

**SYLLABUS**  
**MGSC 877**  
**Operations Analysis**  
**Spring 2005**

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**Course Web Page** <http://dmsweb.moore.sc.edu/dmsb877>

**Text:** Data Analysis & Decision Making with Microsoft Excel; Albright, Winston and Zappe, Duxbury Press, 2003, Second Edition. ISBN 0-534-38367-X

The Six Sigma Way Team Fieldbook, Pandle, Neuman and Cavanaugh, McGraw Hill, 2002.

**Course Description:**

Managers are often called upon to turn a “mess” into a problem, that is, to discover what the problem really is and to use appropriate techniques to both discover the underlying relationships and make recommendations that lead to improvement. The problems defined by managers/decision makers in today’s competitive environment are often very complex and can be addressed by many different courses of action. The focus of this course is on identifying and evaluating the alternatives and choosing the best course of action. Emphasis will be placed on problems in service management, supply chain management and manufacturing.

**Course Objective:**

The objective of this course is to facilitate the process of learning to:

- Execute a variety of quantitative/analytical methods and models.
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- Apply statistical and quantitative techniques within a Six Sigma framework.
- Determine which methods, models or processes are viable and appropriate to use in a given problem environment.
- Meaningfully interpret the results of the analysis to provide insight in to the environment analyzed and suggest decisions or alternative courses of action.

**Topical Coverage:**

Weeks 1 and 2 – introduce Geographical Information Systems

Weeks 3 through 7 – Six Sigma

Week 3 – Design

Week 4 – Measure

Week 5 – Analyze

Week 6 – Improve

Week 7 – Control

Week 8 and 9 - Design of Experiments

Week 10 and 11 – Simulation Modeling

Week 12 and 13 – Optimization

Week 14 – Multiple Criteria Decision Making

**Grading and Class Processes**

The course grade will be based on four project assignments and the two examinations. The projects will for the most part be performed in groups chosen by the instructor.

**Final Grade Computation:**

Project assignments	60% (15% each)
Mid Term Examination	20%
Term Examination	20%