

Ateneo de Manila University
John Gokongwei School of Management
Department of Quantitative Methods and Information Technology

QMT 120: Introduction to Operations Research
1st Semester, School Year 2012-2013
Instructor: Mr. Alyson Yap

Course Objective:

This course aims to develop in the student of any course an appreciation of Operations Research and its benefits. The student is expected to recognize situations in which Operations Research is useful. The student will be exposed to the more commonly used models/techniques to serve as a guideline in the application of OR in actual practice.

Main Reference

Operations Research: An Introduction, Taha, Hamdy A.; Upper Saddle River, N.J. . Prentice-Hall International. c 1997

References:

1. *Introduction to Operations Research*, Hillier, Frederick S.; Lieberman, Gerald J. New York. McGraw-Hill. 1995
2. *A First Course in Linear Programming*, Ruiz, Mari-Jo P. Ateneo de Manila University. 1989.
3. *Operations Research: Applications and Algorithms*, Winston, Wayne L.; Boston. PWS-Kent. c1991

Course outline

Topic	Long Test
1. Introduction to Operations Research A. Definition and History B. The OR Process C. Introduction to Mathematical Programming	
2. Linear Programming Basics A. Introduction B. Standard Linear Programs B. Linear Programming Formulation D. Graphical Solution	Long Test 1
3. Linear Programming: The Simplex Method A. Solver B. Computer Software (Microsoft Excel Solver Plug-in)	
4. Network Models A. Minimum Spanning Tree B. Shortest Path Problems C. Project Evaluation and Review Technique and the Critical Path Method	Long Test 2
5. Queueing Theory (Waiting Lines) A. Definitions and Terminologies B. The M/M/1 and M/M/s model C. The M/M/1/k and M/M/s/k model D. Finite-Calling Population Variation models	Long Test 3

Course Requirements and Grade Equivalents

Long Tests (4 long tests)	70%	93.00 – 100.00	A
Homework/Quizzes	15%	88.00 – 92.99	B+
Recitation	15%	83.00 – 87.99	B
		77.00 – 82.99	C+
		69.00 – 76.99	C
		60.00 – 68.99	D

Consultation hours:

MWF 2:30 to 4:30 pm

Classroom Policies

1. **Dress Code will be followed.**
2. Attendance will be checked at the start of each class. He/She who arrives after the start of class but within fifteen (15) minutes is considered late. After fifteen (15) minutes, a student is allowed to attend the class but is considered absent. An absence is equivalent to one (1) cut while a late is one-half ($\frac{1}{2}$) cut. A student is entitled to nine (9) cuts, beyond which he/she will get a grade of W.
3. If a teacher is late, students are expected to wait until he arrives unless the teacher has other instructions to the department secretary, or the class beadle.
4. Eating is not allowed during class.
5. Cellphones should, at least be put in silent mode during class hours. During exams, they should be turned off.
6. If a letter of "F" is given for any reason, its numerical equivalent will be zero.
7. After an exam is checked and returned, students are given two (2) weeks, after which appeals for change of grade will not be entertained.
8. **There will be no make-up exams.** Therefore, students who will be absent for certain dates representing the school in competitions or conferences are required to inform the teacher at least two weeks before.
9. There will be no rounding off before the conversion of the final marks to letter grades.
10. Refer to student handbook for other policies.