

**Mississippi State University**  
**Bagley College of Engineering**  
**Department of Industrial and Systems Engineering**  
**IE 4733 – Linear Programming (LP)**

**Course Title** : Linear Programming (also listed as MA 4733)  
**Class Meetings** : T Th, 9:30 – 10:45  
**Classroom** : McCain 185

**Instructor** : Burak Eksioglu  
**Office** : McCain 260P  
**Phone** : (662) 325-7625  
**E-mail** : bekzioglu@ise.msstate.edu  
**Office Hours** : Stop by anytime you have a question. To make sure I will be in my office make an appointment.

**Textbook:** “Operations Research – Applications and Algorithms,” by Wayne L. Winston, 4<sup>th</sup> edition, Brooks/Cole-Thomson, Belmont, CA, 2004

**Prerequisites:** MA 3113 – Introduction to Linear Algebra

**Catalog Description:** (3) Three hours lecture. Theory and application of linear programming; simplex algorithm, revised simplex algorithm, duality and sensitivity analysis, transportation and assignment problems algorithms, integer and goal programming.

**MSU Honor Code:**

Upon accepting admission to Mississippi State University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor Code. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the MSU community from the requirements or the processes of the Honor Code.

*“As a Mississippi State University student I will conduct myself with honor and integrity at all times. I will not lie, cheat, or steal, nor will I accept the actions of those who do.”*

All cases of academic dishonesty will be dealt with in accordance with guidelines and procedures outlined in the Academic Misconduct Policy, which may be accessed on the web at:  
<http://www.honorcode.msstate.edu/>

**Tests:** All tests are closed book and closed notes. You are allowed to bring a formula sheet and a calculator only. No make-up tests will be given regardless of what the excuse is. There will be a short test almost every week. I expect to give about ten of these tests of which the best eight will contribute to your average. Tests will include an extra problem for graduate students.

**Assignments:** Take-home assignments will be given about every other week. I expect to give about six assignments. Five of your best assignments will contribute to your average.

Assignments can be done in groups of at most two. They should be typed and submitted online via the course website. Late assignments will not be accepted.

**Course Assessment:**

Grade distribution:

Assignments – 40 points (10 points each)  
Quizzes – 40 points (5 points each)  
Final – 20 points

Letter grades will be given as follows:

A: 90-100    B: 80-89.9    C: 70-79.9    D: 60-69.9    F: Below 60.

Grades will be posted on the course web site and updated periodically. It is your responsibility to verify that your grades have been correctly entered. You have **one week** after an assignment or a test is returned to discuss changes in your grade. Note that grade changes may result in an increase or a decrease in your grade.

**Tentative Course Outline:**

**Topic (we will cover chapters 1-9 from the textbook)**

Introduction to Linear Programming (LP)  
Formulating LP problems  
Solving LP problems with Lingo and Excel  
Graphical solution  
Simplex algorithm  
Sensitivity analysis and duality  
Transportation problems  
Assignment problems  
Integer programming problems