

**TOPIC: PROPOSAL TO OFFER A MASTER OF SCIENCE  
DEGREE IN BIOLOGY, CHEMISTRY, BIOCHEMISTRY  
AT COLORADO STATE UNIVERSITY-PUEBLO**

**PREPARED BY: HEATHER DELANGE**

**I. SUMMARY**

The Board of Governors of the Colorado State University System has submitted a proposal for a transformation of the existing Master of Science in Applied Natural Science (MSANS) at Colorado State University-Pueblo (CSU-Pueblo) into three emphasis areas: Biology, Chemistry, and Biochemistry.

Department of Higher Education staff support the proposed transformation of the existing program.

**II. BACKGROUND**

The following is summarized from the CSU-Pueblo proposal for the Master of Science Degrees in Biology, Chemistry, and Biochemistry:

**ROLE AND MISSION SUPPORT**

The Master of Science Degrees in Biology, Chemistry, and Biochemistry supports the role and mission of CSU-Pueblo. 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 firm grounding in the liberal arts and sciences. The university shall also offer selected masters-level graduate programs. C.R.S. 23-31.5-101*

These proposed programs would be the only graduate programs in the basic sciences that CSU-Pueblo's offers.

**EVIDENCE OF NEED FOR THE PROGRAM:**

Enrollment in the MSANS program has doubled since its inception in 1987, and the program has graduated, on average, five students each year over the last ten years. The degree designation of "MS of Applied Natural Sciences" is confusing to CSU-Pueblo students, potential recruits, and employers. Changing the degree names will offer a more contemporary, competitive, desirable, and appropriately titled degree that more accurately reflects what is currently done under the current emphasis areas. The internship degree option offers the added benefit of supporting community-based graduate learning, building stronger ties between

the university and local community, and creating service opportunities and outcomes in the community.

#### **EVIDENCE OF STUDENT DEMAND**

A recent poll of current MSANS students shows the demand for the proposed changes. When asked what they would prefer their diploma say, 83 percent of the students preferred a traditional MS (Biology, Chemistry, or Biochemistry) over the MSANS degree. Over 60 percent of the students enrolling in the MSANS program over the last five years have come from CSU-Pueblo. It is likely that many students outside of CSU-Pueblo and the local area do not identify “Applied Natural Sciences” with research and training in the Biological and Chemical Sciences. Furthermore, 78 percent of the respondents felt a Biology MS, Chemistry MS, or Biochemistry MS would be more beneficial for meeting their career goals than an Applied Natural Science MS.

#### **RESOURCE NEEDS**

The proposed reorganization of the MSANS to Graduate Programs in Natural Sciences does not require any changes to course offerings or additional research faculty. While the reorganization has included minor changes to the courses required for graduation, these changes will not require changes in the current course offerings by the Biology and Chemistry departments, with the exception of CHEM 520, which will no longer need to be offered.

Currently, students completing a thesis MSANS degree are required to complete research in one of three emphasis areas: Biology, Chemistry, or Biochemistry. These areas of research are consistent with the new degree options under which students will complete their thesis research.

The Biology and Chemistry departments and faculty are well positioned to continue to offer a high-quality graduate educational experience for students interested in pursuing a Master of Science in Biology, Chemistry, or Biochemistry as part of the Graduate Programs in Natural Sciences, but with no additional resources required.

### **III. STAFF ANALYSIS**

The Department staff has reviewed this proposed program to ensure that it meets the State’s performance measures outlined in C.R.S. 23-1-121. The program meets all performance measures.

### **IV. ACCOMPANYING MATERIALS**

Copies of all relevant materials are on file in the Academic Affairs office and are available upon request.

**IV. STAFF RECOMMENDATION**

**Staff recommends that the Commission approve the Master of Science degrees in Biology, Chemistry, and Biochemistry to be offered by Colorado State University-Pueblo.**

**STATUTORY AUTHORITY**

C.R.S. 23-1-107