

**TOPIC: PROPOSAL TO OFFER A BACHELOR OF SCIENCE IN
BIOENGINEERING AT THE UNIVERSITY OF COLORADO
DENVER | ANSCHUTZ MEDICAL CAMPUS**

PREPARED BY: HEATHER DELANGE, ACADEMIC POLICY OFFICER

I. SUMMARY

This consent item recommends approval for the University of Colorado Denver | Anschutz Medical Campus (UCDAMC) to offer a Bachelor of Science in Bioengineering.

II. BACKGROUND

The following is summarized from UCDAMC's proposal:

The Department of Bioengineering in the College of Engineering and Applied Science (CEAS) of the University of Colorado Denver | Anschutz Medical Campus proposes to offer a Bachelor of Science degree in Bioengineering beginning with an entering class of freshmen in AY 2013-2014. The program is designed as a four-year baccalaureate degree with 128 credit hours of study. The first two years of the program will consist of classes within the general education core curriculum and pre-major classes in mathematics, biology, chemistry, physics, and bioengineering. These classes will be delivered at the Denver campus. The third and fourth years will offer students the choice of tracks (initial tracks will be in biomedical devices and biomechanics and imaging instrumentation and diagnostics) taught primarily at the Anschutz Medical Campus.

ROLE AND MISSION SUPPORT

This degree supports the role and mission of UCDAMC. The statutory mission states:

The Denver campus of the university of Colorado shall be an urban comprehensive undergraduate and graduate research university with selective admission standards. The Denver campus shall offer baccalaureate, master's, and a limited number of doctoral degree programs, emphasizing those that serve the needs of the Denver metropolitan area. The Denver campus has statewide authority to offer graduate programs in public administration and exclusive authority in architecture and planning. C.R.S. 23-20-101(b)

EVIDENCE OF NEED

Nationally, enrollment in undergraduate programs in bioengineering has quadrupled while enrollment for all undergraduate engineering disciplines has remained steady. In the first three years, UCDAMC's M.S. and Ph.D. Bioengineering programs have exceeded the enrollment projections.

Based on the achievements of the department's graduate programs and the national trends for undergraduate programs in bioengineering, the program projects that it will attract 100-200 applications, from which they will select and enroll 35 freshmen students in the first year. The enrollment of freshmen will increase in years 2 and 3 (45 and 50 respectively) and will continue to rise until the program reaches new enrollment of 80 in year 6 (Fall 2018). At full implementation, the program will have 152 pre-majors and 146 majors.

DUPLICATION

The only other four-year intensive baccalaureate program in bioengineering in Colorado is the dual B.S. program offered by Colorado State University that combines a traditional engineering degree, such as mechanical or electrical engineering with biomedical engineering. Faculty from both institutions collaborate on several research and training programs. The program described in this proposal will have strong ties with the University of Colorado School of Medicine. The third and fourth years of the proposed program will be spent at the Anschutz Medical Campus, where students will be taught by both engineering and clinical professionals. The incorporation of the medical campus within the training program is a core aspect of the University of Colorado Denver | Anschutz Medical Campus B.S. in Bioengineering, and should be very attractive to undergraduate students seeking a program with clinical experiences.

III. STAFF ANALYSIS

Pursuant to Colorado Revised Statutes 23-5-129 (6)(b), department staff finds that UCDAMC's proposed Bachelor of Science in Bioengineering degree is consistent with the institution's statutory role and mission.

23-1-125 C.R.S. stipulates that baccalaureate programs must not require more than 120 credit hours to complete unless they are "professional degree programs that have additional requirements recognized by the commission" (23-1-125 [2]). A total of 128 credit hours are required for completion of the proposed B.S. in Bioengineering program. Currently CU-Denver's other baccalaureate degrees in the College of Engineering and Applied Science require either 128 credit hours (Mechanical Engineering; Electrical Engineering and Computer Science) or 130 credit hours (Civil Engineering). These credit hour levels are

consistent with or below those for other professional engineering programs offered at other state universities.

IV. STAFF RECOMMENDATION

Approval of the University of Colorado Denver | Anschutz Medical Campus's proposal to offer a Bachelor of Science in Bioengineering.

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.

C.R.S. §23-1-125 (2)

Degree Requirements. The commission shall establish a standard of a one-hundred-twenty-hour baccalaureate degree, not including specific professional degree programs that have additional degree requirements recognized by the commission.