Course Description and Scope

Management is a combination of art and science. The aim of this course is to study the use of a scientific approach to managerial problems to assist managerial decision making. As business problems become increasingly complex, managers need to approach decision making systematically and analytically. The methods covered in this course provide such a useful framework and techniques for structuring and solving a variety of decision problems. The focus of the course will be on model building and analysis. The use of computer based solution tools will be emphasized throughout the course. Students will be expected to structure business problems as decision models, solve models using the prescribed software and interpret the computer-generated solutions.

Topics covered in the course include optimization models for business decisions, inventory control, waiting line management, and decision making under uncertainty and risk, etc. Examples and cases drawn from accounting, finance, marketing, operations management, and other management functions will be widely used during the course.

Course Learning Objectives

The main learning objective of this course is to develop skills in analytical thinking and problem solving related to business decision-making. We aim to achieve this by focusing on a two-prong approach. We will implement a systematic problem-solving process consisting of problem identification, problem formulation, analytical modeling, model calibration, and recommendation. We will also emphasize use of spreadsheet modeling software so that the students can solve problems at ease.

Course Assessments

<table>
<thead>
<tr>
<th>Components</th>
<th>Marks</th>
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</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>15%</td>
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<tr>
<td>Assignments</td>
<td>10%</td>
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<tr>
<td>Quiz</td>
<td>25%</td>
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<tr>
<td>Final Exam</td>
<td>50%</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
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Textbook

## Proposed Weekly Schedule

<table>
<thead>
<tr>
<th>Week</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Linear Programming: Introduction</td>
</tr>
<tr>
<td>3</td>
<td>Linear Programming: Sensitivity Analysis</td>
</tr>
<tr>
<td>4</td>
<td>Linear Programming: Applications</td>
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<tr>
<td>5</td>
<td>Integer Linear Programming</td>
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<tr>
<td>6</td>
<td>Distribution and Network Models</td>
</tr>
<tr>
<td>7</td>
<td>Quiz</td>
</tr>
<tr>
<td></td>
<td><strong>RECESS WEEK</strong></td>
</tr>
<tr>
<td>8</td>
<td>Inventory Models: Deterministic Demand</td>
</tr>
<tr>
<td>9</td>
<td>Inventory Models: Probabilistic Demand</td>
</tr>
<tr>
<td>10</td>
<td>Waiting Line Models I</td>
</tr>
<tr>
<td>11</td>
<td>Waiting Line Models II</td>
</tr>
<tr>
<td>12</td>
<td>Decision Analysis I</td>
</tr>
<tr>
<td>13</td>
<td>Decision Analysis II</td>
</tr>
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