

TOPIC: APPROVAL OF MASTER'S OF NATURAL SCIENCES EDUCATION (MNSE) AT COLORADO STATE UNIVERSITY

PREPARED BY: DR. IAN MACGILLIVRAY, DR. JULIE CARNAHAN

I. SUMMARY

This action item requests approval of a Master's of Natural Science Education (MNSE) degree at Colorado State University (CSU). This proposed graduate program is for high school science teachers who are currently licensed in Colorado and are returning for graduate level work to increase their depth of content knowledge in the natural sciences. State Board of Education approval is not required because this program will not be used for the initial preparation and endorsement of science teachers.

II. BACKGROUND

The following is summarized from CSU's proposal.

DESCRIPTION:

This degree program is modeled after programs developed at partner institutions as a result of the National Science Foundation sponsored Center for Learning and Teaching in the West. Most of the courses are online so that teachers can complete much of the degree requirements while continuing their regular teaching appointments. The research courses require one summer of residency at CSU. The overall goal of the degree program is to increase the pedagogical content knowledge of teachers by strengthening their understanding and knowledge of subject content in the natural sciences including biology, chemistry, earth and space sciences, and physics and physical sciences. The degree program will: (1) provide increased content knowledge and competency for middle and secondary science teachers; (2) enhance research skills and training of teachers so they have a greater understanding of the methodology and protocols scientists use; and (3) emphasize a greater understanding by teachers of cognition and instruction and knowledge of diversity and equity in the teaching of science. Demand is anticipated to be 15-20 graduates per year after the first two-year cycle.

ROLE AND MISSION SUPPORT:

The role and mission of Colorado State University requires that the University be a comprehensive graduate research university, inspired by its land-grant heritage, which sets the standards for public research universities in teaching, research, service and extension, with programs in science and technology and the

professions (C.R.S. §23-31-101). This proposed degree program supports this mission by providing professional development for Colorado's science teachers.

ADMISSION AND GRADUATION STANDARDS:

Teachers who completed an undergraduate degree and licensure with an emphasis and/or concentration in a science discipline and who are or who intend to be teaching in a middle or high school will qualify for admission to this program, including those teachers who have taken any additional undergraduate science courses beyond those required for their bachelor's degree.

PROGRAM FACULTY:

The Associate Dean for Graduate Education, College of Natural Sciences will administer the degree with the support of the Center for Science, Mathematics and Technology (CSMATE) Director and staff. An advisory council of faculty members from core discipline departments will provide curriculum direction and oversight. Many of the online courses have been developed with grant support from the DHE and the CDE.

III. DEPARTMENT OF HIGHER EDUCATION REVIEW

The Department staff has reviewed this proposed program and letters of assurances from academic administrators to ensure that the degree program meets the State's performance measures outlined in C.R.S. §23-5-129.6. The program meets all performance measures set forth by the state.

IV. STAFF RECOMMENDATION

That the Commission approve the Master's of Natural Sciences Education degree program submitted by Colorado State University.

V. SUPPLEMENTAL INFORMATION

Copies of all relevant statute, policy and the proposal are on file in the Academic Affairs Office.

STATUTORY AUTHORITY

C.R.S. §23-5-129.6