

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE
WEST UKRAINIAN NATIONAL UNIVERSITY**

Confirmed by:

Director of the Bohdan
Havrylyshyn Education and
Research Institute of International
Relations

Lyudmyla HAVRYLYUK-YENSEN



2025 p.

Confirmed by:

Vice-Rector for
Academic Affairs and Research
Victor OSTROVERKHOV

“ 2025 p.



WORKING PROGRAM

on discipline

“INDUSTRIAL ECONOMICS”

Higher education degree – “Bachelor”

Branch of knowledge – 05 “Social and Behavioral Sciences”

Specialty – 051 “Economics”

Educational program – “International Economics”

Form of study	Year	Semester	Lectures	Practical classes	Individual work	Training	Independent work	Total	Exam, semester
Full-time	IV	VII	46	30	5	10	59	150	VII

29.01.2025

Ternopil – WUNU

2025

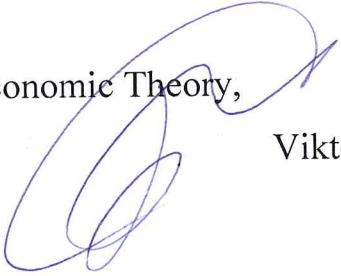
The working program is based on academic and professional bachelor program of the branch of knowledge 05 "Social and Behavioral Sciences", Specialty 051 "Economics", approved by the Academic Council of WUNU (minutes No. 9 of 15.06.2022).

Candidate of economic sciences, assistant professor of the Department of Economics and Economic Theory Yurii Ivashuk prepared the working program.

The working program was confirmed at the meeting of the Department of Economics and Economic Theory, minutes No. 1 of 27.08.2025.

Chief of the Department of Economics and Economic Theory,

Professor

 Viktor Koziuk

Guarantor of educational and professional program "International Economics",

Professor

 Ihor Lishchynskyy

**STRUCTURE OF WORKING PROGRAM OF THE ACADEMIC
DISCIPLINE
“INDUSTRIAL ECONOMICS”**

1. DESCRIPTION OF THE DISCIPLINE “INDUSTRIAL ECONOMICS”

Discipline – “Industrial Economics”	Branch of knowledge, specialty, higher education degree	Description of the discipline
Number of credits ECTS – 5	Branch of knowledge – 05 “Social and Behavioral Sciences”	Discipline status: compulsory Language of study: English
Number of test modules – 5	Specialty – 051 “Economics”	Year of study: Full-time form – 4 Semester: Full-time form – 7
Number of content modules – 2	Higher education degree – Bachelor	Lectures: Full-time form – 46 hours Practical classes: Full-time form – 30 hours
Total number of hours – 150		Independent work: Full-time form – 59 hours Training: Full-time form – 10 hours Individual work: Full-time form – 5 hours
Weekly hours – 10 Including classroom hours – 5		Type of final assessment – exam

**2. OBJECTIVES AND TASKS OF THE DISCIPLINE
“INDUSTRIAL ECONOMICS”**

2.1. Course objective

“Industrial economics” examines key concepts, top schools and methods of studying industrial markets, and teaches skills of analyzing major patterns and features of industrial markets, their sustainable development, features of state industrial policy and firm behavior in the market.

It focuses on familiarizing students with how industrial markets work and how firms behave in industrial markets, providing theoretical tools and empirical evidence to understand how the resource base of different industries is formed and determine the economic efficiency of different market structures. In these conditions, the issue

of innovative development of economic sectors is becoming especially topical, since it alone enables production of competitive products.

2.2. Course tasks

“Industrial economics” studies modern approaches, methods, models, and research tools used to analyze how industrial markets are organized, assess the economic consequences of their work, and study the strategic behavior of manufacturers in market conditions.

When students have completed the study of this discipline, they will

- master the theoretical foundations for industrial economics;
- be able to calculate the effectiveness of industries and firms in different market structures;
- be able to analyze and interpret the findings, and make sound conclusions;
- learn to use theoretical tools to analyze real world issues.

2.3. Competences to be acquired on studying the academic discipline

“Industrial economics”

- CK12. the ability to identify problems of an economic nature independently while analyzing specific situations, and to offer ways of their solutions;
- CK13. the ability to carry out an economic analysis of how economic entities develop and function, and assess their competitiveness.

2.4. Prerequisites

Courses which must be passed before this course may be attempted: “Microeconomics”, “Macroeconomics”, “Enterprise Economics”, “Financial management”, “Conjuncture of world markets”, and “Global macro- and microeconomics”.

2.5. Learning outcomes

When students have completed the study of this discipline, they will be able to

- ПPH12. apply the acquired theoretical knowledge to solve practical problems and interpret the results meaningfully;
- ПPH13. identify sources and understand the methodology for determining and methods of obtaining social and economic data, collect and analyze the necessary information, calculate economic and social indicators;
- ПPH21. think abstractly, apply analysis and synthesis to identify the key characteristics of economic systems of various levels, as well as the peculiarities of their subjects behavior.

3. CONTENTS OF THE ACADEMIC DISCIPLINE

Module 1

Competition in industrial markets. Effectiveness of industrial markets

1. Basics of industrial economics theory

Industrial economics as a science and a discipline. The focus and objectives of the course. Industrial economics as a basis for decision making within the framework of the state industrial policy and a theoretical basis for business practices in the field of marketing, management, and competition. Key issues in industrial economics.

How the concepts of “market”, “industry” and “industrial market” are different.

