

TOPIC: PROPOSAL TO OFFER A MASTER OF SCIENCE IN ENGINEERING DEGREE AT COLORADO STATE UNIVERSITY - PUEBLO

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I. SUMMARY

This consent item recommends approval of Colorado State University–Pueblo’s (CSU-P) proposal to offer a Master of Science degree in Engineering (MSE).

II. BACKGROUND

The following is summarized from CSU-P’s proposal:

The MSE will expand the opportunities for advanced engineering education in Southern Colorado, thus supporting existing technology companies in the area and helping to attract new technology-based companies. The degree will have two specializations: Mechatronics and Railroad Engineering. Mechatronic devices have moving parts, use electricity for power, and are controlled by computer-assisted electrical and mechanical systems. The demand has been strong for graduates of CSU-P’s B.S. in Engineering with a specialization in Mechatronics. The industry seeks graduates with advanced education in this area. Impending retirements in the railroad industry will lead to a serious shortage of design and management engineers in this critical transportation sector.

ROLE AND MISSION SUPPORT

This degree supports the role and mission of CSU-P. The statutory mission states:

There is hereby established a university at Pueblo, to be known as Colorado State University - Pueblo, which shall be a regional, comprehensive university, with moderately selective admissions standards. The University shall offer a broad array of baccalaureate programs with a strong professional focus and a firm grounding in the liberal arts and sciences. The university shall also offer a limited number of graduate programs. C.R.S. 23-31.5-101

EVIDENCE OF NEED

The Master of Science in Industrial and Systems Engineering (MSISE) offered at CSU-P is the only graduate engineering degree offered in southern Colorado; residents of the region must go elsewhere to obtain a Master’s degree in any other engineering major. Many students who live in southern Colorado find it a financial

and personal burden to leave the region. Strong family and community ties and limited financial resources often keep students in southern Colorado. Residents of the area already employed in technical jobs who desire a graduate degree in engineering may be unable to move or commute long distances for the purpose of pursuing an advanced degree. The addition of the MSE would provide additional graduate educational opportunities for residents of southern Colorado.

DUPLICATION

No Colorado public university currently offers an engineering degree with an emphasis area in Railroad Engineering. Only the University of Denver (DU) has an emphasis area in Mechatronics at the graduate level. Adding a track in Mechatronics at CSU-P can be done efficiently because the institution already has an undergraduate degree in this area; therefore, equipment and computer software can be shared, senior level courses can be electives for MS students, and some undergraduate courses will be co-taught with graduate level courses.

III. STAFF ANALYSIS

Pursuant to Colorado Revised Statute 23-5-129 (6)(b), department staff finds that CSU-P's proposed Master's of Science in Engineering (MSE) degree is consistent with CSU-P's role and mission.

IV. STAFF RECOMMENDATION

Staff recommends that the Commission approve Colorado State University - Pueblo's proposal to offer a Master's of Science in Engineering (MSE) degree.

V. SUPPLEMENTAL INFORMATION

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.