Aims:

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In this course mathematical modeling and especially linear programming and methods for solving this kind of problems will be introduced to students

Syllabus:

- Introduction: definitions and assumptions of linear programming
- Modeling linear programming problems
- Graphical method for solving linear programming problems
- The Simplex method
- The big M Method for solving linear programming problems
- The Two phase Method for solving linear programming problems
- Special cases in Simplex tabular form
- The revised Simplex method
- Duality theory
- Sensitivity analysis of linear programming problems
- Transportation problems and algorithms for finding an initial feasible solution
- The Simplex method for transportation problems
- Assignment problem and its solution methods
- Sensitivity analysis of transportation problems

Text Book:

Wayne L. Winston, Operations Research: Applications and Algorithms",4rd Edition, International Thomson Publishing, 2003.

Hillier F. S. and Liberman G. J., "Introduction to Operations Research", 10th edition, McGraw-Hill 2015.