Methodology of industrial economics. A dynamic approach to market analysis in modern theory of industrial markets, where the link between the market and firm behavior leads to qualitative changes in the market structure. The scope of industrial economics, its overview and different approaches to analyzing industrial organization. Industrial market structure and economic performance according to F. Scherer and D. Ross.

The Harvard School approach to analyzing industrial economics based on the “structure – conduct – performance” paradigm: predicting market performance upon analyzing its structure, basic conditions, and firm behavior. A study of various interrelationships arising in an industrial market and determining producers’ behavior and their social effectiveness. Modern researchers M. Porter and J.-J. Lambin and the approach based on the “structure – conduct – performance” paradigm.

The Chicago School approach and the use of microeconomics model and pricing theory model to study firm behavior and industrial markets. The scope of study: decision making patterns, the impact of industrial policy on market structure and market entities, quasi-monopolies, the application of transaction costs theory and the theory of quasi-markets; the link between barriers to entry and firm behavior in the industry.

History of industrial economics: main stages and major studies.

Learning resources: 8, 14, 15, 17, 18, 19, 20.

2. Industrial markets and their classification

An industrial market and its boundaries. Statistical classifiers in industrial markets. Methods of defining product boundaries of an industrial market. Geographic segmentation.

Classification of industrial markets.

Types of industrial markets according to market structure.

Classification of markets by F. Scherer and D. Ross. Classification of markets according to H. von Stackelberg. Classification of industrial markets by E. Chamberlin and J. Bane. Classification of market structures by D. Hayem and D. Morris. Types of markets according to W. Eucken.

Learning resources: 5, 8, 12, 14, 15, 18, 19, 20.

3. Industrial competition and competitiveness

Industrial competition. Its types and forms. Objects of competitive rivalry.

Advantages and disadvantages of industrial competition.

Factors affecting competitive intensity in industrial markets. Types of competitive rivalry according to the extent it affects profit.

Determining the extent of competition in industrial markets. Industrial market capacity as a basis for analyzing the extent of competition: ways to determine capacity. Market concentration and tools to measure it. The concentration curve.

Indices of the intensity of competition in industrial markets. Measuring the extent of competition in industrial markets by means of the concentration ratio, the Herfindahl-Hirschman Index, the relative concentration ratio, the Hall-Tideman Index, the four-firm concentration ratio, Hannah-Kay index, Lind index, a market share variance. Criteria for determining the extent of competition in industrial markets in Ukraine's legislation.

Industrial competitiveness. Industrial competitiveness and a country's competitiveness. Pillars of the Global Competitiveness Index. Global research organizations studying global competitiveness. International competitiveness of an industry. Determinants of industrial competitiveness.

Learning resources: 2, 4, 7, 8, 14, 15, 16, 17, 18, 20.

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4. Economic efficiency of industrial markets

Efficiency of competitive markets. Consequences of market monopolization and its impact on efficiency.

A. Harberger's estimate of the cost of monopoly.

The social costs of monopoly power by K. Cowling and D. Mueller.

H. Leibenstein's X-inefficiency and estimating welfare loss due to market monopolization.

Maintaining competition in industrial markets: areas and tools. Illegal corporate behavior and antitrust practice.

Learning resources: 8, 10, 11, 17, 18, 20.

Module 2

Industrial market structure

5. Factors affecting industrial market structure

Technological factors. The minimum efficient scale (MES) and its impact on the number of firms competing effectively in their industry. Horizontal (economies of scale, economies of scope, diseconomies of scale) and vertical (different stages of production within a firm: the "make or buy" decision) boundaries of the firm. The correlation between industrial concentration and economies of scale. Types of economies of scale.

Behavioral factors. Elasticity of demand and demand growth rate. Foreign competition. Long-run firm behavior: market entry and market exit, mergers and takeovers.

Stochastic factors in the industrial market evolution and their impact on the positively skewed distribution of firms, when large firms grow faster than smaller ones. Stochastic modelling (F. Scherer and D. Ross, the law of proportionate effect or Gibrat process)

State policy and its impact on market organization. State policy as a factor of market structure.

Learning resources: 8, 17, 18, 20.

6. Market power of firms in industrial markets

Market power and its most common measures. Monopoly power (or market power) as a firm's ability to influence price setting and behavior in an industrial market through demand and supply management. Price behavior and cost behavior of firms as an indicator of how close an industrial market is to a perfectly competitive market.

Measures of market power of a firm: J.S. Bain index; the Lerner index; the Rothschild index, the Tobin's Q ratio, Papandreou coefficient.

Learning resources: 8, 17, 18, 20.

7. Barriers to entry, barriers to exit and industrial dynamics

Barriers and how they affect an opportunity of firms to raise their prices above competitive levels without attracting new entrants to enter the industry (J. S. Bain), production costs which have to be incurred by firms entering the business but not by established firms (J. Stigler), entry costs for firms seeking to enter the industry (C. von Weizsäcker). Barriers to exit.

Classification of industrial markets by entry by J.S. Bain. "Low grade", "low-moderate", "high-moderate" and "highly concentrated" industries. Zero barriers to entry, medium barriers to entry, high barriers to entry, very high to absolute barriers to entry.

Natural (structural) barriers to entry: economies of scale, high set-up costs, high research and development costs, ownership of key resources or materials, network effect.

Artificial (strategic) barriers to entry. Predatory pricing as well as acquisition; limit pricing; advertising; brand; contracts, patents and licenses; loyalty schemes, switching costs.

