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,

The Six Sigma Way Team Fieldbook, Pandle, Neuman and

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.
• 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 into 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:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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</thead>
<tbody>
<tr>
<td>Project assignments</td>
<td>60% (15% each)</td>
</tr>
<tr>
<td>Mid Term Examination</td>
<td>20%</td>
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<tr>
<td>Term Examination</td>
<td>20%</td>
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