Teacher Professional Development

Forest Ecology & Resources

Teacher Institute

~ June 27 - July 1, 2011 ~

Registration Deadline:
May 13, 2011

Full payment due: June 3

Institute Topics:

- Tree & Plant Identification
- Forest Measurements & Data Analysis
- Forest Ecology & Potential Change Agents
- Forest Health: Insect Pests & Disease
- Wildlife Habitat & Biomonitoring
- Active Logging Operation & Mill Tour
- Forest Soils & Earthworm Invasions
- Carbon Sequestration in Forests
- School Forests & Forest Stewardship
- Using Forests to meet Curriculum Benchmarks

This Institute is made possible with generous support from the Michigan Forest Foundation.

Bring forests into your classroom!

Coordinated by:
Michigan Tech School of Forest Resources & Environmental Sciences
Michigan Tech Center for Science & Environmental Outreach
This five-day Institute is designed to provide teachers (grades 3-12) with a basic understanding of forest ecology and management. At the end of this institute, educators will be able to:

- Describe forests and their components: forest types, abiotic and biotic components of forest ecosystems.
- Explain the historic, current, and future importance/uses of forests in Michigan and globally, and threats to forests (climate change, invasive species, disease, land use changes, fire ecology).
- Discuss forest management and sustainability: biodiversity, silvicultural prescriptions, forest health, multiple uses (wildlife, water, recreation, timber).
- Identify and utilize a variety of resources to design and implement a forestry teaching unit, forest education/management program, and/or school-community forest stewardship project.

The institute brings together the expertise of scientists, university faculty, natural resource management professionals, and educators to conduct this Institute. Through lecture, hands-on data collection and analysis, field trips, and assignments, participants will obtain new knowledge and skills that can be adapted to their work with students. Teachers will receive forest measurement supplies and curriculum support materials, including Project Learning Tree (K-8) or Forestry Field Studies: A Manual for Science Teachers.

The Institute will provide participants with standards-based professional development, an opportunity to participate in real-world, inquiry-based investigations, and time to share teaching ideas with their peers.

In addition, participants will gain a sense of forest stewardship—by better understanding how human activities interact with forest distribution and health. Participants will enhance their teaching skills—by sharing ideas and innovative approaches to curriculum development and delivery with other educators; and will be better able to guide their students’ interest in natural resource careers after interacting with a variety of scientists and natural resource professionals.

Michigan Tech’s 7,000 undergraduate and graduate students benefit from an education that emphasizes study across disciplines, team learning, and research. Michigan Tech is located in Houghton along the Keweenaw Waterway. Houghton and its sister city of Hancock, with a combined population of 14,000, have their roots in the copper mining days of the mid-19th century. Houghton’s picturesque waterfront includes a 5-mile walking path. In addition, the Michigan Tech Recreational Trail System offers 50+ km of running, hiking and mountain bike trails. The area offers unparalleled opportunities for outdoor recreation—biking, fishing, backpacking, hiking, and kayaking. Men’s Journal ranked Houghton as one of the top 10 “healthiest, safest, and most fun places to live” and National Geographic Adventure Magazine ranked the area as “one of America’s top 10 Summer Sports Meccas.”
Course Credit & Requirements

Participants will earn three graduate credits (ED 5630) from Michigan Technological University (MTU). To receive credit, participants must:
- Complete assigned readings.
- Actively participate in the entire Institute.
- Keep a field journal during the Institute.
- Design a 5-day teaching unit (rubric provided) that meets Michigan (or national) content standards. Participants should plan to implement their unit during the 2011-12 school year. The teaching unit is due September 1, 2011.

Professional Certificate

The credits earned from this Institute can be applied towards an 18 semester-hour planned course of study for teachers working toward their Michigan Professional Certificate. For more information about designing a planned course of study, contact Judy Anderson at the Michigan Tech Department of Cognitive & Learning Sciences at 906-487-2460 or juanders@mtu.edu.

