

ORT Braude Academic College
51605 - Introduction to Economics for Engineers

Credit points: 2.0

Hours: 2 (including classroom exercises)

Prerequisites: None

Lecturer: Dr. Maria Marinov

Consultation hour: Wednesday, 13:30-14:30, please schedule an appointment in advance by email: maria@braude.ac.il.

Course Objectives

The course introduces students to the basic concepts of microeconomics and discusses issues of scarcity and efficient allocation of resources, as well as decisions of producers and consumers in competitive and monopolistic markets and governmental intervention in these markets. In addition, the course provides some basic tools for economic feasibility analysis.

Course Description and Requirements

The course is structured as a series of lectures accompanied by examples and solution of classroom exercises. It is recommended to use the booklet containing the lecture slides as basis for notes during class. The booklet is available at the College copy room. The final exam covers all the topics learned in class, therefore it is advisable to be present at all the lectures.

The dates of midterm and final exams are scheduled by the department. During the exams, students are only allowed to use the official list of formulas (supplied by the lecturer) and a calculator. In order to pass the course the student must receive a grade of 55 or higher on the final exam.

Course website: <http://moodle.braude.ac.il>. The website contains the list of formulas, a folder with exercises and homework solutions, as well as examples of solved exams, both final and midterm.

Grade Composition: midterm exam (non-compulsory) – 20%, final exam – 80% or 100% (in case the student decides not to take the midterm exam or in case the midterm grade is lower than the final). A student must have a passing grade of 55 on the final exam in order to receive a passing grade in the course.

Course Contents

1. Basic questions in economics, the scarcity problem.
2. Production Possibility Frontier (PPF), opportunity costs, comparative advantage theory.
3. Producer behavior: production function, average and marginal product, efficient allocation of factors of production, costs, short and long run decisions, optimal production output, supply function, net present value calculation.
4. Consumer behavior: demand function of individual and of the market, equilibrium price and quantity, consumer surplus, consumer utility, elasticity of demand.
5. Non-competitive markets, monopoly, optimal quantity and price in a monopolistic market.
6. Governmental intervention in the markets: taxes, subsidies, regulated prices, imports and exports.

Books

1. Hal R. Varian, Intermediate Microeconomics: A Modern Approach. 6th edition, W.Norton &Co, New York. 2003.
2. Robert S. Pindyck and Daniel L. Rubinfeld, Microeconomics, 7th ed., Prentice Hall, 2008.
3. Stephen L. Slavin, Microeconomics. 6th ed., McGraw-Hill/Irwin, 2002.
4. Chan S. Park, Contemporary Engineering Economics, all ed., Prentice Hall, 2002, Pearson Education, 2007, 2011.

	Learning Objectives
1	Formulate the problem of shortage in terms of opportunity costs, and solve it using efficiency criteria.
2	Define all types of players in a free market in order to model the behavior of each of them.
3	Discuss the short- and long-term economic behaviors of a single producer and an entire industry.
4	Explain the price-setting mechanisms in a free market, in perfect competition.
5	Calculate optimal parameters (cost, quantity) at market equilibrium.
6	Distinguish among different behaviors of producers and consumers in a state of free competition and perfect competition (regulation by taxes and subsidies).
7	Define and apply the notion of elasticity for the purpose of predicting behavioral changes of market players.
8	Discuss and analyze the interest rate policy as a tool for addressing economic problems in the market.
9	Formulate the problem of project evaluation, and calculate net present value as criterion for feasibility of an investment.
10	Differentiate among different means of encouraging export and import in order to support the local market, and calculate optimum parameters for foreign trade.