

**TOPIC:                    PROPOSED                    CHANGES                    TO                    ENGINEERING,  
MATHEMATICAL AND COMPUTER SCIENCES DEGREES  
AT COLORADO SCHOOL OF MINES**

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**I.        SUMMARY**

This consent item recommends approval of Colorado School of Mines' (CSM) proposal to create new degrees programs from their existing B.S., M.S., and Ph.D. degrees in Engineering and to change the name of and create new degrees from the emphases currently in their B.S., M.S., and Ph.D. degrees in Mathematical and Computer Sciences.

**II.        BACKGROUND**

CSM proposes to modify its current B.S. in Engineering into four new degrees based on the emphases already offered within that degree (see Attachment A). According to footnote #1 on Attachment A, the existing B.S. in Engineering will continue to be offered without emphasis areas. Students wishing to pursue one of the previous emphases will now major in one of the new degrees based on the previous emphases.

CSM also proposes to change the name of their current B.S. in Mathematical and Computer Sciences to a B.S. in Applied Mathematics and Statistics. From the previous degree program, CSM will create a new B.S. in Computer Science, which had been an emphasis within the degree. CSM also proposes to slightly modify two emphases in the B.S. in Applied Mathematics and Statistics major, those in Computational and Applied Mathematics and Statistics. The existing B.S. in Mathematical and Computer Sciences degree will be retired after the transition period (see Attachment A).

CSM also proposes to take its current M.S. and Ph.D. in Engineering and create from it four new degrees based on the emphases already offered within that degree (see Attachment A). According to footnote #1 on Attachment A, the existing general M.S. and Ph.D. in Engineering will be retired after the transition period. Students wishing to pursue one of the previous emphasis areas will now major in one of the new degrees based on the previous emphases.

In addition, CSM proposes to change the name of their current M.S. and Ph.D. in Mathematical and Computer Sciences to a M.S. and Ph.D. in Applied Mathematics and Statistics. From the previous degree, CSM will create a new M.S. and Ph.D. in Computer Science based on an emphasis within the previous degrees (see Attachment A).

The following is summarized from CSM's proposal:

These degree changes are market driven and reflect that specialized degrees are clearly preferred by corporate recruiters and students. For many years, recruiters have requested to interview students by engineering specialization instead of the general engineering or mathematical and computer sciences majors. To meet these expectations, CSM has evolved curricula over the years for the general degrees to support the respective specialized disciplines. This is misconceiving for recruiters though, as they often feel students are not receiving the appropriate specialized background.

### **ROLE AND MISSION SUPPORT**

These proposed degree changes fit the role and mission of CSM. The statutory mission states:

*There is hereby established a school at Golden, to be known as the Colorado school of mines. The school of mines shall be a specialized baccalaureate and graduate research institution with high admission standards. The Colorado school of mines shall have a unique mission in energy, mineral, and material science and engineering and associated engineering and science fields. The school shall be the primary institution of higher education offering energy, mineral, and material science and mineral engineering degrees at both the graduate and undergraduate levels. C.R.S. 23-41-105*

### **III. STAFF ANALYSIS**

Pursuant to Colorado Revised Statute 23-5-129 (6)(b), Department staff finds that CSM's proposed degree changes are consistent with CSM's role and mission.

### **IV. STAFF RECOMMENDATION**

**That the Commission approve the new degrees proposed by the Colorado School of Mines.**

### **V. SUPPLEMENTAL INFORMATION**

Attachment A. In addition, copies of all relevant materials are on file in the Academic Affairs office and are available upon request.

### **STATUTORY AUTHORITY**

C.R.S. §23-5-129

(6) While operating pursuant to a performance contract negotiated pursuant to this section, the governing board of a state institution of higher education:

(b) Need not consult with nor obtain approval from the Colorado commission on higher education to create modify, or eliminate academic and vocational programs offered by the institution, so long as such creations, modifications, and eliminations are consistent with the institution's statutory role and mission. Institutions shall submit information to the department demonstrating that the creation or modification of an academic or career and technical education program is consistent with the institution's statutory role and mission. The Colorado commission on higher education shall have the authority to override the creation or modification of an academic or vocational program if the change made by the governing board is inconsistent with the institution's statutory role and mission.