

Colorado School of Mines – FACULTY SENATE MEETING AGENDA  
 February 28, 2:00 – 4:00 pm, via Zoom

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<u>Time</u>	<u>Item</u>	<u>Presenter</u>
	<i>Information Session</i>	
2:00-2:05 pm	<b>Welcome</b>	Jeff King
2:05-2:10 pm	<b>Approval of Minutes</b> (February 14, 2023) <b>Adoption of Today’s Agenda</b>	Jeff King
2:10-2:15 pm	<b>Academic Affairs Announcements</b>	Rick Holz
2:15-2:20 pm	<b>Registrar’s Office Announcements</b>	Paul Myskiw
2:20-2:30 pm	<b>Committee Reports</b> <i>Bylaws and Rules</i> <i>Core Curriculum</i> <i>Faculty Contracts</i> <i>Online Standards</i>	Jeff King Vibhuti Dave Todd Ruskell Ventzi Karaivanov
2:30-2:40 pm	<b>Council Reports</b> <i>Undergraduate Council</i> <i>Graduate Council</i> <i>Research Council</i>	
2:40-3:05 pm	<b>Briefings, Informational Items, and Updates</b> <i>Higher Learning Commission Presentation (15 min)</i> <i>Parking Update (10 min)</i>	Andy Herring Jason Slowinski
2:55-3:00	<b>Open Announcements</b>	
	<i>Business Session</i>	
3:00-3:10 pm	<b>Confirmations and Appointments</b> <i>Senate Representative to Handbook Committee</i> <i>Faculty Workload Ad Hoc Committee</i>	Cristian Ciobanu
3:10-3:40 pm	<b>Undergraduate Council</b> <i>Catalog Changes to Implement Core</i> <i>CORE Undergraduate Curriculum Items for Senate Vote – Appendix A</i> <i>Non-CORE Undergraduate curriculum Items for Senate Vote – Appendix B</i>	Joe Horan Vibhuti Dave
3:40-3:55 pm	<b>Graduate Council</b> <i>HLC Assumed Practices – Proposed Catalog Language from 2/14/23</i> <i>Graduate Curriculum Items for Senate presentation – Appendix C</i>	Tina Voelker

*Graduate Curriculum Items for Senate Vote – Appendix D*

3:55-4:00 pm **Open Floor**

Jeff King

4:00 pm **Adjourn**

Jeff King

Next meeting: March 14, 2:00-4:00 pm in the Guggenheim Boardroom and Zoom Webinar. Please send all agenda items 1 week prior to Mara Green ([mgreen1@mines.edu](mailto:mgreen1@mines.edu)).

## **APPENDIX A**

### **CORE Undergraduate Curriculum Item(s) for Senate Vote** from 2/14/23

1.1

#### **COMPUTER SCIENCE**

[CIM 1/4; UGC 2/1]

**1 program change:** BS-CS: BS in Computer Science

*Restructuring degree to align with new Mines Core curriculum.*

1.2

#### **PHYSICS**

[CIM 1/16; UGC 2/8]

**2 core course changes:** PHGN100: PHYSICS I – MECHANICS

PHGN200: PHYSICS II – ELECTROMAGNETISM AND OPTICS

*PHGN100 & 200 reduction of credits from 4.5 to 4.0. Has been approved by the Physics Department Undergraduate Council and by the Physics Department Faculty. This is part of the revision of the core curriculum.*

1.3

#### **ELECTRICAL ENGINEERING**

[CIM 2/8; UGC 2/22]

**1 program change:** BS-EE: BS in Electrical Engineering

*Electrical Engineering Department - Emphasis Area Removal*

*An analysis of the emphasis areas within the department reveals that approximately 70% of our students do not select an emphasis area and instead pursue our general electrical engineering program. Supporting these emphasis areas places a high teaching demand on our small faculty. The department unanimously supports the removal of emphasis areas. Emphasis areas will be converted to pathways for students to identify specialty areas for study.*

