

2007 Annual Meeting Information

Short Courses

Note: Offering the courses will depend on a minimum number of enrollees by August 1, 2007. Course details may change slightly from the descriptions provided below. If so, updates will be provided.

Short Course #1: “Practical Professional Ethics”

8:00 am to 12:00 noon and 1:00 pm to 5:00 pm, Wednesday, October 10th

David M. Abbott, Jr., CPG

“Ethics” is in the news. We’re all in favor of ethical behavior; but what does this really entail, particularly in professional practice? Our childhood ethical training didn’t cover common professional issues like conflicts of interest and employer/client confidentiality. What is the connection between common moral rules like “Do not kill,” “Do not harm,” and “Do not deceive” and the common headings found in professional ethics statements like “Protect the public health, safety, and welfare,” “Relationships with employers or clients,” and “Relationships with professional colleagues”? How does one determine whether an exception to a general moral or ethical rule is allowed? For example, is it ever acceptable to ignore data points in reaching scientifically valid conclusions?

This short course addresses these questions using actual professional practice examples. The course provides a review of fundamental moral principles, something missing from all to many ethical presentations, and demonstrates how these principles relate to common professional ethical statements along with guidelines on applying general statements to analyze particular case histories. Course participants are expected to contribute to discussions of case histories and are encouraged to contribute their own case histories for analysis.

Short Course #2: “Geology and Natural Resources of the Michigan Basin”

9:00 am to 12:00 noon and 1:00 pm to 4:00 pm, Monday, October 8th

Dr. William B. Harrison, III, Professor Emeritus Department of Geosciences and Director, Michigan Basin Core Research Laboratory

Dr. G. Michael Grammer, Associate Professor of Geosciences and Director, Michigan Geological Repository for Research and Education, Western Michigan University, Kalamazoo, MI

This course will give an overview of the general geology of the Michigan Basin including structural, stratigraphic and lithologic characteristics of sedimentary strata comprising the basin. Some limited information about the crystalline basement underlying these sedimentary rocks will also be presented. Outcrop and subsurface data will be integrated to give a complete view of the basin. Core, sample and log data from the collections at the Michigan Basin Core Research Laboratory will be used to elucidate the subsurface portion of the basin. Distribution, abundance and geologic setting of hydrocarbon, mineral and water natural resources will be described using specific examples from public databases. Outcrop and core samples will be available for examination during the short course to illustrate key characteristics of selected important formations.

Short Course #3: “Monitoring Ground Water Quality Using Low-Flow Purging and Sampling Techniques”

1:00 pm to 4:00 pm, Monday, October 8th

Michael J. Barcelona* and James Boisineau**

*Western Michigan University, Department of Chemistry

**James Boisineau, Seven-Trent-QED

This course will cover the practice of monitoring well purging and sampling using low-flow (Minimal Drawdown) Techniques. Starting with a thorough review of monitoring well design, construction, and development, the basis for the method will be presented. Distinct advantages of low-flow versus “conventional” techniques will be discussed in the context of specific contaminants which are prone to major bias (gross error). These include purging indicators parameters (electrical conductance, dissolved oxygen, and pH), redox indicators (dissolved oxygen, ferrous iron, sulfide, etc.) and volatile organic compounds (fuel constituents and chlorinated solvents). Case studies and research publications will be covered (copies will be provided as part of the course materials). Participants are urged to ask questions throughout the course period. In addition to the two-hour classroom session, the class will include a field portion (~1.5 hours) during which a low-flow sampling event will be conducted. Participants will be encouraged to actively join in the field proceedings.

Short Course #4:

“Glacial Geology of Michigan: New Insights and Interpretations”

9:00 am to 12:00 noon and 1:00 pm to 4:00 pm, Tuesday, October 9th

Dr. Alan Kehew, Professor of Geosciences, Western Michigan University, Kalamazoo, MI

Michigan was extensively glaciated during repeated Pleistocene fluctuations of the Laurentide Ice Sheet. The Lower Peninsula is covered by variable thicknesses of glacial drift (up to 1200 ft), with few exposures of bedrock. The Upper Peninsula was also completely covered by glaciers, but contains more extensive exposures of bedrock. Over the past decade, new mapping of the glacial drift has been completed as part of US Geological Survey STATEMAP and EDMAP programs. Prior to this new work, most interpretations of the glacial geology were based on mapping by Frank Leverett and others in the early 20th Century. Digital Elevation Models (DEMs) provide a new way to visualize and interpret glacial landscapes and are extensively used in current mapping projects. The wide availability of these databases has stimulated and facilitated glacial geologic research throughout glaciated terrains worldwide. DEMs will be used in the course to illustrate glacial landscapes.

This short course will review new interpretations and controversies involving the glacial geology of Michigan by giving examples of various types of landforms and landscapes and by summarizing the evidence and hypotheses for their formation. Major topics to be explored in the course include the record of the glacial lobes that covered Michigan including the Lake Michigan, Saginaw, and Huron-Erie Lobes, the processes and deposits occurring at interlobate boundaries, and the occurrence and origin of landforms such as moraines, drumlins, tunnel channels, eskers, and outwash fans. The characteristics and distribution of deposits such as diamicton (till), glaciofluvial sediment, and glaciolacustrine sediment will be covered and examined in terms of their environmental implications. Most examples will be chosen from mapped areas in southwestern Michigan.

Short Course #5:

“Exploration for and mining of metals with emphasis on Michigan's Upper Peninsula”

8:00 am to 12:00 noon and 1:00 pm to 5:00 pm, Wednesday, October 10th

Theodore J. Bornhorst, Ph.D., Michigan Technological University

This course will investigate several aspects of exploration for and mining of metallic minerals in Michigan within the framework of government regulations. The course will present an overview of the types and 3-D geometry of metallic mineral deposits with reference to Michigan's western Upper Peninsula. Techniques used for exploration for metallic deposits, mining methods, and engineering evaluation that is part of feasibility studies will be discussed. There will be consideration of the assessment of the environmental impact of mining, especially acid rock drainage (ARD) and the geochemical methods used to assess it. The course will include study and analysis of Michigan's metallic mining regulations using Kennecott's Eagle Mine in Michigan's Upper Peninsula as a case study.