry (e.g., related to Facebook's Metaverse plan). It aligns with the Mines@150 plans, specifically, help Mines to be a leader in educating STEM students and professionals.

3.2.1 **1 course change:** CSCI560: FUNDAMENTALS OF COMPUTER NETWORKS
CSCI 560 was designed for working professionals as part of the Cyber Physical Systems Security online certificate, so it has about 75% content overlap with CSCI 471. Now that the course is allowing Mines students to take, we need to make sure no students will get credits from both courses.

3.3 **MINING ENGINEERING**
[CIM 4/8]

Jamal Rostami

2 program changes: MSPHD-ERDE: MS and PhD Program in Earth Resources Development Engineering
MSPHD-MNEG: MS & PhD Program in Mining Engineering
Request to add MNGN625 as a required course for MS/PhD in Mining Engineering and

Earth Resource Development Engineering (ERDE).