

# The University Senate of Michigan Technological University

## Proposal 29-19

(Voting Units: Academic)

### "A Proposal to Reinstate (Unshelve) the Bachelor of Science Degree in Mining Engineering"

(Department of Geological and Mining Engineering and Sciences)

1. **Degree Program for Unshelving<sup>1</sup>:** Bachelor of Science in Mining Engineering
2. **Semester for New Admits:** Spring 2019
3. **Estimated Enrollment<sup>2</sup>:** 2019-20: 5-7 (mostly internal transfers); 2020-21: 10-12; 2021-22: 15-20; 2022-23: 25, 2023-24: 35, and 2025+ 40-50 at steady state
4. **Reasons for Unshelving:** [i] *Industry Demand:* U.S. Bureau of Labor Statistics projects an employment growth for mining engineers of approximately 600 new hires annually, which is almost 50% higher than the annual number of mining engineering graduates in the U.S. Only 14 mining schools are granting mining engineering degrees in the US. According to the Society for Mining, Metallurgy and Exploration (SME). [ii] *Student Demand:* Student interest in a mining engineering BS program has grown and is partially met now through the BS in Engineering with a minor in Mining Engineering and BS in Geological Engineering. [iii] *Alumni Support:* Despite the program suspension, mining alumni have continued to support the mining engineering offerings through annual giving and scholarship endowments. Tech Fund accounts designated for the mining engineering programs have grown due to giving and because some scholarships cannot be awarded without a BS Mining Eng. program. [iv] *Intra-Department Synergies:* Unlike the program that was suspended in 2004, the new program proposed for reinstatement has integrated with the existing undergraduate curricula in geological engineering and geology to take full advantage of coursework offered for those programs. All of the coursework offered for the mining engineering program can be used for other majors pursuing a minor in mining engineering and the upper division mining engineering electives can be used as technical electives in geological engineering. The new offerings in mining engineering also enhance the geostatistical and geoenvironmental offerings from GMES for all of our students.
5. **Financial Impact:** [i] *Faculty:* The reinstated BS in Mining Engineering is different from the BS in Geological Engineering by 30 credits<sup>3</sup>. Eleven of these credits are regularly offered by other departments as requirements for other majors, leaving 19 credits of required courses specific to the mining engineering program and taught by two faculty and one staff member in GMES. Two new tenure-track faculty were hired to rebuild the mining curriculum with collaborative assistance from others who have expertise in mining engineering but are members of other departments. One of the hires left due to personal reasons and was replaced recently with a lecturer position. The lecturer position provides more capacity for teaching. The course offerings and student advising for the program are met with these two faculty and by a soft-money staff person. Faculty in other departments offer courses that can be used either for technical electives or Enterprise-in-lieu-of-capstone for the mining engineering majors. [ii] *Laboratory Equipment:* A mining simulation laboratory and geomechanics laboratory were equipped with Tech Fund monies designated for the mining program. An endowed lectureship is used to support the staff person who contributes teaching to the program. At this time we are relying on access to a wind tunnel for ventilation laboratory activities. If needed, we could use Tech Funds for new ventilation equipment. [iii] *Student Scholarships:* Tech Fund accounts with endowed student scholarships will be used strategically to recruit excellent students to the program. Many of these scholarship accounts have been growing because they were not spent during the suspension. [iv] *Space:* The new hires and labs have already been incorporated into existing GMES facilities and no new space is required. [v] *Overall:* No new general fund monies nor space are required to administer the program for the anticipated enrollments and curricular structure. Laboratory equipment and support for students in educational and research activities will come from a combination of external research funding and Tech Fund accounts designated for the mining engineering program.

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<sup>1</sup>The BS in Mining Engineering program was "suspended" in 2004 ([Proposal 21-04](#)) when there was no university policy for shelving programs (see attached copy of memo). The curriculum being proposed for reinstating (unshelving) the program is very nearly the same in terms of topical content as the program that was shelved/suspended. The MS and PhD in Mining Engineering were not suspended.

<sup>2</sup>Two students graduated in 2018 and two in 2017 with a BS in Engineering with a Minor in Mining Engineering that closely matches the proposed curriculum for reinstatement and two others are enrolled and will transfer into the BS in Mining Engineering along with several BS in Geological Engineering students once the program is reinstated.

<sup>3</sup>Capstone and technical electives are not counted because they also are course electives/options for geological engineering majors.