Zero barriers to entry and quasi-competitive behavior in markets.

Empirical studies of barriers to entry and exit. The height of barriers to entry, entry-exit statistics, and market dynamics.

Learning resources: 1, 3, 8, 17, 18, 20.

8. Vertical integration in industrial markets

Vertical integration and its types. The extent of vertical integration of firms in industrial markets.

Benefits of vertical integration. Costs of vertical integration.

Consequences of vertical integration. Vertical integration as a factor of strengthening market power. Vertical integration as a barrier to entry.

Vertical agreements. Franchising as a vertical clause of restraint.

Vertical contracts and their benefits to society. Antitrust control of vertical interactions.

Learning resources: 8, 17, 18, 20.

9. Product differentiation, market structure and competition

Product differentiation and its implications. A product as a set of properties. Factors of product differentiation. Product differentiation – real and imagined differences between competing products in the same industry. Product diversity and market power of a firm. Expansion of consumer choice.

Types of product differentiation and how they affect the market. Horizontal and vertical product differentiation. The impact of product differentiation types on competition and a firm's position.

Measuring product differentiation by the number of brands, cross-price elasticity of demand, the generalized entropy index, advertising costs, the Rothschild index.

Models of horizontal and vertical product differentiation by E. Chamberlin, Hotelling, Salop, Lancaster and Sutton.

Advertising, price level and product quality. Market structure and advertising costs. Advertising, monopoly power and profitability.

Learning resources: 8, 17, 18, 20.

10. Antitrust regulation and industrial market structure

Antitrust regulation, its objectives and focus.

Antitrust tools for industrial markets: industry regulation and antitrust laws. Direct and indirect regulation of industries. Controlling firm behavior in order to ensure a balance between meeting consumer interests, creating adequate incentives for manufacturers, efficiency, competition, and profitability. Antitrust regulation and its effect on all industries and enterprises. Antitrust laws, or competition laws, and their role in protection from abuse of dominance and monopolization.

Regulation of market structure and firm behavior. Economic regulation. Antitrust regulation of illegal business practices: horizontal restraints (price fixing; tying the sale of two products; bid rigging; false advertising; false labeling); vertical restraints (exclusive dealing; resale price maintenance).

Introducing antitrust legislation and the issue of correlation between market structure and anti-competitive behavior. The structural approach and the Harvard School research on the impact of market structure on corporate behavior and performance. The dominance of the "structural" approach in antitrust policy the 1980s. The impact of the Chicago School on attitudes towards certain vertical interactions of firms.

Learning resources: 1, 8, 9, 10, 11, 17, 18, 20.

4. CREDIT STRUCTURE OF THE COURSE
“INDUSTRIAL ECONOMICS”
(Full-time form of study)

№	Topics	Hours					Control measures
		Lectures	Practical classes	Individual student's work	Training	Self-studies of students	
Module 1							
Competition in industrial markets. Effectiveness of industrial markets							
1.	Basics of industrial economics theory	2	2	2	4	5	Questions, test
2.	Industrial markets and their classification	4	4			6	Questions, test, problems
3.	Industrial competition and competitiveness	6	4			6	Questions, test, problems
4.	Economic efficiency of industrial markets	4	4			6	Questions, test, problems
Module 2							
Industrial market structure							
5.	Factors affecting industrial market structure	4	2	3	6	6	Questions, test, problems
6.	Market power of firms in industrial markets	4	4			6	Questions, test, problems
7.	Barriers to entry, barriers to exit and industrial dynamics	4	2			6	Questions, test
8.	Vertical integration in industrial markets	6	2			6	Questions, test
9.	Product differentiation, market structure and competition	6	4			6	Questions, test
10.	Antitrust regulation and industrial market structure	6	2			6	Questions, test
Total		46	30	5	10	59	

5. PRACTICAL CLASSES OUTLINE

Practical class 1

Topic 1. Basics of industrial economics theory

Objective: to master the basic concepts of discipline, its methodology, focus and objectives, to get acquainted with the history of industrial economics.

Points for discussion:

1. Industrial economics as a science and a discipline.
2. The concept of the industrial market.
3. The focus and objectives of the course “Industrial economics”.
4. Methodology of industrial economics.
5. History of industrial economics.

Learning resources: 8, 14, 15, 17, 18, 19, 20.

Practical class 2, 3

Topic 2. Industrial markets and their classification

Objective: to learn ways to identify industrial markets, their classification, assess the market conditions, master the methods of defining product boundaries and geographic segmentation of market.

Points for discussion:

1. An industrial market and its boundaries. Statistical classifiers in industrial markets. Methods of defining product boundaries of an industrial market. Geographic segmentation.
2. Market conditions as an object of economic analysis.
3. Classification of industrial markets.
4. Types of industrial markets according to market structure.
5. Different combinations of classification features and relevant types of markets.

Learning resources: 5, 8, 12, 14, 15, 18, 19, 20.

Practical class 4, 5

Topic 3. Industrial competition and competitiveness

Objective: to understand the theory and practice of competition and competitive rivalry in the industrial markets, the determinants of the industry competitiveness in both domestic and foreign markets.

Points for discussion:

1. Industrial competition, its types and forms.
2. Advantages and disadvantages of cross-industrial competition.
3. Factors of industrial competitive rivalry.
4. Industrial markets concentration and monopolism.
5. Industry barriers to entry and barriers to exit.
6. Indices of competition in industrial markets.
7. Industrial competitiveness. Determinants of industrial competitiveness.
8. International competitiveness of an industry.

