New Approaches to Meteorology Education Course for University Faculty

The confluence of a national call for improving undergraduate education (e.g., Scrutiny of Undergraduate Geoscience Education, Shaping the Future, and Geoscience Education: A Recommended Strategy), the rapid development of technology, and the emergence of new models of how students learn have created a climate for a reassessment of how the foundation courses in undergraduate meteorology programs are taught. Most of the required meteorology courses are now characterized by a lecture format which many educators have argued focuses on memorization of factual information that promotes the development of superficial understandings and inert knowledge. The goal for this course is to help faculty in undergraduate meteorology programs create more effective learning environments through the innovative use of technology and instructional strategies.

The New Approaches to Meteorology Education course for University Faculty will use thermodynamics as the topic for hands-on learning for faculty seeking to improve the learning environments for students. Topics to be addressed will include: how students learn, demonstrating learning, establishing course goals and choosing instructional media. During this course, faculty will be exposed to tools such as streaming media, portfolio assessment, and course managers. They will also be introduced to resources from the meteorology community such as the COMET multimedia data base, interactive java activities and MetApps. The faculty will use contemporary pedagogies to create group projects that will be pilot versions of innovative approaches to helping students understand principles of atmospheric thermodynamics.

Upon completion of the course, participants will be encouraged to engage in a follow-up project to continue to develop instructional materials for their own courses.

Course organizers are Dr. Doug Yarger, Emeritus Professor, Iowa State University, Dr. Greg Byrd and Dr. Joe Lamos, COMET Education and Training. The course program committee also includes representatives of the UCAR community.

Time	Tuesday **13 August**
0800 to 1200	Teaching Strategies Instructional Methods for science education *(Brent Wilson)* Vision of changes in higher education *(Brent Wilson)* BREAK Portfolio/Assessment *(Mike Taber)* Best Practices - Iowa State NSF grant re: teaching thermodynamics *(David Meltzer)*