*Updates to flowchart to reflect core revision.*

## **APPENDIX B**

### **NON-CORE Undergraduate Curriculum Item(s) for Senate Vote** from 2/14/23

- 2.1      **APPLIED MATHEMATICS & STATISTICS**  
[CIM 12/14; UGC 2/1]  
**1 program change:**      BS-AMS: BS in Applied Mathematics and Statistics  
*This is a small change for the Computational and Applied Math major. We are adding MATH324 to the list of required courses and removing MATH335 from that list. The feeling is that if a CAM major takes just one of these, MATH324 is more practical. We will include MATH335 on the elective list.*
- 2.2      **COMPUTER SCIENCE**  
[CIM 1/4; UGC 2/1]  
**4 program changes:**      MIN-COMPE: Minor in Computer Engineering  
*Adding new CSCI 210 Systems Programming course to list of courses*  
   MIN-DSCI: Minor in Data Science  
*Updating responsible faculty. Add CSCI 478 Bioinformatics to list of courses*  
   MIN-RIS: Minor in Robotics and Intelligent Systems  
*Replace Intro to Stats with Intro to Prob*  
   MINASI-CS: Minor in Computer Science  
*Deactivating ASI. Currently zero students enrolled and ASIs are rarely utilized across campus. Further, due to prereqs a student completing the existing ASI would need 1 more course to complete the minor. Second version of minor being rolled into Minor in Computer Engineering.*
- 2.3      **ECONOMICS AND BUSINESS**  
[CIM TBD; UGC 2/1]  
**1 program change:**      BS-BEMS: Business Engineering and Management Science  
*The data science and business analytics core for the BEMS degree was originally constructed with classes that already existed in the Department of Economics and Business or elsewhere on campus. Now that the department has additional faculty depth in business analytics, the department wants to make sure that it is providing our students with the sequence of courses that will best serve their needs. Course proposals for the classes below have been submitted to CIM, and once those are approved, the program changes will be submitted to CIM.*
- 2.4      **ENGINEERING, DESIGN, AND SOCIETY**  
[CIM 12/21; UGC 2/1]  
**1 program change:**      MIN-LSR: Minor in Leadership in Social Responsibility  
*Update to course elective list for LSR minor. The Engineering for Community Development HE minor in EDS also lists elective courses which should be consistent between the two offerings.*
- 2.5      **QUANTITATIVE BIOSCIENCES AND ENGINEERING**  
[CIM 12/15; UGC 2/1]  
**1 program change:**      BS-QBE: BS in Quantitative Biosciences and Engineering  
*Update to technical electives list. Requested by L. Salinas 12/14/22*  
*Updated field session placeholder in Summer Junior year - MG 12/15/22*

**APPENDIX C**  
**Graduate Curriculum for Senate Presentation**

3.1

**MINING ENGINEERING**

[CIM 1/17; GC 2/15]

**1 program change:** MSPHD-ERSE: 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*

3.2

**CHEMISTRY**

[CIM 2/10; GC 2/15]

**1 program change:** CRTG-GE: MSPHDCERT – Analytical Geochemistry  
*This submission reflects only program elective updates and the removal of an outdated sentence. Specifically:*

*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

### **GEOPHYSICS**

[CIM 1/10; GC 2/15]

**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.*

3.4

### **QUANTITATIVE BIOSCIENCES AND ENGINEERING**

[CIM 2/13; GC 2/15 Consent Agenda]

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

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

3.5

### **ELECTRICAL ENGINEERING**

[CIM 1/25; GC 2/1 Consent Agenda]

**1 program change:** MSPHD-EE: MS & PhD – Electrical Engineering

*Renaming Technical electives.*

3.6

### **MATERIALS SCIENCE**

[CIM 2/13; GC 2/15 Consent Agenda]

**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.*

3.7

### **MECHANICAL ENGINEERING**

[CIM 12/13; GC 2/15]

**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.*

## **APPENDIX D**

### **Graduate Curriculum for Senate Vote** from 2/14/23

4.1

#### **PHYSICS**

[CIM 12/13; Provost 12/13; GC 1/18]

**1 new program:** MSNT-PH: Master of Science (non-thesis) Applied Physics  
Addition

*The addition of a non-thesis MS program to our Physics program aligns with the goals of Mines at 150, in particular*

- *Be a top-of-mind and first-choice university for students, public and private partners, and faculty and staff.*
- *Expand offerings and diversify delivery, in particular for professionally oriented pre and post graduate education.*
- *Grow the scale and impact of research, focus on thematic strengths, develop a more social research culture, diversity funding sources.*

*The non-thesis program can offer our combined students a more accessible method to get a MS degree in Applied Physics*

4.1.1

[CIM 12/13; GC 2/1]

**1 program change:** MSPHD-PH: MS (with thesis) & PhD – Physics

*Our new Graduate laboratory course is designed to provide first year graduate students with introductory skills necessary to carry out research in discipline specific laboratories – both in the physics department and post-graduate career industrial settings. Graduate laboratory is one step toward the goal of modernizing the Physics graduate curriculum, both content and pedagogy, and to target requirements of employers. In this effort, Classical Mechanics has been partially ‘absorbed’ into the other four core courses: Quantum Mechanics, Electricity and Magnetism, Statistical Mechanics, and Mathematical Methods. These four courses are, in turn, being integrated to avoid artificial siloing of information. In addition to providing students a rich, interactive learning experience, the new graduate laboratory course is intended to grow the scale and impact of research at Mines. Engaging first year graduate students in real-world research will better prepare them to join broader research communities and contribute at an earlier stage in their careers. Success of the revised physics graduate curriculum will further Mines’ goal to be a top-of-mind and first-choice university for students, public and private partners, and faculty and staff.*

4.2

#### **APPLIED MATHEMATICS & STATISTICS**

[CIM 12/12; GC 2/1]

**1 program change:** MSPHD-AMS: MS & PhD – Applied Math/Statistics

*AMS recommends to revise the CAM graduate core coursework by removing MATH 515 from the required core coursework, instead offering 515 as one of the electives students may choose to take, and adding MATH 501 to the required core coursework. This will ensure that all CAM graduate students have a well-rounded theoretical skillset to complement their skills in mathematical modeling, calculations, and numerical methods*