Learning resources: 2, 4, 7, 8, 14, 15, 16, 17, 18, 20.

Practical class 6, 7

Topic 4. Economic efficiency of industrial markets

Objective: to get acquainted with methods of estimating efficiency of industrial markets, learn estimating consequences of the cost of monopoly, study ways to maintaining competition in industrial markets.

Points for discussion:

1. Efficiency of competitive markets.
2. Consequences of market monopolization and its impact on efficiency.
3. A. Harberger's estimate of the cost of monopoly.
4. The social costs of monopoly power by K. Cowling and D. Mueller.
5. H. Leibenstein's X-inefficiency and estimating welfare loss due to market monopolization.
6. Maintaining competition in industrial markets: areas and tools.
7. Illegal corporate behavior and antitrust practice.

Learning resources: 8, 10, 11, 17, 18, 20.

Practical class 8

Topic 5. Factors affecting industrial market structure

Objective: to master the factors affecting industrial market structure.

Points for discussion:

1. Technological factors.
2. Behavioral factors.
3. Stochastic factors.
4. State policy and its impact on market organization.

Learning resources: 8, 17, 18, 20.

Practical class 9, 10

Topic 6. Market power of firms in industrial markets

Objective: to learn the peculiarities of the emergence and manifestation of monopoly power in the industrial market; master the methodology of calculating monopoly power.

Points for discussion:

1. A firm as a subject of industrial market. Market power of a firm.
 2. Assessing a degree of how close an industrial market is to a perfect model.
- Measures of market power of a firm.

3. The Bane index.
4. The Lerner index.
5. The Rothschild index.
6. The Tobin's Q ratio.
7. Papandreou coefficient.

Learning resources: 8, 17, 18, 20.

Practical class 11

Topic 7. Barriers to entry, barriers to exit and industrial dynamics

Objective: to find out the peculiarities of barriers to entry and barriers to exit in industrial markets, types of strategic and structural barriers and how they affect on market.

Points for discussion:

1. Market barriers.
2. Classification of industrial markets by entry by J.S. Bain.
3. Barriers to entry, barriers to exit. Natural (structural) barriers.
4. Artificial (strategic) barriers to entry and exit.
5. Zero barriers to entry and quasi-competitive behavior in markets.
6. The height of barriers to entry, entry-exit statistics, and market dynamics.

Learning resources: 1, 3, 8, 17, 18, 20.

Practical class 12

Topic 8. Vertical integration in industrial markets

Objective: to master the issues of vertical integration, its particularities in industrial markets and find out the impact on industrial competition.

Points for discussion:

1. Vertical integration of firms in industrial markets, its types.
2. The extent of vertical integration of firms in industrial markets.
3. Benefits of vertical integration.
4. Costs of vertical integration.
5. Consequences of vertical integration.
6. Vertical agreements.
7. Franchising as a vertical clause of restraint.
8. Vertical contracts and their benefits to society. Antitrust control of vertical interactions.

Learning resources: 8, 17, 18, 20.

Practical class 13, 14

Topic 9. Product differentiation, market structure and competition

Objective: to find out the role of product differentiation to form the industrial market structure, master models of vertical and horizontal product differentiation.

Points for discussion:

1. Product differentiation and its implications.
2. Types of product differentiation and how they affect the market. Horizontal and vertical product differentiation.
3. Measurement of product differentiation.
4. Models of horizontal and vertical product differentiation by E. Chamberlin, Hotelling, Salop, Lancaster and Sutton.
5. Advertising, price level and product quality.
6. Market structure and advertising costs.
7. Advertising, monopoly power and level of profitability.

Learning resources: 8, 17, 18, 20.

Practical class 15

Topic 10: Antitrust regulation and industrial market structure

Objective: to learn objectives, focus and tools of antitrust regulation to support competition in industrial markets.

Points for discussion:

1. Antitrust regulation, its objectives and focus.
2. Antitrust tools for industrial markets: industry regulation and antitrust laws.
3. Regulation of market structure and firm behavior.
4. Introducing antitrust legislation and the issue of correlation between market structure and anti-competitive behavior, the impact of Harvard and Chicago schools.

Learning resources: 1, 8, 9, 10, 11, 17, 18, 20.

6. INDEPENDENT ASSIGNMENTS

In the process of study the course “Industrial Economics”, each student performs an independent assignments. An independent assignment is implemented in the form of a research tasks selected by the student to analyze the industrial market, the solution of which requires the successful mastering the discipline and the gaining skills to apply the acquired knowledge through collection information, calculations, and conclusions justification.

The independent assignment is issued to the student in the first two weeks of study and is carried out during the semester according to the set schedules, the observance of which is a prerequisite for admission to the examination.

The independent assignment is issued to students in the form of a list of research tasks of an industrial market chosen by the student and agreed with lecturer.

Tasks for independent assignment

Choose an industrial market to explore the features of its operation and the firms' behavior on it. Handle the questions:

- the place of the industrial market in the national economy;
- market place in the classifiers of economic activities;
- market boundaries (product, geographical);
- the main indicators that characterize the demand (supply) and supply (production) in the studied market, conclusions about the state of the market situation;
- determine the type of market structure (oligopoly, monopolistic competition, etc.) by basic characteristics of the market;

- barriers to entry into the industrial market;
- strategies of firms behavior in the industrial market (in terms of product differentiation, vertical interactions, pricing, advertising, innovation, etc.);
- aspects of state regulation of this industrial market;
- prospects for the development of the industrial market.