Participants interested in pursuing an advanced degree at Michigan Tech in a field other than education, should contact the department of interest (http://www.mtu.edu/).

Master of Applied Science Education

Graduate credits may also be applied towards Michigan Tech’s Master of Science in Applied Science Education program. For more information about the Master’s program, contact Dr. Bradley Baltensperger in the at 906-487-2460 or brad@mtu.edu.

Institute Instructors

The institute will be taught by Michigan Tech University School of Forest Resources and Environmental Science (SFRES) faculty and staff, natural resource management professionals, and teacher leaders. Visit this website to learn more about these MTU faculty and staff: http://forest.mtu.edu/

Invited MTU faculty & staff presenters:
Andrew Storer, Ph.D./Rita Koch, Ph.D. candidate – insects and diseases
Linda Nagel, Ph.D. - ecophysiology, silviculture, forest vegetation dynamics
Jim Rivard, M.S. - forest measurements and management
Meagan Harless, Ph.D. candidate - forest biomonitoring with Salamanders
Maria Janowiak, M.S. – carbon sequestration in trees

Invited guest presenters:
Eric Lilleskov, Ph.D. (USDA Forest Service North Central Research Station) – soil mycorrhizae and exotic earthworms.
Darrell Hendrickson, middle school science teacher, Washington Middle School – coordinates school forest education program for 120 7th graders.
Pam Nankervis, M.S. – wildlife ecology and Native American values
General Information

Cost
Registration fee for the 5-day Institute is only $485 for both Michigan and out-of-state residents and includes five lunches, instruction, field trips, classroom materials, plus three graduate credits from Michigan Tech. The total cost for participants who stay on campus is $725 which includes four nights lodging, Monday-Thursday, and all meals Monday lunch through Friday lunch. (Generous support from the Michigan Forest Foundation, along with a departmental stipend from the School of Forest Resources and Environmental Sciences, reduces the official cost of MTU tuition for both Michigan and out-of-state residents (official 2010-11 Michigan Tech Graduate Resident and Non-Resident tuition cost is $431 per credit). Full payment is due June 3. Make checks payable to: “Michigan Technological University D93719.” To pay by credit card (Visa, MC, Discover), call the MTU cashier at 906-487-2247 and specify that your payment is for the Forestry Institute “D93719.” Refunds will be provided if the space is filled.

Campus Accommodations (optional)
For an additional $240, participants will receive four nights lodging (single room) in MTU’s new Hillside Place 4-person suites with two bathrooms, kitchen and living room and receive meals from Monday lunch through Friday lunch. Michigan Tech Trails and downtown Houghton are within easy walking distance.

Getting to Michigan Tech
Michigan Technological University is located just east of downtown Houghton, MI. Houghton is served daily by United Airlines (800-864-8331 or united.com) from Chicago to the Houghton County Airport in Hancock. Commercial taxi is available from the airport to the Michigan Tech campus for approximately $20 per person by calling Neil’s Cab at 906-482-5515.

Websites for More Information
School of Forest Resources & Environmental Science at Michigan Tech: http://forest.mtu.edu
Michigan Technological University: www.mtu.edu
Tourism information: www.keweenaw.info/

Questions
For more information, contact Joan Schumaker Chadde at 906-487-3341 or jchadde@mtu.edu.

How to Register
Send your registration form by fax or postal mail to:
Joan Chadde, Course Coordinator
Western U.P. Center for Science, Math & Environ. Education
105 Dillman Hall - Michigan Technological University
1400 Townsend Dr., Houghton, MI 49931
Tel: 906-487-3341 Fax: 906-487-1620
Application forms are available at:
http://forest.mtu.edu
http://www.ed.mtu.edu/index.html
http://wupcenter.mtu.edu

Application deadline is Friday, May 13. Participants are accepted on a first-come basis. Registration will be confirmed by email as their applications are received. Limited to 20 participants.

Need more credits? Attend another Michigan Tech summer institute. See: http://www.ed.mtu.edu/pd.html