**Physics Narrative Report Response**

The University of Montana  
Professional Education Unit  
Secondary and K-12  

**Number and Name of Standard:** ARM 10.58.522 Physics  

**Individual(s) Completing Report:** Fletcher Brown  

**Date Submitted:** 4/9/13  

**Purpose:** The information below are responses to the validating and improvement sections of the Narrative Summary Report: Science Standard ARM 10.58.522 Physics  

1. **Validation Statement:** Standards for physics were reviewed. Most requirements were found to be satisfactory and appropriate. This reviewer feels that more methods instruction classes are required and that some class work in Native American Studies are necessary as well.  

**Additional Methods Course Work:** Adding an additional methods course in physics would require an added course in Physics and/or Curriculum and Instruction (C&I). In physics adding a physics specific methods course has been limited by the large number of credits students are required to take (not having room to add courses) for the major and adding an additional course to faculty load in the department. In C&I adding a specific method courses for each science discipline (physics/earth science/chemistry/biology) could not be covered by the university, college and department budget. It should be noted that the number of students getting certified each year in physics at U of M is very low with student enrollment in a physics method course be at most 3 or less and many years none.  

**Coursework in Native American Studies of some type would be valuable:** In addition to the Indigenous and Global Perspectives course requirement that is required for all College of Arts and Science graduates, physics certification majors also have significant exposure to Native American Studies through content woven through their C&I certification course work. See attached Indian Education For All (IEFA) supplemental responses for secondary certification and the specific supplemental responses to IEFA for the secondary science methods courses which is attached.