Problems

Problem 1: Calculation of Market Concentration

Condition:

There are 5 firms operating in the market with the following market shares:

Firm A: 35%; Firm B: 25%; Firm C: 20%; Firm D: 15%; Firm E: 5%

Task:

1. Calculate the four-firm concentration ratio (CR4).
2. Calculate the Herfindahl-Hirschman Index (HHI).
3. Analyze the level of market concentration based on the obtained data.

Problem 2: Determining Market Power using the Lerner Index

Condition:

A monopolistic firm sells its product at a price (P) of 150 UAH per unit. The marginal cost (MC) of producing one unit of the product is 90 UAH.

Task:

Calculate the Lerner index (L) for this firm and interpret the result.

Problem 3: Assessment of X-inefficiency

Condition:

Under perfect competition, the minimum possible average cost (AC_{min}) of production in the industry is 200 UAH per unit.

However, due to the lack of competitive pressure, the actual average cost (AC_{actual}) of a monopolist firm is 250 UAH per unit. The total output (Q) is 10,000 units.

Task:

Estimate the total social welfare loss from X-inefficiency (according to H. Leibenstein's concept).

Problem 4: Analysis of Barriers to Entry (Bain Index)

Condition:

An oligopolistic firm earns a long-run rate of profit of 18%. The average rate of profit in competitive sectors of the economy is 10%.

Task:

Calculate the Bain index and assess the height of the barriers to entry into the industry.

Problem 5: Calculation of the Rothschild Index**Condition:**

The price elasticity of demand for the product of a particular industry (E_{market}) is -1.5. The price elasticity of demand for the product of an individual firm operating in this industry (E_{firm}) is -4.5.

Task:

Calculate the Rothschild index (R) and draw a conclusion about the type of market structure.

The table below provides 30 variants of conditions for the five core problems of the course. To complete the assignment, select your variant number and solve the corresponding problems.

Variant №	Problem 1: Market Concentration (Firm Shares, %)	Problem 2: Lerner Index (Price P, Marginal Cost MC)	Problem 3: X-inefficiency (AC_actual, AC_min, Quantity Q)	Problem 4: Bain Index (Firm Profit Rate, %, Avg. Profit Rate, %)	Problem 5: Rothschild Index (E_{market} , E_{firm})
1	A:40, B:30, C:15, D:10, E:5	P=200, MC=120	AC_actual=350, AC_min=300, Q=5,000	15%, 9%	-1.8, -3.6
2	A:50, B:20, C:15, D:10, E:5	P=180, MC=100	AC_actual=280, AC_min=250, Q=12,000	12%, 8%	-2.0, -5.0
3	A:35, B:25, C:20, D:15, E:5	P=300, MC=210	AC_actual=400, AC_min=320, Q=8,000	20%, 12%	-1.5, -4.5
4	A:60, B:15, C:10, D:10, E:5	P=500, MC=300	AC_actual=150, AC_min=110, Q=20,000	22%, 10%	-1.2, -2.4
5	A:30, B:30, C:20, D:20	P=250, MC=175	AC_actual=500, AC_min=450, Q=3,000	18%, 11%	-2.2, -6.6
6	A:25, B:25, C:25, D:25	P=150, MC=90	AC_actual=220, AC_min=190, Q=15,000	14%, 7%	-2.5, -5.0

7	A:70, B:10, C:10, D:5, E:5	P=450, MC=250	AC_actual=330, AC_min=260, Q=9,000	25%, 15%	-1.0, -1.8
8	A:45, B:25, C:15, D:15	P=220, MC=150	AC_actual=180, AC_min=160, Q=25,000	16%, 9%	-1.9, -3.8
9	A:40, B:20, C:20, D:10, E:10	P=330, MC=200	AC_actual=290, AC_min=240, Q=11,000	19%, 13%	-2.1, -4.2
10	A:55, B:25, C:10, D:10	P=190, MC=110	AC_actual=410, AC_min=380, Q=7,500	21%, 12%	-1.6, -2.5
11	A:38, B:22, C:20, D:10, E:10	P=280, MC=180	AC_actual=200, AC_min=150, Q=18,000	17%, 10%	-2.3, -5.75
12	A:65, B:15, C:10, D:5, E:5	P=350, MC=200	AC_actual=310, AC_min=250, Q=10,000	23%, 14%	-1.4, -2.8
13	A:33, B:27, C:20, D:15, E:5	P=210, MC=140	AC_actual=260, AC_min=220, Q=13,000	13%, 8%	-2.4, -8.0
14	A:50, B:25, C:15, D:5, E:5	P=400, MC=280	AC_actual=190, AC_min=140, Q=22,000	24%, 11%	-1.7, -3.4
15	A:28, B:26, C:24, D:22	P=260, MC=190	AC_actual=380, AC_min=310, Q=6,000	18%, 12%	-2.6, -6.5
16	A:42, B:28, C:15, D:10, E:5	P=170, MC=100	AC_actual=230, AC_min=200, Q=16,000	15.5%, 9.5%	-2.0, -4.0
17	A:75, B:10, C:5, D:5, E:5	P=550, MC=350	AC_actual=450, AC_min=350, Q=4,000	28%, 15%	-1.1, -1.5
18	A:36, B:24, C:20, D:12, E:8	P=310, MC=220	AC_actual=270, AC_min=210, Q=14,000	16.5%, 10.5%	-1.8, -5.4
19	A:48, B:22, C:18, D:12	P=240, MC=150	AC_actual=340, AC_min=290, Q=8,500	20.5%, 11.5%	-1.9, -2.85
20	A:62, B:18, C:10, D:10	P=380, MC=220	AC_actual=420, AC_min=390, Q=9,500	22.5%, 12.5%	-1.3, -2.6
21	A:39, B:26, C:19, D:11, E:5	P=290, MC=200	AC_actual=210, AC_min=170, Q=19,000	17.5%, 9%	-2.1, -7.0
22	A:52, B:23, C:15, D:10	P=420, MC=300	AC_actual=360, AC_min=300, Q=7,000	26%, 13%	-1.5, -3.0

