

COP-051
Engineering Systems Machine Shop

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Abstract

Engineering is changing; the new, fast-moving, global, multidisciplinary environment requires graduates to have not only the traditionally narrow technical knowledge of their predecessors, but also a broader skill set. Engineers must now understand and apply several disciplines to solve complex problems. Graduates are expected to adapt new technology, to work in rapidly changing situations, combine ideas to synthesize creative solutions and work effectively in teams.

We propose to establish an Engineering Systems Machine Shop which would be a site for multi-disciplinary education. The goal of the Engineering Systems Machine Shop is to integrate “hands-on” experience with education, research and regional industrial development.

Multidisciplinary student teams will work on small projects that address problems suggested by industry. We think that this could create reinforcing cycles that would lead to projects that solve bigger problems. More importantly, the projects would establish ongoing relationships and networks between students and Pennsylvania employers, helping to insure the retention of students in jobs the region after graduation.