FUNDAMENTALS OF GEOSCIENCE IN THE FIELD AND METHODS IN GEOSCIENCE FIELD INSTRUCTION

INSTRUCTORS → DAVID HARWOOD → KYLE THOMPSON → DEPARTMENT OF EARTH AND ATMOSPHERIC SCIENCES → CENTER FOR MATH AND COMPUTER SCIENCE EDUCATION → UNIVERSITY OF NEBRASKA → LINCOLN



Figure 1. Students taking notes during a field lecture

+ CLASS OVERVIEW

This course offers in-service teachers an opportunity to learn about geology and geoscience education through a 2-week inquiry-based field course across Wyoming, South Dakota and Nebraska. In 2011 this course utilized the UW-NPS facilities for 3 days in mid-June. The group discovered local glacial features, evaluated the uplift and subsidence history of the Grand Tetons and Jackson Hole, respectively, and built upon growing geological abilities and knowledge of the geological evolution of the Rocky Mountain region. The 2011 course included seven teacher participants (5 from Nebraska and 2 from North Carolina), one education and media facilitator from the ANDRILL Program at the Univ. of Nebraska-Lincoln (UNL), and two instructors. This course is offered as part of UNL's Nebraska Math and Science Summer Institute (NMSSI) Program, receiving support from this program, from the Dept. of Earth and Atmospheric Sciences, and private donations. The primary aim of this course is to improve educators' ability to teach inquiry in their classrooms, gain knowledge and understanding of geoscience, and to demonstrate effective teaching methods that can integrate geoscience into K-12 learning environments. The UW-NPS facilities provide an excellent opportunity for participants to discover the natural history of the Teton Range.

Participants became active members of a field-based learning community comprising individuals with expertise and experience in geoscience and pedagogy. Through a collaborative teaching and learning structure, course participants learned about geoscience, pedagogy, group dynamics,

and discovered Rocky Mountain history. The experience was enhanced through the evaluation, assessment and reflection on the inquiry-based approach demonstrated as an effective means of teaching geoscience.

+ CLASS OBJECTIVES

Major goals of these courses are: 1) to enhance the 'geoscience experience' for pre-service and in-service science educators, 2) to teach inquiry concepts and skills that K-12 educators are expected to understand and teach (as outlined in national standards), 3) to engage science educators in fieldbased geoscience education and inspire them to use inquiry and geoscience as unifying themes in their classes/teaching activities, 4) to provide participants with an opportunity to pursue authentic geoscience fieldwork, and 5) to enhance pedagogical understanding and provide all participants with a 'tool-kit' of effective inquiry-based, and discoverylearning teaching practices. Grand Teton National Park provides excellent exposure to a wide range of geological features and processes that built this impressive landscape.

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