23	A:31, B:29, C:25, D:15	P=230, MC=160	AC_actual=250, AC_min=225, Q=17,000	14.5%, 8.5%	-2.5, -6.25
24	A:68, B:12, C:10, D:10	P=480, MC=280	AC_actual=390, AC_min=320, Q=6,500	27%, 14%	-1.2, -2.0
25	A:44, B:26, C:16, D:14	P=360, MC=260	AC_actual=320, AC_min=280, Q=12,500	19.5%, 10%	-1.7, -5.1
26	A:80, B:5, C:5, D:5, E:5	P=600, MC=350	AC_actual=550, AC_min=450, Q=2,500	30%, 12%	-1.0, -1.2
27	A:32, B:28, C:22, D:18	P=320, MC=230	AC_actual=240, AC_min=190, Q=21,000	18.5%, 11.5%	-2.2, -5.5
28	A:46, B:24, C:18, D:12	P=270, MC=195	AC_actual=300, AC_min=255, Q=11,500	16%, 10%	-2.3, -4.6
29	A:58, B:20, C:12, D:10	P=430, MC=290	AC_actual=370, AC_min=330, Q=10,500	24.5%, 13.5%	-1.6, -3.2
30	A:41, B:29, C:15, D:15	P=340, MC=240	AC_actual=285, AC_min=250, Q=14,500	21.5%, 10.5%	-1.9, -5.7

As Appendix A to the independent assignment, each student must include a calculation section. For each problem, the following elements should be presented:

- a short statement of the problem (given data),
- formulas and the procedure of calculations,
- all intermediate calculations,
- the final result with explanation,
- graphs or tables (if necessary),
- well-grounded conclusions.

Thus, Appendix A serves as practical evidence of the student's mastery of industrial market analysis methods and is an integral part of the independent assignment.

Structure of the Independent Assignment

Introduction (relevance of the topic; purpose and objectives of the work; object and subject of the research; brief description of the selected industrial market)

Main Part (Three Sections)

Section 1. Theoretical and Methodological Foundations of Industrial Market Research (the role of the selected market in the

national economy and in the classifiers of economic activities; theoretical approaches to the analysis of market structures; methodology for assessing demand, supply, market boundaries, and concentration)

Section 2. Analytical Assessment of the Selected Market (definition of product and geographical boundaries of the market; analysis of demand, supply, and production indicators; evaluation of the competitive environment and market structure; analysis of entry and exit barriers)

Section 3. Firms' Strategies and State Regulation of the Market (firms' strategies (pricing, product differentiation, innovations, advertising, vertical interactions); the role of state policy and regulatory instruments in the functioning of the market; prospects for the development of the market and its impact on the economy)

Conclusions (generalization of the research results; assessment of the efficiency of the market structure; personal proposals for improving market organization or regulatory policy).

List of Recommended and Used Resources (academic literature, textbooks, articles, statistical reports, and official sources).

Appendices

- **Appendix A. Calculation Section** – solutions to the five core problems according to the individual variant.
- Tables, graphs, and diagrams supporting the analytical findings.

Volume of the assignment: 15–20 pages of printed text (A4, standard academic formatting).

6. TRAINING ON THE COURSE

1. The introduction involves familiarizing students with the topic of a training session.

2. The organizational part consist in creating a positive work environment, establishing rules for conducting and summarizing a training session; familiarizing students with handouts.

3. In the practical part a group 3-6 students participate in a business game and practice their problem-solving skills doing case studies.

4. While summarizing students discuss the results of training assignments and exchange their views on issues assigned for the training session.

Tasks for training

Task 1. Do research on the level of competition in a specific industrial market. Analyze the dynamics of the industrial market structure based on the gathered data on market capacity and the share of competing firms. Identify the largest firms operating in the industrial market and assess their market power.

Task 2. Analyze the concentration level of a specific industrial market. Various indicators are used depending on the goals of assessing and analyzing the level of competition in industry markets. They are: concentration ratio, the Herfindahl- Hirschman Index, the relative concentration ratio, the Hall-Tideman Index, the four- firm concentration ratio, etc. Calculate all possible concentration indicators. Interpret the obtained results and make appropriate conclusions about the level of industrial market concentration.

8. ASSESSMENT TOOLS AND METHODS FOR DEMONSTRATING THE RESULTS OF STUDY

In the process of study the course “Industrial Economics” assessment method of students’ work are used:

- standard tests;
- current poll;
- modular testing and poll;
- scoring unit testing and interviews;
- evaluation of performance of independent assignment;
- presentation of results of students’ researches;
- control work;
- final exam;
- other.

