New Instructional Tools for Undergraduate Mechanics:
More than Just Technology

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Abstract
Motivated by the need to address the broad spectrum of learning styles embraced by today's engineering students, a desire to encourage active, peer-to-peer, and self-learning, and the goal of interacting with every pupil despite ever-expanding enrollments, the Purdue Mechanics Freeform Classroom (PMFC) represents a new approach to engineering mechanics education. This complete, yet evolving, course system combines the most successful elements of the traditional classroom, with new hybrid texts, extensive multimedia features, and web2.0 interactive technologies, rendering physical and virtual learning environments. This approach has been shown to produce favorable educational outcomes, yielding a far-superior educational experience for the students and, in many ways, a more positive experience for the course instructor. With continued development and expansion the developers believe that the Purdue Mechanics Freeform Classroom can be adopted at colleges and universities across the globe, rendering a positive and uniform mechanics education experience for all.

Chuck Krousgrill received his BSME from Purdue University in 1975 and his MS and PhD in Applied Mechanics from Caltech in 1976 and 1980, respectively. Since that time, he has served on the faculty of the School of Mechanical Engineering at Purdue University. He has conducted research with his graduate students in the areas of vibrations, dynamics, nonlinear systems, gear vibrations, and friction-induced vibrations with an emphasis on brake squeal vibrations. He has also been a major contributor in undergraduate and graduate instruction in mechanics. Dr. Krousgrill has received the School's H.L. Solberg Teaching Award seven times, the College's A.A. Potter Teaching Award four times, and the University-wide Charles B. Murphy Award once. He is a founding fellow of the University's Teaching Academy and serves on the Executive Council for the Teaching Academy. He received the Special Boilermaker Award from the University in 2010, and the Archie Higdon Distinguished Educator Award from the Mechanics Division of ASEE in 2011.

This seminar is co-sponsored by the Academy of Mechanical and Aerospace Engineers

Refreshments will be served at 3:15 p.m