

The University Senate of Michigan Technological University

PROPOSAL 17-97

EARTH SCIENCE EDUCATION OPTION IN THE B.S. IN GEOLOGY DEGREE

Michigan Technological University will award the Earth Science Education Option in the B.S. in Geology Degree as described below.

Proposal Background

The teacher certification programs at Michigan Tech are preparing for the first ever specific program review by the Michigan Department of Education. An Earth Science Teacher Certification (teacher certification refers to requirements by the Michigan Department of Education) program is currently offered under the B.S. in Geology Degree. Students follow the Geology Option with some substitutions allowed for Upper Division Geology courses. The Geology Option is designed for Geology and not for Earth Science. An earth science teacher should have courses in astronomy, meteorology, and oceanography and more emphasis on surface processes. The Geology Degree already includes a Geology Option and an Environmental Geology Option like those offered in the Department of Biological Sciences, e.g., the B.S. in Clinical Laboratory Science degree includes a 4+1 Teacher Certification Option. The easiest method to offer an accredited program specifically designed for earth science teacher certification is the creation of a new option in the B.S. Geology Degree.

On April 10, 1997, the Department of Geological Engineering and Sciences faculty unanimously approved adding an Earth Science Education Option to the B.S. in Geology Degree. The proposed catalog listing for the Earth Science Education Option in the B.S. Geology Degree is attached. The Geology Option and Environmental Geology Options are unchanged in course content.

NEED

If the department is to continue to participate in the teacher certification program, a program is needed that is specifically designed for earth science teacher certification and that meets standards for course content. Currently, earth science teacher certification can be obtained within the B.S. in Geology Degree; the program is really geology and not earth science, and the program falls short of the standards for course content. In addition, the earth science teacher certification is not obvious from the department's catalog listings. The proposed new option will make earth science education a clearly identifiable option for students. By making a clearly identifiable option, the department hopes to attract more students into the Geology degree program. There is a national shortage of science and math teachers.

PROGRAM FIT

The new Earth Science Education Option replaces the course content in the already existing Earth Science Teacher Certification program. The specific course requirements for the proposed Earth Science Education Option were significantly modified as compared to the current requirements listed for Earth Science Teacher Certification by the MTU Department of Education in order to make the student's background more relevant to a career in secondary education and to make the program meet accreditation standards for course content. The number of credits currently required to complete the B.S. in Geology Degree and teacher certification is between 208 and 227 with the larger number being more likely. The proposed new option will make it much easier for students to graduate with 208 credits and still have some General Electives. Students in Geology, Geological Engineering, and Geophysics degree programs are all required to take 208 credits, 192 credits plus 16 credits of summer field courses. The new option is consistent with this total credit requirement. The goal of the Earth Science Education Option is to provide

the candidate with the course work qualifications to be certified in teaching at secondary schools and to be able to do graduate studies in geology.

ADMINISTRATION

Since the new Earth Science Education Option simply replaces the course content in the already existing Earth Science Teacher Certification, the administration of the program will remain as it is now.

COST AND REVENUE

There are no new costs associated with this degree change. All courses for the new option in the B.S. in Geology degree already exist. Since the new option simply replaces the course content of an already existing program there will be no new administrative costs.

The department's goal is to increase enrollment in the B.S. in Geology by attracting students into the Earth Science Education Option. As only one student will graduate from the earth science teacher certification Spring 1997, even a few more students will be a significant increase.

Please contact the Senate Office for a copy of the remaining attached text.

Adopted by Senate: May 14, 1997

Approved by President: August 17, 1997