FACULTY SENATE MEETING AGENDA
March 9, 2021, 2:00 – 4:00 pm, via Zoom

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
<th>Presenter</th>
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<tr>
<td>2:00-2:05 pm</td>
<td>Welcome</td>
<td>Andy Herring</td>
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<td>2:05-2:15 pm</td>
<td>Provost / Academic Affairs</td>
<td>Rick Holz</td>
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<td>2:15-2:25 pm</td>
<td>Registrar’s Office</td>
<td>Paul Myskiw</td>
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<td>2:25-2:30 pm</td>
<td>Approval of Minutes – February 23, 2021</td>
<td>Andy Herring</td>
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<tr>
<td>2:30-3:00 pm</td>
<td>Committee Updates</td>
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<td></td>
<td>Senate Secretary</td>
<td>Alina Handorean</td>
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<td>Online Standards Committee</td>
<td>Cynthia Norrgran</td>
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<td>Faculty Procedures Working Group</td>
<td>John McCray</td>
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<td>3:00-3:30 pm</td>
<td>Briefings, Information Items and Updates</td>
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<td>Addition of Undergraduate and Graduate Council Minutes to the Faculty Senate Webpage</td>
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<td>Faculty IDP Recommendations Draft</td>
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<td>3:30-3:35 pm</td>
<td>Undergraduate Council</td>
<td>Jeff King</td>
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*Approved Undergraduate Council new courses and course changes have been added to the end of this agenda as informational FYI-only items.

1.1 INTERDISCIPLINARY
[status: CIM 1/15; Provost: 1/15, UGC: 2/24]
1 new program: Minor in Quantum Engineering (requires CIM code)

This internationally distinctive program will differentiate our undergraduates by giving them a substantive background in the chemistry, computer science, electrical engineering, mathematics, materials science, and physics for quantum computing, communication, and sensing. Students with disparate backgrounds will gain experience with quantum hardware and theory that will prepare them for careers in the rapidly evolving quantum engineering industries. This minor will build directly upon the opportunities, infrastructure and industry partnerships that have made the Quantum Engineering MS program so successful already in its first year. **Championed by Geoff Brennecka.**

1.2 ENGINEERING, DESIGN, and SOCIETY
[status: CIM 1/19; UGC: 2/24]
1 program change: BS-EGN: BS in Engineering Changing credit hours for EDNS 191 and EDNS 192 to reflect credit hour changes made to streamline equivalencies with EDNS 151 and HASS 100. Changed Program outcomes from ABET a-k to ABET 1-7. Edited the introductory overview to reflect current messaging, correct grammatical errors, and provide more specificity. (Note that nothing significant was altered). Changed the Credit Hours required for EDNS 191 and EDNS 192 to reflect course change requests
made to better align these two courses with EDNS 151/NHV 100, which can substitute for EDNS 191/192 for students who enter the program after the freshman year.
Also added STEM Teaching focus area, which is a program unique to Mines. It may help Mines to retain students wanting to go into teaching and will also help to address the nationwide K-12 STEM teacher shortage by offering a program that will help prepare students with STEM breadth and depth along with teaching fundamentals necessary to attain certification. **Championed by Carrie McClelland.**

1.3 **GEOLOGY and GEOLOGICAL ENGINEERING**  
[status: CIM1/20; UGC: 2/24]  
1 program change: BS-GLE: BS in Geological Engineering  
_program changes reflect updates to the BS curriculum in GE agreed upon by the faculty in the Department. The faculty evaluated our program objectives, the sequencing of classes, and the connections among learning outcomes in our 200 and 300-level courses. The outcomes of that analysis include eliminating GEGN 206, incorporating select learning outcomes from GEGN 206 into GEGN 212, adding a new course, GEGN 217, and reducing credits for GEGN 317. Our new curriculum has the same number of total credits as the current curriculum. **Championed by Cheryl Medford.**

1.4 **ECONOMICS and BUSINESS**  
[status: CIM1/19; UGC: 2/24]  
1 program change: MIN-BUEN: Minor in Business and Entrepreneurship  
This edit to the minor adds 3 classes to the list of classes students may choose from to incorporate recent new course additions in Business. **Championed by Becky Lafrancois.**

1.5 **PETROLEUM ENGINEERING**  
[status: CIM 2/25; UGC: 3/10]  
1 program suspension: MIN-MDSTR: Minor in Midstream Engineering

- Undergraduate Council Subcommittee Updates

3:35-3:55 pm **Graduate Council**
- Graduate Council Subcommittee Updates

3:55-4:00 pm **Adjourn**
New Undergraduate Courses Approved
AMFG423: Design and Analysis of Experiments
CEEN442: Timber and Masonry Design
CSCI425: Compiler Design
EBGN444: Innovate X
GEGN217: Geologic Field Methods
MAED405: Mathematical Practices and the Social Context of Mathematics
MAED425: Pre-Algebra and Algebra Teaching Techniques
MAED435: Computer Science Teaching Techniques
MAED464: Capstone Curriculum Design I
MAED465: Capstone Curriculum Design II
SCED333: Education Psychology and Assessment
SCED363: Dynamic Teaching: Motivation, Classroom Management, and Differentiation of Instruction
SCED415: Scientific Practices vs Engineering Design and the Nature of Science
SCED445: Physics and Chemistry Teaching Techniques
SCED464: Capstone Curriculum Design I
SCED465: Capstone Curriculum Design II
PHGN417: Fundamentals of Quantum Information

Undergraduate Course Changes Approved
EDNS191: Integrative Design Studio IA
EDNS192: Integrative Design Studio IB
EDNS291: Integrative Design Studio IIA
EDNS292: Integrative Design Studio IIB
EDNS391: Integrative Design Studio IIIA
EDNS392: Integrative Design Studio IIIB
CSCI261: Programming Concepts
MATH331: Mathematical Biology (deactivated)
CBEN401: Process of Optimization
CBEN408: Natural Gas Processing
CBEN409: Petroleum Processes
CEEN267: Design II: Civil Engineering
CEEN303: Environmental Engineering Laboratory
CEEN401: Life Cycle Assessment
CEEN402: Project Engineering
CEEN406: Finite Element Methods for Engineers
CEEN410: Advanced Soil Mechanics
CEEN446: Structural Loads
CEEN461: Fundamentals of Ecology
CEEN473: Hydraulic Problems
CEEN475: Site Remediation Engineering
CEEN480: Chemical Fate and Transport in the Environment
CEEN411: Unsaturated Soil Mechanics
CEEN412: Unsaturated Soil Mechanics (deactivated)
CEEN474: Solid Waste Minimization and Recycling (deactivated)
CEEN476: Pollution Prevention: Fundamentals and Practice (deactivated)
CEEN440: Timber and Masonry Design (deactivated)
EDNS479: Community-Based Research
GEGN212: Petrology for Geological Engineers
GEGN317: Geologic Field Skills
GEGN206: Earth Materials (deactivated)
HNRS115: Innovation and Discovery in Engineering, Arts, and Sciences II
MEGN300: Instrumentation & Automation
MEGN301: Mechanical Integration & Design
MEGN412: Advanced Mechanics of Materials
MTGN219: Art and Science of Glassblowing
CHGN431: Inorganic Chemistry I
HNRS198A: Special Topics
HNRS199A: Independent Study
HNRS298A: Special Topics
HNRS299A: Independent Study
HNRS398A: Special Topics in the University Honors and Scholars Program
HNRS399A: Independent Study