

Active Learning in Introductory Physics Courses: Research-Based Strategies that Improve Student Learning—July 15-17, 2019, Portland, Oregon

Designed for those who teach introductory physics at universities, colleges and high schools. Graduate credit will be available through the University of Oregon.*

Instructors: David Sokoloff, University of Oregon and Ronald Thornton, Tufts University

Participants will be introduced to research-validated, classroom-tested strategies for each component of the introductory course that have been demonstrated to improve learning. These include Interactive Lecture Demonstration (ILDs), RealTime Physics (RTP) labs, Collaborative Problem-Solving Tutorials, Workshop Physics (WP), Physics with Video Analysis (PVA), and related online video analysis exercises. The course will also include the use of video analysis to identify analytic functions describing real data. Among other more recent developments are (1) 3rd ed. RTP E & M labs using video analysis, (2) ILDs using clickers, (3) online homework using Interactive Video Vignettes (IVVs), and (4) distance learning and in class labs using the self-contained, wireless IOLab (or other wireless data acquisition devices). Topics will be chosen from both semesters of introductory physics. Research on the effectiveness of these strategies will also be discussed.

The tools and software used in these active learning curricula are compatible with Macintosh and Windows OS, and with the popular interfaces and sensors. Participants will receive complimentary printed copies of the curricula (published by Wiley and Vernier, and also available for high school use as the ABP High School E-dition).

The course fee is \$225. (Early bird registration until May 1 is \$195.)

* Up to three graduate credits from the University of Oregon will be available for an additional \$90/credit.

For more information and to register: <http://pages.uoregon.edu/sokoloff/CHAUT.htm>