FACULTY SENATE MEETING AGENDA
March 8, 2:00 – 4:00 pm, Green Center 224 and Zoom

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<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>Sebnem Duzgun</td>
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<td>2:05-2:15 pm</td>
<td>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 22, 2022</td>
<td>Sebnem Duzgun</td>
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<td>2:30-2:45 pm</td>
<td>I&amp;E Activities</td>
<td>Werner Kuhr</td>
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<td>2:45-3:00 pm</td>
<td>Tenure Track Junior Faculty COVID Effects</td>
<td>Mike McGuirk</td>
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<td>3:00-3:15 pm</td>
<td>Childcare Discussion</td>
<td>Joe Horan</td>
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<td>3:15-3:25 pm</td>
<td>Briefings, Informational Items, and Updates</td>
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<td>Existing x98 course reports, approval process for permanent course numbers</td>
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<tr>
<td>3:25-3:35 pm</td>
<td>Undergraduate Council</td>
<td>Jeff King</td>
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Approved Undergraduate Council course changes and new courses listed at the end of this agenda.

Program(s) for Vote – presented to Senate 2/22/22

1.1 CHEMICAL & BIOLOGICAL ENGINEERING
[CIM 12/7; GC 2/9]
1 program change: BS in Chemical Engineering
In the current Catalog, double-counting of the four core courses required for the combined BS/MS program is not allowed. This causes unnecessary confusion among students; request to remove this constraint.

Program(s) being presented – for vote 3/22/22

1.2 CIVIL & ENVIRONMENTAL ENGINEERING
[CIM 2/16; Provost 2/16]
1 new program: BS-CTRST: Bachelor of Science in Construction Engineering

1.3 GEOPHYSICS
[CIM 12/21]
1 program change: BS-GPE: BS in Geophysical Engineering
Recent student feedback indicates that the current single-semester Applied Geophysics course is insufficient to cover applied geophysics methods in the necessary depth. To better prepare the students for their future careers and prepare them for the geophysics
summer camp, we propose to extend the Applied Geophysics to two-semester courses: GPGN318 Applied Geophysics I and GPGN319 Applied Geophysics II. The two courses will be offered synchronically with the two other current courses, GPGN 328 Physics of the Earth I and GPGN329 Physics of the Earth II, with one series (328/329) focusing on theories and the other (318/319) focusing on applications. Removal of GPGN350.

3:35-3:55 pm  Graduate Council
Graduate Council approved course changes and new courses listed at the end of this agenda.

Program(s) for Vote – presented to Senate 2/22/22

2.1 CHEMICAL & BIOLOGICAL ENGINEERING
[CIM 1/7; Provost 1/7; GC 2/16]
1 new program: XCRTG-CEPET: Chemical Engineering Processes in Energy Transitions

2.2 MECHANICAL ENGINEERING
Program Suspension: XCR-ADVMO: Graduate Certificate – Smart Manufacturing

2.3 ECONOMICS AND BUSINESS
[CIM 1/27; GC 2/16]
1 program change: MS-ETM-NT: Engineering and Technology Management (ETM) Master of Science
In the “Further Degree Requirements”, replaced the Economic Evaluation Workshop with an Introductory Python Programming Workshop to better prepare students for using Python in quantitative classes. In addition, the material that was covered in the Economic Evaluation Workshop will be reviewed in the core class - EBGN540 Accounting and Finance. Also added EBGN565 Marketing for Technology-Based Companies back to the Technology Management and Innovation Course list.

2.4 ENGINEERING, DESIGN, AND SOCIETY
[CIM 2/3; GC 2/16]
1 program change: MSCR-HES: Humanitarian Engineering and Science
Currently not able to provide all interested prospective students with graduate coursework that reflects their professional development goals. Proposing a broader array of “track” options for students who do not easily fit with existing offerings. Proposed revisions to:
1. Add a disciplinary track in Humanitarian Robotics
2. Add a disciplinary track in Data Science
3. Add an interdisciplinary track
4. Modify electives
5. Modify courses for geophysics disciplinary track
6. Modify courses for environmental engineering track

2.5 QUANTITATIVE BIOSCIENCES AND ENGINEERING
[CIM 2/2; GC 2/16]
1 program change: MSPHD-BIO: MS & PHD – Quantitative Biosciences and
Updating program to:
- add in new courses, BIOL 501, Advanced Chemistry, and BIOL 590, QBE Graduate Seminar
- update BIOL 500
- update course electives
- remove Independent Study as a core course for the MSNT program
- update language

2.6 GEOPHYSICS
[CIM 2/1; GC 2/16 (Consent Agenda)]
1 program change: XCRTG-CCUS: Carbon Capture, Utilization, and Storage
Revision made to bring clarity to wording around courses, no changes to the actual program.

Program(s) being presented – for vote 3/22/22

2.7 MECHANICAL ENGINEERING
[CIM 2/1; GC 3/2]
1 program change: CERTMS-ADVMAN: CERT & MS – Additive Manufacturing
Changing the name of the MSNT program to Additive Manufacturing as recommended by advisory committee and in keeping with student feedback and interest.

Revising the MSNT Core Courses to reflect the focus on Additive Manufacturing.