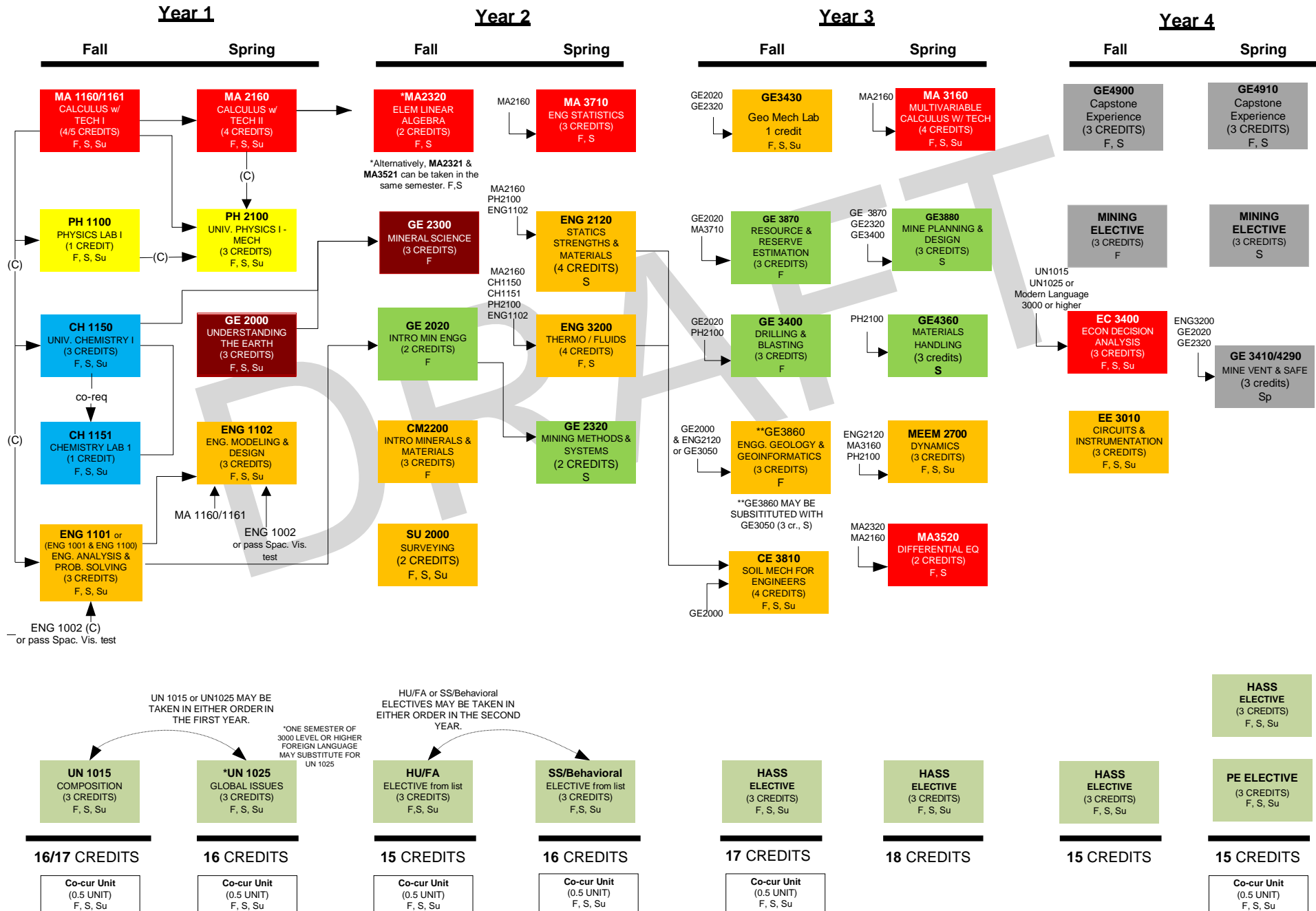


# Bachelor of Science in Mining Engineering

2019 - 2020

Revised 02/01/2019

- PREREQUISITE (COURSE MUST BE COMPLETED PRIOR TO ENROLLMENT)
- (C) → CONCURRENT REREQUISITE, PREREQ. THAT MAY BE TAKEN SIMULTANEOUSLY WITH THE COURSE
- F INDICATES COURSE IS OFFERED FALL SEMESTER
- S INDICATES COURSE IS OFFERED SPRING SEMESTER
- SU INDICATES COURSE IS OFFERED SUMMER SEMESTER



Office of the Provost and Senior Vice President  
for Academic and Student Affairs

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**TO:** Sharron Paris  
Student Records and Registration

**DATE:** April 9, 2004

**FROM:** Kent Wray  
Provost and Senior Vice President

**SUBJECT:** Suspension of B.S. in Mining Engineering  
and A.A.S. in Chemical Engineering Technology

**CC:** Gary Neumann  
Phyllis Johnson  
Robert Warrington  
Richard Elenich  
Helene Hiner  
Paula McCambridge

Please be advised that the MTU Board of Control voted to suspend the following two degree programs at its March 5, 2004 meeting:

B.S. in Mining Engineering  
A.A.S. in Chemical Engineering Technology

These degree programs should not be included or referenced in any new undergraduate catalogs, on MTU Web sites, or otherwise advertised as being available in the MTU degree program inventory. "Suspension" means that through Board action the degree programs may be reactivated at a later date.

Please develop a method of storing, and subsequently retrieving, information about these degree programs in the BANNER system.

KW:jew

Atch: Board of Control Agenda Page IV-A-6