IE 5351 – Linear and Combinatorial Optimization Methods

Course Catalog: IE 5351 – Linear and Combinatorial Optimization Methods (3-0)

Advanced topics of contemporary interest in industrial engineering. May be repeated for credit when topic varies. Prerequisite: Department Approval.


Management Science
Operations Research

Topics Covered:
1. Introduction and overview of mathematical modeling
2. Linear programming model
3. Modeling
4. Graphical representation
5. Simplex method
6. Theory of linear programming algorithm
7. Simplex method
8. Duality and sensitivity
9. Interior-point algorithm
10. Transportation problem
11. Assignment problem
12. Network optimization
13. Project management
14. Integer programming
15. Some heuristics

Assessment of Course Outcomes:
1. Three Examinations
2. Assignments
3. Final Project
4. Class Participation
5. Final Examination

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