

Microeconomics and Economical Processes of Enterprises for Engineers

Code: MK3MIKVM04XX17-EN

ECTS Credit Points: 4

Evaluation: exam

Year, Semester: 2nd year, 1st semester

Its prerequisite(s): Economics for Engineering

Further courses are built on it: Yes/No

Number of teaching hours/week (lecture + practice): 1+2

Topics:

Basic concepts of Economics and Microeconomics. Consumers Preferences and the Concept of Utility. Consumer's demand, types of elasticity of demand. Examination of Firm Behaviour. Production and cost theory. Perfectly competitive markets. Imperfect competition and market structures. Strategic behaviour at the market.

Literature:

Compulsory:

- Besanko, David – Breutigam, Ronald R. (2014): Microeconomics. Fifth Edition (International Student version). John Wiley and Sons, Inc., New York. ISBN: 978-1-118-71638-0
- Besanko, David – Breutigam, Ronald R.: Microeconomics. Study Guide. Third Edition. John Wiley and Sons, Inc., New York, 2008.
- Judit T. Kiss (2015): Introduction to Microeconomics for Engineers and Technical Managers. Debrecen University Press. ISBN: 978-963-318-469-1.

or

- N. Gregory Mankiw – Mark P. Taylor (2011): Microeconomics, 2nd edition. South-Western Cengage Learning.
- Gregory Mankiw (2006): Principles of Microeconomics - Study Guide. South-Western College Pub.
- Nellis, J. G. – Parker, D. (2006): Principles of Business Economics. Pearson Education, 2006. 2nd edition. ISBN: 0273693069, 9780273693062.

Recommended:

- Samuelson P.A., Nordhaus W.D.: Economics, 18th edition, Academic Internet Publishers Inc., 2006. ISBN: 0072872055
- Parkin, M., Powell, M. & Matthews, K. (2008) Economics. 7th ed. Harlow: Addison Wesley. ISBN-13: 9780132041225

Schedule

1st week Registration week

2nd week:

Lecture: Microeconomics and Macroeconomics, models in Economics. Resources. Key analytical tools. Efficiency. Market mechanism, Demand and supply analysis. Demand curves, Supply curves; shift in demand and supply.

Practice: Calculation/team problems: equilibrium price and quantity; market demand and individual demand; shifts

3rd week:

Lecture: Consumer theory, consumer preferences, Utility theory. Cardinal ranking. Total utility, marginal utility. Principle of diminishing marginal utility. Utility and demand. Individual and market demand functions. Consumer surplus. Condition of optimal choice.

Practice: Calculation/team problems: Relationship between utility and demand.

versus movements along the demand curve (supply curve); market supply and individual supply; shifts versus movements along the supply curve.

4th week:

Lecture: Demand and supply together, market equilibrium. The elasticity of demand (price elasticity of demand, cross price elasticity of demand, income elasticity of demand). The elasticity of supply. Total revenue and the price elasticity of demand. Application of elasticity of demand. Energy and price elasticity. Types of goods (substitutes, complements, independents).

Practice: Calculation/team problems: Calculation of elasticity of demand, relationship between price elasticity of demand and total revenue.

6th week:

Lecture: Production. Inputs and production function. Total product function. Marginal product of labour and average product of labour.

Practice: Calculation/team problems: Average product of labour (capital), marginal product of labour (capital), relationship between marginal product and average product.

8th week: 1st drawing week

9th week:

Lecture: Main characteristics of perfect competition, marginal cost, average costs of production, profit-maximizing output, shut down and breakeven point, the competitive firm's supply curve. Calculating problems (marginal average, total revenue, average and marginal profit, profit-maximizing output, marginal cost curve and supply curve).

Practice: Mid-Term Test I

11th week:

Lecture: Why Monopoly arise, Monopoly (the profit-maximization condition; average revenue, marginal revenue, total revenue curves).

Problems (calculation of the profit-maximization output and price. Relationship between marginal revenue and linear demand curve).

Individual and market demand functions. Consumer surplus

5th week:

Lecture: Business organizational structures. Business objectives. Types of corporation, forms of business. Market environment (domestic, international environment, markets of products, services and labour). Models of the firm's pricing decisions, costs estimation and decision. Sources of Cost efficiency. Business performance, business strategy.

Practice: Calculation/team problems and case study examination: Firm's pricing decisions, costs estimation and decision. Sources of Cost efficiency.

7th week:

Lecture: Costs of production. (Total, fixed and variable costs, marginal and variable cost). The relationship between marginal and average cost. Total revenue, total profit curves. Calculating problems (types of cost, relationship between cost and profit, opportunity cost).

Practice: Calculation/team problems: Total, fixed and variable costs; marginal and average costs. The relationship between marginal cost and average cost.

10th week:

Lecture: Individual and market supply curve, main condition of the profit maximization and cost minimization, Cost-benefit analysis, economical examinations.

Practice: Calculation/team problems: Profit maximization condition for competitive market.

12th week:

Lecture: *Capturing surplus* – *Price discrimination* First-degree price discrimination, second-degree price discrimination and third-degree price discrimination. Consumer surplus, producer surplus, deadweight loss. The welfare cost of Monopoly.

Practice: Calculation/team problems: Profit maximization condition for monopoly.

Practice: Calculation/team problems: Monopoly versus perfect competition. Producer surplus and deadweight loss.

13th week:

Lecture: Main characteristics of oligopoly and monopolistic competition. Markets with a few sellers, product differentiation.

Practice: Calculation/team problems: Oligopoly market behaviour.

14th week:

Lecture: *The markets for the factors of production.* Taxes and efficiency. Earnings and discrimination. Game theory.

Practice: Calculation/team problems: Monopoly, Oligopoly and perfect competition. Taxes and efficiency.

15th week: 2nd drawing week

Requirements

A, for a signature:

Participation at practice classes is compulsory. Students must attend practice classes and may not miss more than three occasions during the semester. In case a student does so, the subject will not be signed and the student must repeat the course. Students can't take part in any practice class with another group. Attendance at practice classes will be recorded by the practice leader. Being late is equivalent with an absence. In case of further absences, a medical certification needs to be presented. Missed practice classes must be made up for at a later date, being discussed with the tutor.

During the semester there are two tests: the mid-term test on the 7th week and the end-term test on the 15th week. Students must sit for the tests.

B, for a grade:

The course ends in an **examination**.

The minimum requirement of the mid-term, the end-term test and the teamwork is 50% separately. Based on the score of the tests separately, the grade for the tests and the examination is given according to the following table: The grade is given according to the following (score/grade): 0-49 % = fail (1); 50-62 % = pass (2); 63-75 % = satisfactory (3); 76-89 % = good (4); 90-100 % = excellent (5).

If the score of any test is below 50%, the student once can take a retake test of the whole semester material.

An offered grade: It may be offered for the students if the average of the mid-term test, end-term tests and the teamwork is at least good (4). The offered grade is the average of them.