

BANA4095: Decision Models – Spring 2021
Review for Exam 2



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Exam 2

- Thursday, March 18th, 12:00 pm - 1:50 pm
- Open book, open notes
- All material covered since first exam
- Modeling and analysis for two problems
 - » One in Excel and one in Python

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Study Tips

- Review lecture materials and readings
- Review feedback on homework assignments
- Re-work class examples and homework problems
- Additional practice problems posted in Canvas

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Course Topic Review

- Optimization
 - » Nonlinear Optimization
 - » Linear Optimization
 - Allocation, Covering, Proportion, and Blending
 - » Optimization with Excel Solver
 - » Solver Sensitivity Analysis Report
 - » LP Modeling in Python (Glop)
 - » Optimization Parameter Analysis (Python)

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Types of Optimization Models

Type	Variables	Relationships
Linear Program (LP)	Continuous	Linear
Nonlinear Program (NLP)	Continuous	Nonlinear or Linear
Integer Program (IP)	Integer	Linear
Mixed Integer-Linear (MILP)	Integer or Continuous	Linear
Mixed Integer Nonlinear (MINLP)	Integer or Continuous	Nonlinear or Linear

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Solver Methods/Algorithms

- Various algorithms that are used to solve different classes of optimization problems. The two basic engines in ASP are

Engine	Objective	Constraints
Simplex LP	Linear	Linear
GRG Nonlinear	Nonlinear	Nonlinear

- The specific Solver Method is selected from the drop down list at the bottom of the Solver dialog box

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Practice Problems

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