

TOPIC: RECOMMEND APPROVAL OF BACHELOR OF SCIENCE IN STATISTICS AT COLORADO STATE UNIVERSITY

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I. SUMMARY

This item recommends approval for Colorado State University (CSU) to offer a Bachelor of Science in Statistics degree.

II. BACKGROUND

COMMISSION AUTHORITY

The Colorado Commission on Higher Education's role and responsibility in the review of new academic programs at institutions operating under a performance contract is defined in §23-5-129, which states that:

(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.

OVERVIEW OF PROPOSED PROGRAM

The following is summarized from CSU's proposal:

Until 2000, CSU offered the Major in Statistics as an undergraduate degree. It was discontinued in Fall 2000 due to action by the Colorado Commission of Higher Education (CCHE). After the major was discontinued, it was immediately recreated as the Statistics Concentration as an option within the Major in Mathematics. Despite this new administrative home of the degree, the core courses have been continually taught by faculty in the Department of Statistics, and the advising is done by the Department of Statistics. In the meantime, the CCHE limit on small majors was rescinded.

Reinstating the Major in Statistics, as being requested here, would involve no new resources but has the potential to result in substantial advantages for CSU. By re-establishing the Major in Statistics, and eliminating the concentration in statistics in the mathematics major, the visibility of the degree and its identity as being separate from a degree in Mathematics will be greatly enhanced. Combined with the increasing demand for statisticians currently underway, this could lead to significant growth in the number of students pursuing a statistics education over the next few years. An undergraduate degree in the Department of Statistics will mean that academic matters of degree content, curriculum design, and student mentoring are determined by faculty immersed specifically in statistics. Statistics faculty will be in a better position to adapt the degree in the future to proactively address dynamic challenges in society that require the academic study of statistics to resolve (e.g. the current emphasis on “Big Data”).

The Major in Statistics enables students to mix interests in mathematical and computer sciences with a variety of real applications. While statistics is closely related to mathematics as a discipline, the skills needed to be a successful statistician are substantially different from those for a mathematician. Most universities with departments of statistics therefore separate the two curricula and corresponding degrees. The current request is for Colorado State University to do the same.

Statisticians currently work in almost every sector of our society including industry, business, medicine, economics, meteorology, environmental studies, wildlife biology, fisheries, government, and market research. The Occupational Outlook Handbook of the Bureau of Labor Statistics projects increasing demand for statisticians: “Job prospects for statisticians will be very good. Growth will result from more widespread use of statistical analysis to make informed decisions. In addition, the large increase in available data from the Internet will open up new areas for analysis.” (see <http://www.bls.gov/ooh/math/statisticians.htm>). While currently most statisticians entering the marketplace have a graduate degree, programs offering undergraduate degrees in statistics have also had excellent success placing their graduates in industry and government. While we intend to prepare students majoring in Statistics for immediate employment as an entry-level statistician, the proposed degree is also structured to allow students wishing to move on to an M.S. in statistics to do so with minimum effort.

Additional information on this proposed degree, unrelated to fit with statutory role and mission, is attached (Attachment A).

ROLE AND MISSION SUPPORT

This degree supports CSU’s statutory role and mission, which states in part:

There is hereby established a university at Fort Collins to be known as Colorado state university. Colorado state university shall be a comprehensive graduate research university with selective admission standards offering a

comprehensive array of baccalaureate, master's, and doctoral degree programs.... C.R.S. 23-31-101

III. STAFF ANALYSIS

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

IV. STAFF RECOMMENDATION

Staff recommends that the Commission approve Colorado State University's proposal to offer a Bachelor of Science in Statistics.

V. SUPPLEMENTAL INFORMATION

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

STATUTORY AUTHORITY

C.R.S. §23-5-129 Governing boards - performance contract - authorization - operations