

Curriculum Model for Service Systems Engineering POMS 2007 Workshop

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ABSTRACT

Demand for undergraduates, emphasizing service industry engineering, sciences, and management, greatly exceeds the supply. Current trends in the service sector account for more than 80% of the GDP and more than 85% of the workforce. Michigan Tech is launching a new undergraduate degree offering in 2007. Service Systems Engineering (SSE) will be coupled with the Bachelor of Science in Engineering program. The curriculum development efforts are being funded by a \$500,000 NSF grant. Interdisciplinary emphasis of engineering, sciences, and business allow for the development of curriculum to match the needs of industry. The team has worked closely with service industry representatives through a Delphi study and follow-on curriculum development.

- I. Introduction
- II. History and Background of Michigan Tech Project
 - a. Delphi Study – First NSF Grant
 - b. Curriculum Development – Second NSF Grant
- III. Field of Service Systems Engineering
- IV. Workshop Exercise – Defining the Curriculum
 - a. Business
 - b. Science
 - c. Cognitive and Social Sciences
 - d. Engineering
 - e. Interdisciplinary
 - f. Other
- V. Review of Our Curriculum and Proposed Courses
 - a. Current Constraints
- VI. Workshop Exercise II – What Other Courses Should Be Considered and Why
- VII. What is Being Done by Others
 - a. Graduate Programs
 - b. Certificates
- VIII. Workshop Exercise III – Breaking Down Barriers to Interdisciplinary Integration
- IX. Next Steps – NSF Adaptation Grant
- X. Summary