8. CRITERIA, FORMS OF ONGOING AND FINAL CONTROL

The **Final score** (on a 100-point scale) for the course "Industrial Economics" is determined as a weighted average, depending on the specific weight of each component of the credit module:

Component	Weight	Details
Module 1		
Ongoing Assessment	10%	The grade for the ongoing assessment is determined as the arithmetic mean of the grades received during classes (5 topics – from 3 to 7 grades).
Module Test 1	10%	The grade for Module Test 1 is based on the completion of the module assignment covering topics 1–5 (testing, theoretical questions, problems).
Module 2		
Ongoing Assessment	10%	The grade for the ongoing assessment is determined as the arithmetic mean of the grades received during classes (5 topics – from 3 to 5 grades).
Module Test 2	10%	The grade for Module Test 2 is based on the completion of the module assignment covering topics 6–10 (testing, theoretical

		questions, problems).
Module 3		
Training	5%	The grade for the training is determined based on active participation in all tasks: from in-depth analysis (90–100 points) to a complete absence of a result (less than 59 points).
Module 4		
Independent Work	15%	The grade for the completion of independent work is determined as the arithmetic mean of the grades received for completing tasks (task + 5 problems).
Module 5		
Exam	40%	The grade for the exam is determined as the arithmetic mean of the grades received for completing the tasks (2 questions, 1 problem).

Modules 1 and 2

1. Ongoing Assessment: The grade is determined as the arithmetic mean of the grades received during practical classes.

Criteria for Ongoing Assessment:

- **90–100 points:** The student has a deep knowledge of the topics of the practical classes. The answer is substantive, thorough, and meets the requirements. In preparing for the class, the student is not limited to lecture materials only. During the practical class, the student actively participates in discussions and supplements the answers of others. The student actively provides examples for a better understanding of the material. They successfully combine theoretical knowledge and practical skills in this discipline. They possess the skills to solve problems and justify the obtained results.
- **75–89 points:** The student knows the program material completely. The answer meets the requirements. The student prepares for the class in a timely manner. During the class, the student answers the questions posed. However, there are problems with applying examples from practical activities. There are certain errors in the interpretation of the question. They possess the skills to solve problems but may make some mistakes in calculations or in justifying the obtained results.
- **60–74 points:** The student knows the main topic of the class and has an idea of the question posed, but their knowledge is of a general nature. The answers are based only on the lecture course and are practically not supported by examples. They have certain gaps in other topics on which the material of the practical class is based. They have some difficulties in solving problems, in particular, they may make certain mistakes that affect the obtained results, or they cannot interpret them correctly.

- **1–59 points:** The student does not know the program material at all, does not work in the classroom, and is not ready to answer any question on the topic of the practical class. They have significant difficulties or are unable to solve problems.

2. Module Test: The grade is based on the completion of a module assignment covering topics defined within the respective credit modules. It involves a written assignment (testing, theoretical questions, problems).

Alternative Description for Module Test 2: The grade is calculated as the arithmetic mean of the grades for each task of the module work, which includes tasks (testing, theoretical questions, problems) on topics defined within the respective credit modules.

Criteria for Module Test:

2.1. Testing

- 20 test questions – 5 points for each correct answer.
- 10 test questions – 10 points for each correct answer.

2.2. Theoretical Question

- **90–100 points:** The answer is correct, exhaustive, and well-argued, containing analysis and a critical assessment of the material. The student masters specialized terminology, demonstrates comprehensive and deep knowledge, and establishes cause-and-effect relationships.
- **75–89 points:** The answer contains key theoretical concepts, is complete and logically structured. The student is well-versed in the theoretical material and provides examples that illustrate its main provisions.
- **60–74 points:** The answer is superficial and does not cover all aspects of the question. The student has general knowledge of the topic but makes minor inaccuracies or errors.
- **1–59 points:** The answer is illogical and incomplete. The student possesses only basic definitions and fundamental concepts, makes significant errors, or cannot answer the question at all.

2.3. Problem

- **90–100 points:** The problem is solved correctly, with a full and exhaustive explanation for each step. The answer is correct and justified. The obtained results are analyzed, and appropriate conclusions are drawn.
- **75–89 points:** The problem-solving algorithm is chosen correctly. Most of the calculations are performed with explanations and without errors. The obtained answer is correct.
- **60–74 points:** The correct course of solving the problem is chosen, but there are significant errors in the calculations. The answer is incorrect. The obtained results are unjustified or partially justified.

- **1–59 points:** The incorrect course of solving the problem is chosen, and there are significant errors in the calculations. The answer is incorrect.

Module 3

Training: The grade is determined as the arithmetic mean of the grades received for completing the tasks.

Criteria for Training:

- **90–100 points:** The student actively participates in the training, demonstrates a deep understanding of the topic, and is able to apply the acquired theoretical knowledge in practice.
- **75–89 points:** The student participates actively, but their answers are not always complete or well-argued.
- **65–74 points:** The student participates partially, and their answers are superficial.
- **60–64 points:** The student's participation is minimal, demonstrating incomplete knowledge.
- **1–59 points:** No participation, no result.

Module 4

Independent Work: The grade for the completion of independent work is determined as the arithmetic mean of the grades received for completing the tasks.

