

CM-502

COURSE DESCRIPTION

Course code number	CM-502	Course Title	Linear Programming
No. of Credit Units	3	Course Coordinator	Dr. Ei Phyo Wai

Course Description

This course covers introduction to Linear Programming, Solving Linear Programming Problems: The Simplex Method, Duality Theory and Sensitivity Analysis, Other Algorithms for Linear Programming.

Course Outcomes

Students who complete the course will be able to

1. Obtain an overview of the kinds of problems linear programming has been used to solve.
2. Learn how to develop linear programming models for simple problems.
3. Be able to identify the special features of a model that make it a linear programming model.
4. Learn how to solve two variable linear programming models by the graphical solution procedure.
5. Be able to interpret the computer solution of a linear programming problem.
6. Understand the inventory models and the advantages and limitations of inventory theory.

Assessment Plan for the Course

Class Attendance and Participation	-	10%
Quizzes	-	10%
Assignment	-	10 %
Moodle Test	-	10%
Tutorial	-	10%
Final Exam	-	50%

Tentative Lesson

No	Topics	Week	Remark
I	Introduction to Linear Programming		
1	Prototype Example,	Week 1	Assignment 1
2	The Linear Programming Model	Week 2	Assignment 2
3	Assumptions of Linear Programming	Week 3	Assignment 3
	Additional Examples	Week 4 Week 5	Assignment 4 Assignment 5 Assignment 6
4	Some Case Studies	Week 6	Assignment 7
5	Graphical Method	Week 7	Assignment 8
6	Displaying and Solving Linear Programming Models on a Spreetsheet		Week 8
II	Solving Linear Programming Problems: The Simplex Method		
7	The Essence of The Simplex Method	Week 9	Assignment 9
8	Setting Up The Simplex Method	Week 10	Assignment 10
9	The Algebra of The Simplex Method		Assignment 11
10	The Simplex Method In Tabular Form	Week 11	Assignment 12
11	Adapting To Other Model Forms		Assignment 13+14
	Tutorial I		
III	Duality Theory and Sensitivity Analysis		
12	The Essence of Duality Theory	Week 13 Week 14	Assignment 15
13	Economic Interpretation of Duality		Assignment 16
14	Primal-Dual Relationships	Week 15	Assignment 17
15	Adapting To Other PrimalForms		Assignment 18
IV	Other Algorithms for Linear Programming		
16	The Dual Simplex Method	Week 16	Assignment 19

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V	Introduction to concept of Mathematical Modelling		
18	Steps in building Mathematical Model	Week 17	Assignment 20
19	Classical Optimization and Combinatorial Optimization		
	Tutorial II	Week 18	