Engineering Economic Analysis
Spring Semester 2019

Dept. of Industrial Engineering, Graduate School

Professor: Deok-Joo Lee

Office hour: 14:00 - 15:00 Tue. & Thu. (39-405)

1. Objective

   The goal of this course is to provide industrial engineers with leading-edge skills to model and solve engineering economic problems in the perspective of micro economics. This course puts an emphasis on the application of economic analytic methods to any kind of economic decision making problems in various engineering or technological systems. In particular, students learn and practice on how to model and analyze mathematically the optimal economic decision process of the producers and consumers of goods in various forms of market structure. In this course, we will review the fundamental concepts economic theory such as utility and consumer theory, technology and producer theory, demand and supply, market equilibrium, and market structure with various engineering economic applications.

2. Text and References

   Main Text: (I)Intermediate Microeconomics with Calculus, Hal R. Varian, Norton,
             First Edition, 2014
   Supplementary Text: (M) Microeconomic Analysis, Hal R. Varian, 3rd. Ed., Norton
   Reference: Mathematics for Economists, Simon and Blume, Norton

3. Homework

   - Problem Set: 4 times

4. Evaluation

   - Class participation:10%
   - Homework: 10%
   - Quiz 2+α times (closed book): 20%
   - Exams 2 times (open book): 60%

5. Schedule (This plan is subject to change due to circumstances)

	Contents	Reading	Note
Week 1 (3/5, 7)	Introduction	(I) Ch. 1	
Week 2 (3/12, 14)	Budget constraint & Preference	(I) Ch. 2-5 (M) Ch. 7	
Week 3 (3/19, 21)	Utility & Choice		Problem set 1
Week 4 (3/26, 28)	Demand	(I) Ch. 6, 8 (M) Ch. 8.1-8.4	
Week 5 (4/2, 4)	Slutsky Equation		
Week 6 (4/9, 11)	Consumer surplus & Market Demand	(I) Ch. 14 - 16 (M) Ch. 9.4-9.5, 10.1 - 10.3	4/9 Quiz 1 4/11 Out-of-town
Week 7 (4/16, 18)	Equilibrium		
Week 8 (4/23, 25)	Mid-term Exam.		Problem set 2
Week 9 (4/30, 5/2)	Technology	(I) Ch. 19 (M) Ch. 1	
Week 10 (5/7, 9)	Profit maximization	(I) Ch. 20 (M) Ch. 2.1-2.4	
Week 11 (5/14, 16)	Cost minimization	(I) Ch. 21, 22 (M) Ch. 4.1-4.4, 5.1-5.4	
Week 12 (5/21, 23)	Cost curves		Problem set 3
Week 13 (5/28, 30)	Firm & Industry supply	(I) Ch. 23, 24 (M) Ch. 13	5/28 Quiz 2 5/30 Out-of-town
Week 14 (6/4, 6)	Monopoly	(I) Ch. 25-26.4 (M) Ch. 14	6/6 Holiday
Week 15 (6/11, 13)	Oligopoly	(I) Ch. 28 (M) Ch.16.1-16.7	
Week 16 (6/18, 20)	Final exam.		Problem set 4