Criteria for Independent Work:

- **90–100 points:** The problem is solved completely. The solution includes a short statement of the problem (given), formulas, necessary actions, justifications, graphs, tables, units of measurement, and the answer.
- **85–89 points:** The problem is solved completely. The solution includes a short statement of the problem (given), formulas, necessary actions, justifications, graphs, tables, and the answer. Some units of measurement are not written or are indicated incorrectly after the numbers.
- **75–84 points:** The course of the solution is correct, but logical errors were made in the calculations, which led to an incorrect answer. Or the solution does not contain the necessary explanations.
- **65–74 points:** The solution is incomplete, the answer is not obtained, but the student came quite close to it in the solution. The student has completed at least half of the logical steps.
- **60–64 points:** The solution is incomplete, the answer is not obtained, but the student came quite close to it in the solution.

- **35–59 points:** The solution to the problem has been started: a short record of the problem's condition has been made, and separate fragments of the solution are provided.
- **1–34 points:** The solution to the problem has been started: a short record of the problem's condition and some necessary actions have been made. Or the task was not solved at all, the answer is missing.

Module 5

Exam: The grade is determined as the arithmetic mean of the grades received for completing the tasks (2 questions, 1 problem).

The criteria for evaluating the tasks are analogous to those of the module test.

9. TOOLS, EQUIPMENT AND SOFTWARE FOR STUDY THE ACADEMIC DISCIPLINE

№	Name	Topic numbers
1.	Computers with basic software	1-10
2.	Basic information technology software and specialized software	1-10
3.	Multimedia projector	1-10
4.	Projection screen	1-10
5.	Moodle platform	1-10

RECOMMENDED RESOURCES OF INFORMATION

1. Aguirregabiria, V., Collard-Wexler, A., & Ryan, S. P. (2021). Dynamic games in empirical industrial organization. Y K. Ho, A. Hortaçsu, & A. Lizzeri (Eds.), *Handbook of Industrial Organization* (Vol. 4, pp. 225–343). North-Holland/Elsevier. <https://doi.org/10.1016/bs.hesind.2021.11.004>
2. De Loecker, J., & Syverson, C. (2021). An industrial-organization perspective on productivity. Y K. Ho, A. Hortaçsu, & A. Lizzeri (Eds.), *Handbook of Industrial Organization* (Vol. 4, pp. 141–223). North-Holland/Elsevier. <https://doi.org/10.1016/bs.hesind.2021.11.003>
3. Gavazza, A., & Lizzeri, A. (2021). Frictions in product markets. Y K. Ho, A. Hortaçsu, & A. Lizzeri (Eds.), *Handbook of Industrial Organization* (Vol. 4, pp. 433–484). North-Holland/Elsevier. <https://doi.org/10.1016/bs.hesind.2021.11.006> (також як NBER Working Paper №29259, September 2021).

4. Ho, K., Hortaçsu, A., & Lizzeri, A. (Eds.). (2021). *Handbook of Industrial Organization* (Vol. 4). North-Holland/Elsevier. ISBN 978-0-323-91513-7 (hb); e-ISBN 978-0-323-91514-4.
5. Ho, K., Hortaçsu, A., & Lizzeri, A. (Eds.). (2021). *Handbook of Industrial Organization* (Vol. 5). North-Holland/Elsevier. ISBN 978-0-323-98887-2 (hb); e-ISBN 978-0-323-98888-9.
6. Li, M. (Ed.). (2021/2022). *IEIS 2021: Proceedings of the 8th International Conference on Industrial Economics System and Industrial Security Engineering*. Springer.
7. Farrell, J., & Shapiro, C. (Issue Eds.). (2021). Special Issue: The 2010 Horizontal Merger Guidelines after Ten Years. *Review of Industrial Organization*, 58(1). Springer.
8. Regular issues (без спецредакторів). (2021). *Review of Industrial Organization*, 58(2–4). Springer.
9. Salop, S. C., & Sibley, D. S. (Issue Eds.). (2025). Special Issue: Antitrust Policy. *Review of Industrial Organization*, 66(1), January. Springer.
10. Shor, M., & Sibley, D. S. (Issue Eds.). (2025). Special Issue: Vertical Relationships. *Review of Industrial Organization*, 66(2), February. Springer.
11. Williams, J. W. (Issue Ed.). (2025). Special Issue: The Telecommunications Industry. *Review of Industrial Organization*, 66(4), April. Springer.
12. Church, J., & Ware, R. (2019). *Industrial Organization: A Strategic Approach*. Wiley.
13. Waldman, D. E., & Jensen, E. J. (2019). *Industrial Organization* (5th ed.).
14. Walters, D., & Helman, D. (2020). *Industry Dynamics*.
15. Demir, Y., & Dincer, F. (2020). The Effects of Industry 4.0 on the Food and Beverage Industry.
16. Criscuolo, C., & Lalanne, G. (2024). *A New Approach for Better Industrial Strategies*.
17. Criscuolo, C., Lalanne, G., & Díaz, L. (2022). Quantifying industrial strategies (QuIS): Measuring industrial policy expenditures.
18. Ahlvik, L., Coria, J., den Bijgaart, I., Johnsson, F., Jaraitė, J., Löfgren, Å., & Rootzén, J. (2024). Green industrial policy for climate action in the basic materials industry.
19. Xia, L., Han, Q., & Yu, S. (2024). Industrial intelligence and industrial structure change: Effect and mechanism.
20. Zimmer, M., & Hoffmann, P. (2023). *The Green Industrial Revolution – Investment Pathways to Decarbonize the Industrial Sector in Europe*.