

TOPIC: PROPOSAL TO OFFER A MASTER'S DEGREE IN BIOMEDICAL SCIENCES AT THE UNIVERSITY OF NORTHERN COLORADO

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I. SUMMARY

This action item requests approval for the University of Northern Colorado (UNC) to offer a Master's of Biomedical Sciences degree. This program will provide students with the opportunity to improve knowledge in this area as well as demonstrate suitability for professional medical school programs, other educational programs and careers.

II. BACKGROUND

The following is summarized from the University of Northern Colorado's proposal for the Master of Biomedical Sciences degree:

ROLE AND MISSION SUPPORT

The Master's of Biomedical Sciences (MBS) degree supports the role and mission of the University of Northern Colorado. The statutory mission states:

- (1) There is hereby established a university at Greeley, to be known as the university of northern Colorado. The university shall be a comprehensive baccalaureate and specialized graduate research university with selective admission standards.*
- (2) The university of northern Colorado shall be the primary institution for undergraduate and graduate degree programs for educational personnel preparation in the state of Colorado. The university shall offer masters and doctoral programs primarily in the field of education. The university has the responsibility to offer on a statewide basis, utilizing where possible and appropriate the faculty and facilities of other educational institutions, those graduate-level programs needed by professional educators and education administrators. The Colorado commission on higher education shall include in its funding recommendations an appropriate level of general fund support for those programs.*
- (3) As part of its mission as a graduate research university specializing in programs for educational personnel, the university of northern Colorado shall include the education innovation institute created in section 23-40-106 for the purposes described in section 23-40-106 (2). C.R.S. 23-40-101*

EVIDENCE OF NEED/DEMAND

Nationally in 2009, 56 percent of the 42,000 applicants to medical schools were denied entrance; in the state of Colorado, acceptance rates were less than 10 percent (AAMC and CU Medical School). Because the standards for acceptance to most professional schools are extremely high and acceptance rates are low, each year the pool of non-matriculated but academically strong students increases in size. These students often seek additional advanced study to improve their professional school application. A traditional two-year Master's program that is research-focused is less appropriate for this pool of potential students than a more streamlined and course-work intensive program would be. However, there are few of these one-year programs available for students, particularly in the western U.S. Currently, there is only one post-baccalaureate program in Colorado and the seven surrounding states that is comparable to the program proposed here. Clearly there is an unmet need in the state of Colorado and the region for an additional program of this nature.

The Master's in Biomedical Science program has been designed to provide academic enhancement within a one-year time-frame to improve or substantially expand a post-graduate student's overall scholastic credentials. A major goal of the program is to allow students a tangible mechanism to demonstrate high-level academic achievement while taking a full load of rigorous and challenging courses. Success in such an educational scenario (analogous to what the students would encounter in professional school) can support and improve the success of subsequent applications to professional schools. The program will provide a foundation in basic biology that underlies and supports medicine and therefore provides a strong framework for professional school curricula. The MBS program is appropriate for students considering a future in medicine, dentistry, veterinary medicine or biomedically related PhD programs.

The School of Biological Sciences is well positioned to fill this need as we currently offer two graduate programs (Master's in Biology and PhD in Biological Education) and therefore have existing extensive course offerings relevant to the biomedical program. The faculty expertise to teach all of the suggested core and elective courses already exists in the School.

RESOURCES REQUIRED

The tuition rate this year for 32 credits in the M.S. degree is \$11,872 for residents and \$27,200 for non-residents (not counting fees). To pay for the program (the cost of the additional 1.2 faculty FTE) we would need less than 6 students. If all of the targeted number of students (n=24) were residents, then the total tuition would be \$284,928. The salary for the full time Ph.D. level term faculty member would be approximately

\$42,000 for the academic year. With 27% for benefits, the cost of the full time term position is \$53,340 per year. The cost of eight workload units of part time with benefits is \$11,069 per year. The total yearly cost of the program would be \$64,409. With salary increases in future years the cost would increase but probably less than the increase in tuition.

In addition to these annual costs we would need three workload units of pay for a biology faculty member for spring 2011 to develop the program, recruit applicants, and coordinate selection of students. Depending on the faculty member the minimum cost of this with full time benefits is \$5174.

Thus there is no negative fiscal impact to delivering this program.

III. STAFF ANALYSIS

Staff has collaborated with the University of Northern Colorado on building a framework to assist in determining the fit of programs with statutory role and mission. Within the framework, a cluster of variables has been discussed to ensure the centrality of institutional role and mission statements. UNC has provided staff with the data requested in order to make such a determination. In this case, indicators have been used to evaluate the graduate school focus to demonstrate that UNC is honoring its mission and that the new program does not move the institution from the centrality of its statutory mission.

Factors, or indicators, should include graduate student enrollment (though not as desirable since it is an input variable); graduate student completions (much more preferred since this is an output indicator); research volume generated by faculty discipline; full-time tenure-track faculty by discipline; and instructional expenses by discipline at the graduate level. These kinds of indicators are typical for describing the quality of a graduate school. It should be noted that the intent is for UNC to present a qualitative summary that addresses this cluster of quantitative indicators. It is not expected that a numeric, solely quantitative benchmark is presented for each variable. Rather, it is desired that UNC speak to the larger mission at the graduate level relying on these indicators as parameters for presenting a narrative justification.

As noted in UNC's proposal, the addition of the Master's in Biomedical Sciences does not significantly alter the number and percent of programs or graduate students that are primarily in the field of education. UNC continues to maintain its mission of offering the majority of its degree programs in the field of education as 1) the distribution of education degree programs will continue to be greater than non-education related programs (out of 33 master's, two specialist and 20 doctoral degrees, 58% (n=19), 100% (n=2) and 75% (n=15) respectively are in education related disciplines); 2) the percent of graduate students enrolled in education related programs remains greater than in non-education programs. Fall 2010 enrollment data show that 67% of UNC's master's, 100% of its specialist and licensure students, and 79% of its doctoral students

are enrolled in education related disciplines and 3) the percent of graduating students in education related programs remains greater than in non-education related programs. UNC's most current data, fall 2009, spring 2010 and summer 2010 indicate that of the 629 graduate degrees awarded, 415 (66%) were in education related disciplines.

Pursuant to Colorado Revised Statutes 23-5-129 (6)(b), department staff finds that the proposed program fits the centrality of the institution's statutory role and mission.

IV. STAFF RECOMMENDATION

That the Commission approve the Master of Biomedical Sciences degree submitted by University of Northern Colorado.

VI. SUPPLEMENTAL INFORMATION

Copies of all relevant documents are on file in the Academic Affairs Office.

STATUTORY AUTHORITY

C.R.S. §23-5-129(6)(b)

(6) (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.