2.8 PETROLEUM ENGINEERING
[CIM 1/31; GC 3/2]
1 program deactivation: MP-PMPRS: Professional Masters in Petroleum Reservoir Systems
The Professional Masters in Petroleum Reservoir Systems is recommended to be sun-setted. The program has attracted low applicant numbers primarily because the Petroleum industry does not generally support the Professional Masters degree. Also, while the Professional Masters program was intended for working professionals, many of the applicants are not employed and those who enroll generally want to convert to a thesis-based MS once they begin the program. Due to the low enrollment in the program, the required classes draw low registration.

The participating departments, Geology and Geological Engineering, Geophysics and Petroleum Engineering are all in agreement on the sun-setting of the program. Currently enrolled students (4) will be supported until the completion of their program.

2.9 MINING ENGINEERING
[CIM 2/17; GC 3/2 (Consent Agenda)]
1 program change: MP-MEM: MP – Mining Engineering and Management
Minor cosmetic changes to the program language.

2.10 ELECTRICAL ENGINEERING
1 program change: MSPHD-EE: MS & PhD – Electrical Engineering

Updated the “EPSE” track name to “PES” (Power and Energy Systems).

3:55-4:00 pm  Adjourn

Next meeting: April 12, 2:00-4:00 pm via Zoom.

Undergraduate Council approved course changes
GEGN330: Geoscientists Thermodynamics – Removal of GEGN206 prerequisite
GEOL314: Stratigraphy – Removal of prerequisites GEGN203, GEGN204, and GEGN205. Added prerequisites GEGN212 and GEGN217
GEOL321: Mineralogy and Mineral Characterization – Removal of prerequisite GEGN206 and addition of GEGN212

Undergraduate Council approved new course
PHGN460: Elements of Modern Optics
GPGN318: Applied Geophysics I
GPGN319: Applied Geophysics II
EBGN307: Business Communications
EBGN308: Principles of Marketing
MNGN318: Statics and Dynamics Combined for MN

Undergraduate Council approved course deactivations
GPGN314: Applied Geophysics

Graduate Council approved course changes
GEOL558: Earth Resource Data Science 2: Applications and Machine-Learning – Added prerequisites GEOL557 and DSCI403/CSCI303
GEOL513: Hydrothermal Geochemistry – Added prerequisites GEGN401 or GEOL524
GEOL517: Field Methods for Economic Geology – Update to course description and addition of prerequisites GEGN401 or GEOL524
GPGN590: Instrumental Design in Applied Geosciences – Change to course title, description, and addition of prerequisite CSCI250 or instructor permission
MATH510: Ordinary Differential Equations and Dynamical Systems – Addition of prerequisite MATH301
EBGN563: Management of Technology and Innovation – Title change and updated course description
BIOL500: Cell Biology and Biochemistry – Updated course information to include lab section and increased to four (4) credits
MNGN510: Fundamentals of Mining and Mineral Resource Development – Updating prerequisites to MATH111/112 or equivalent
CEEN540: Advanced Design of Steel Structures - Update to course offering date (listed incorrectly in the Catalog description)
CEEN541: Design of Reinforced Concrete Structures II - Update to course offering date (listed incorrectly in the Catalog description)
CEEN542: Timber and Masonry Design - Update to course offering date (listed incorrectly in the Catalog description)
CEEN545: Steel Bridge Design - Update to course offering date (listed incorrectly in the Catalog description)
CEEN547: Design of Prestressed Concrete Structures - Update to course offering date (listed incorrectly in the Catalog description)
EENG509: Sparse Signal Processing – Course description update, addition of prerequisites EENG411 and EENG515 or instructor consent
EENG515: Mathematical Models for Signals and Systems – Course description update
EENG571: Modern Adjustable Speed Electric Drives – Course offering updated
EENG572: Renewable Energy and Distributed Generation - Course offering updated
EENG577: Advanced Electrical Machine Dynamics for Smart-Grid Systems - Course offering updated
EENG580: Power Distribution Systems Engineering - Course offering updated
EENG582: High Voltage AC and DC Power Transmission - Course offering updated
EENG587: Power Systems Protection and Relaying - Course offering updated
EENG588: Energy Policy, Restructuring and Deregulation of Electricity Market - Course offering updated
MEGN511: Fatigue and Fracture – Added online modality for Spring 2023
MEGN515: Computational Mechanics - Added online modality for Spring 2023
MEGN566: Combustion - Added online modality for Spring 2023
MNGN551: Mine Accounting – Changes to course description and grammar edits
MNGN554: Mine Finance – Changes to course description and grammar edits
SPRS501: Space Resources Fundamentals – Course offering added to course description
SPRS502: Space Systems Engineering - Course offering added to course description
SPRS504: Economics of Space Resources - Course offering added to course description
SPRS505: Space Operations - Course offering added to course description
SPRS506: International Space Law & Policy - Course offering added to course description
SPRS507: Advanced Planetary Geology - Course offering added to course description
SPRS591: Space Resources Project I - Course offering added to course description
SPRS592: Space Resources Project II- Course offering added to course description
SYGN588: GIS-Based Real World Learning Project I – Fundamentals – Course name change

Graduate Council approved new courses
PHGN581: Laser Physics
GPGN545: Introduction to Distributed Fiber-Optic Sensing and Its Applications
PEGN518: Advanced Production Engineering
SYGN590: GIS-Based Real World Learning Project II – Advanced Applications

Graduate Council approved course deactivations
CEEN571L: Advanced Water Treatment Engineering and Water Reuse – Laboratory
CEEN575L: Hazardous Waste Site Remediation: Treatability Testing
CEEN576: Pollution Prevention: Fundamentals and Practice