

## *Abstract for the 2004 ASEE Meeting*

### **Senior Capstone as Liberal Education**

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The Engineering Physics Program at Southeast Missouri State University received initial accreditation from the EAC of ABET in 2001. One lingering concern from that process was that students did not get sufficient experience on multidisciplinary teams because the program has low enrollment and primarily an electrical engineering flavor. Another lingering concern was that the Engineering Physics degree, as the only engineering program at Southeast, requires about 12 more credit hours than most other programs on campus, which might tend to reduce its competitiveness when recruiting majors. In order to address these concerns, we developed a senior capstone course that has been accepted into the University Studies Program, which is Southeast's general education program. It therefore counts both in the major and for the general education program, thus reducing the total number of hours required. The course requires students from at least two departments on campus to work on a project requiring expertise from both disciplines. In Spring 2004, in collaboration with a faculty member in the Environmental Science Program, students will design and construct a pH-sensitive, solid-state sensor to determine the concentration of organophosphates in groundwater in the region around the University. This project has the added benefit of providing an instrument to address a serious regional problem, so external funding for it has been requested with from a state agency. This paper will describe our first experience teaching the course.