

## ES 461 – Quantitative Methods for Management Fall Offering

| Week | Topic  | Ref.                   |           |
|------|--|------------------------|-----------|
| 1    | Operations Research/Modeling Approach  | Ch. 1-2                |           |
| 2    | Introduction to Linear Programming   | Ch. 3                  |           |
| 3    | Introduction to Linear Programming   | Ch. 3                  | M:<br>n/c |
| 4    | Simplex Method<br><i>Case Study (I): Auto Assembly</i>                               | Ch. 4.1-2              |           |
| 5    | Simplex Method   | Ch. 4.1-2              |           |
| 6    | Post-optimality Analysis<br><b>EXAM 1</b>  | Ch. 4.7                |           |
| 7    | Duality Theory and Sensitivity Analysis<br><i>Case Study (II): Nontechnical Memo</i> | Ch. 6.1-5<br>Ch. 6.6-8 |           |
| 8    | Transportation and Assignment Problems   | Ch. 8.1-2<br>Ch. 8.3-4 | M:<br>n/c |
| 9    | Network Optimization Models<br><i>Case Study (III): Project Pickings</i>             | Ch. 9.1-5              |           |
| 10   | Network Optimization Models  | Ch. 9.6-7              |           |
| 11   | <i>Case Study (IV): Money in Motion</i><br><b>EXAM 2</b>                             |                        |           |
| 12   | Project Management: Time-Cost Trade-offs   | Ch. 9.8<br>Ch. 22.1-8  | R:<br>n/c |
| 13   | Game Theory  | Ch. 14.1-2             |           |
| 14   | Game Theory  | Ch. 14.3-4             | F:<br>n/c |
| 15   | Decision Analysis  | Ch. 15.1-4             |           |
| 16   | Decision Analysis  | Ch. 15.5-7             |           |

Chapters referenced from *Introduction to Operations Research*, by Hillier and Lieberman (Ninth Edition)

Other references (available on-line from USNA Library):  
*Interfaces*, Electronic Journals  
*Engineering Management Journal*, Databases, IEEEExplore  
*Engineering Management Review*, Databases, IEEEExplore  
*Project Management Journal*, Electronic Journals