

SYLLABUS

MANAGEMENT SCIENCE, SPRING 2014

A. Instructor: Shwu-Min Horng, PhD
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Phone: (02) 2939-3091 x 81033
Class Hours: Thursday, 14:10 - 17:00
Office Hours: Thursday, 12:00 - 14:00 and by appointment
Lab (40-room): TBA

B. Textbooks

1. Hillier, F., Hillier, M., Schmedders, K., and Stephens, M. (2008) *Introduction to Management Science*, 3rd ed., McGraw-Hill, ISBN: 978-007-125927-9 (required).
2. Hillier, F. S. and Hillier, M. S. (2003) *Essentials of Management Science*, 1st ed., McGraw Hill, ISBN: 0071241736. (recommended)

C. Course Objectives

This course is an introduction to quantitative models in managerial decision-making. Management Science, a well-established discipline in the field of business, can be defined as the application of a scientific method to managerial problems in order to make better decisions. The applications of management science techniques cover a large area (industry, government, military, transportation, marketing, health care, etc.). Topics include Linear Programming, Transportation and Assignment problems, Network Optimization Problems, PERT/CPM Models, Integer Programming, Goal Programming, Decision Analysis, Forecasting, Queueing Models, and Simulations. MS EXCEL will be the primary tool for the problem modeling and solving.

D. Grading Policy

Participation -----	10 %
Exams -----	30 %
Team Presentations (EXCEL)-----	20 %
Assignments/Quizzes-----	20 %
Project-----	20 %
Total -----	100 %

Criteria for EXCEL presentation (instructor 50%, peer evaluation 50%):

		Weight
1	The progression, range, and content of this presentation were well planned and scheduled.	1
2	The instructor came well prepared for class.	1
3	The instructor displayed an adequate knowledge and control of the presentation content.	1
4	The instructor expressed her/himself well, and explained things clearly and energetically.	1
5	The instructor displayed an enthusiastic, dedicated and responsible attitude.	1
6	The instructor's teaching style promoted interest in the subject matter.	1
7	The instructor encouraged students to ask questions and express their opinions.	1
8	The presentation material was characterized by an appropriate level of complexity/difficulty.	1
9	The instructor rarely or never arrived late, dismissed the class early, or cancelled class.	1
10	In general, I feel I learned a lot from this presentation.	4
11	In general, I feel the instructor did an excellent job.	4
12	In general, I feel this presentation will be of use in my future career.	3

CLASS SCHEDULE

Wk	Ch	Subjects and Assignments	Presentation	Quiz
1	1	Introductions		
2	2	Basics of EXCEL and Linear Programming		
3	3	Linear Prog.: Formulations and Applications		
4	4	Modeling with Spreadsheet		
5	10	Forecasting	1	
6	5	What-If Analysis for Linear Programming	2	
7	6	Network Optimization Problems	3	
8	7	Binary Integer Programming	4	
9		Midterm		
10		TBD	5	
11	16	PERT/CPM for Project Management	6	
12	11	Queueing Models	7	
13	15	Transportation and Assignment Problems	8	
14	15	Transportation and Assignment Problems	9	
15	17	Goal Programming	10	
16	8	Nonlinear Prog.	11	
17	12,13	Simulation	12	
18	18,19	Inventory Management		
19		Final Project		

ASSURANCE OF LEARNING CHECK LIST (Before the Semester)

本課程與商學院願景的關連性 Adherence to Mission		
<input type="checkbox"/> Globalization 訓練國際化的能力	<input checked="" type="checkbox"/> Technology 訓練科技與應用的能力	
<input type="checkbox"/> Innovation 訓練創新的能力	<input type="checkbox"/> Humanity 人文	
本課程與本系所學程學習目標的關連性 Adherence to Program Learning Goals		
BBA Program :		
<input type="checkbox"/> 2.To educate students in the state-of-the-art business practices, concepts, and methods		
本課程所運用到的教學方法 Pedagogical Methodologies		
<input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> e-Learning <input checked="" type="checkbox"/> Study Group <input type="checkbox"/> Seminar <input type="checkbox"/> Role-Playing	<input checked="" type="checkbox"/> Case Study <input type="checkbox"/> Internship <input checked="" type="checkbox"/> Project <input checked="" type="checkbox"/> Independent Learning <input type="checkbox"/> Theater Learning	<input type="checkbox"/> Others: _____ <input type="checkbox"/> Others: _____
本課程教授的核心能力 Student Skills, Knowledge and Attitude Enhancement		
<input checked="" type="checkbox"/> 專業知識之理論基礎 <input type="checkbox"/> 判斷力 <input type="checkbox"/> 專業領域之實作技巧 <input type="checkbox"/> 決策能力 <input checked="" type="checkbox"/> 聆聽能力	<input checked="" type="checkbox"/> 行動計畫能力 <input type="checkbox"/> 說服力 <input type="checkbox"/> 整合能力 <input checked="" type="checkbox"/> 表達能力 <input checked="" type="checkbox"/> 團隊合作能力	<input type="checkbox"/> 問題辨識能力 <input checked="" type="checkbox"/> 對專業知識的自信心 <input checked="" type="checkbox"/> 分析能力 <input type="checkbox"/> 世界觀 <input type="checkbox"/> Others 其他能力: _____