**Program of the course**

**“Microeconomics”**

**Content module 1 “The main aspects of demand and supply interaction”**

Topic 1. Fundamental questions of Microeconomics (3 hours)

The scarcity problem. Consumer and producer interaction. How do demand and supply interact? Utility. Law of diminishing marginal utility. How do economics measure utility? Cardinal utility. Ordinal utility: indifference theory. Total utility analysis (graphically). Using Lagrangian Multiplier Method to solve maximization problem. Married man and married women example: how will they feel about their wages?

Topic 2. Consumption theory (2 hours)

Price elasticity of demand. Cross elasticity of demand. Substitutes. Complements. Expenditure function. Consumption decision. Budget line and indifferent curves map. Indifferent curves that have no tangent. Discrete goods. Income effects. Substitution effect. Hicks and Slutsky approaches.

Topic 3. Producer theory (2 hours)

Isoquants and isocosts. Isoquants for Cobb – Douglas production functions. Perfect substitutes. MRTS. Examples of Leontief functions.

Topic 4. Is the competitive market fair? (1 hour)

Utilitarianism. Tradeoff between efficiency and fairness. Robert Nozick approach. John Rawls approach. What is fair tax? Rawlsian social welfare, isowelfare curve (graphically).

Topic 5. Why the firm? (2 hours)

Economic profit. Accounting: summary. The firm constraints. The principal – agent problem. Types of business organizations. The proportions of three types of firms. Transactions costs. Transformation costs. Economies of scale. Economies of team production.

Topic 6. Four market types: characteristics (1 hour)

Perfect competition. Monopolistic competition. Oligopoly. Monopoly. Measure of concentration. The Herfindahl – Hirschman Index.

Topic 7. Perfect competition (1 hour)

Price takers. Economic profit and revenue. Marginal revenue. Profit maximization output. The three possible profit outcomes in the short run. Break – even point.

Topic 8. Monopoly (1 hour)

Barriers to entry. Price discrimination. Maximizing economic profit. Demand, marginal revenue and cost curves (graphically). Comparing with perfect competition (graphically). Gains from monopoly: incentives to innovations, economies of scale and economies of scope.

Topic 9. Monopolistic competition (1 hour)

Competing on quality, price, marketing. Economic profits in the short run (graphically). Long run: zero economic profit. Comparing monopolistic competition and perfect competition (graphically). Advertising and the Markup (graphically).

Topic 10. Oligopoly (4 hours)

The kinked demand curve model. Dominant firm oligopoly. Oligopoly games. The prisoners dilemma: rules, strategies, payoffs. R&D game of chicken. Pumpers versus Huggies game: R&D game.

Cournot model. Reaction curves. Edgeworth model. Chamberlin model. Demand curve of Bertrand model.

**Content module 2 “Economic process simulation”**

Topic 1. Factor market (2 hours)

Labor proposal. Individual and market labor supply curve. Budget constraint and indifference curve map in case of secured minimum income. Capital proposal. Creditor and borrower behavior (graphically). Marginal revenue product. Factor demand for monopolist. Monopsony: profit maximization problem. Union and the monopsony.

Topic 2. Exchange (2 hours).

Edworth box. Equilibrium in the Edworth box. Pareto efficient allocation. Contract curve. Pareto efficiency in the economy with production (mathematically and graphically). First theorem of Welfare Economics. Case of monopoly in Edgeworth box. The Pareto efficient allocation that is not an equilibrium (preferences are not convex). Transactions costs. Coase theorem.

Topic 3. Payoff matrix of the game: useful examples.

Dominant strategy. Nash equilibrium: shortcomings of approach. Mixed equilibrium. Venus – Serena Williams example. Best response functions. Rock, paper, scissors example. Market entry game. Game of competition. Game of coexistence. Game of commitment (Frog and Scorpion). When Strength is weakness. Rubinstein bargaining model. Folk theorem (definition and simple proof): version of Carlos Hurtado.

Topic 4. Public good (2 hours)

Example of two roommates and TV. Reservation price. Case of quasilinear preferences. Free riding. Analysis of sidepayment amount. Case of steel producer and fishery. Voting mechanism. The Vickrey – Clarke – Grove mechanism. Pareto efficient allocation of the public good.

Topic 5. Behavioral economics (2 hours)

Disease dilemma. Anchoring effect. Law of small numbers. Problem of overconfidence. Ultimatum game. Punishment game.

Topic 6. Externalities (2 hours)

Production externalities (case of steel firm and fishery). The case of internalized externality. Model with Pigouvian tax. Case “fishery has right to clean water”. Case “steel mill has right to pollute”. “Tragedy of commons” (Garret Hardin). CPR – approach of Elinor Ostrom.

Topic 7. Information technology (2 hours)

Problem of complements. Pricing problems facing sellers of complementary products. Intermediate case. Model “commoditize the complement”. Apple’s iPod and iTunes. Google’s advertising problem. Model of competition with switching cost. Network externalities: humped shape of demand curve. Sharing intellectual property: maximization problem.

**Recommended sources:**

1. Varian H. R. Intermediate Microeconomics. A modern approach/Ronald Varian – New York – W.W.Norton & Company. – 2010. – 806 p.
2. Wozny L. Lecture notes on Microeconomics [Electronic Resource]/ Lukasz Wozny. – Available from: <http://web.sgh.waw.pl/lwozny/LectureNotes.pdf>
3. Parkin M. Nicroeconomics [Electronic Resource]/ Michael Parkin. - <http://financeasism.files.wordpress.com/2014/01/parkin1.pdf>
4. Economics [Electronic Resource] – [www.cfainstitute.org/toolkit](http://www.cfainstitute.org/toolkit)