

## **Participation in WERC, an Alternative Capstone Design Experience**

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### **Abstract**

Over the past nine years, selected senior-level chemical engineering students at the University of Arkansas have participated in the Waste-Management Education and Research Consortium (WERC) as an alternative to the traditional capstone design course. The WERC competition, held annually in Las Cruces, New Mexico, pits student teams against one another in solving real environmental problems. Typical projects include the thinning of forests to minimize the potential for fire damage, the prevention of foodborne illnesses due to bacterial contamination of tomatoes, and the design of a mobile treatment facility to treat mixed transuranic wastes. The students must select the “best” technology from a number of alternatives, run the necessary experiments to prove the concept, construct a scale model of their design, prepare a market analysis and business plan while addressing community relations and environmental regulations, and make oral and poster presentations at the competition. This paper compares and contrasts the WERC experience with the traditional classroom capstone design experience.