

Ministry of Science and Higher Education of the Russian Federation
Federal State Autonomous Institution of Higher Education
“National Research Nuclear University “MEPhI”

INSTITUTE OF GENERAL PROFESSIONAL TRAINING

DEPARTMENT OF ECONOMICS

APPROVED ИТС ИФИБ

Protocol No. 3.1

dated 30.08.2024

ACADEMIC COURSE OUTLINE

ECONOMICS

Educational program track (speciality) [1] 31.05.01 General Medicine

Semester	Labour input, credits	Total course academic, hours	Lectures, hrs.	Practical sessions, hrs.	Laboratory sessions, hrs.	In the form of practical studies, hrs.	Independent studies, hrs.	Independent studies monitoring, hrs.	Course progress, Exam/Pass-fail exam/Term
4	2	72	18	18	0		36	0	PFE
Total	2	72	18	18	0	0	36	0	

ABSTRACT

Academic discipline "Economy" refers to the base of the humanitarian, social and economic structure of the educational programme cycle: B1 according to the educational aims code of the educational programme, which means the formation of the learning process of the student's ability to use cognitive and professional activity of basic knowledge in the humanities and economic sciences. The study of this discipline is based on the knowledge acquired by students in the school while studying social science, as well as in the development of such disciplines educational plan as history, philosophy, foreign language (mostly English).

1. ACADEMIC COURSE GOALS AND OBJECTIVES

The objectives of the development of the discipline "Economy" in accordance with the general objectives of the educational programme include:

- Give an idea of the theoretical foundations of a functioning market economy and the possibility of their implementation;
- To consider the economic bases of functioning of modern Russian economy;
- To introduce the specifics of economic modeling and analysis;
- To consider the economic fundamentals of the production process;
- To disclose the content of the basic terms and concepts used in the study of other economic disciplines;
- Create the basis for the use of cognitive and professional activities of basic knowledge in the field of economic science, for the understanding of the causal relationships of the Russian society.

2. PLACE OF THE ACADEMIC COURSE IN THE MAIN HIGHER EDUCATION CURRICULUM

The study of economics helps develop students' ability to generalize, analyze, and perceive information, set goals, and choose ways to achieve them at a new level. This discipline builds on the knowledge students acquire in school through social studies, as well as through higher education courses such as history, philosophy, and a foreign language (primarily English). Understanding economic models requires a knowledge of mathematics. This discipline is particularly challenging because future courses in economics may not be taught; therefore, the standard for developing the necessary competencies focuses specifically on this discipline.

3. DEVELOPED COMPETENCIES AND INTENDED LEARNING OUTCOMES

Universal and/or general professional competencies:

Competency code and title	Code and title of competency-based rubrics
YK-10 [1] – Capable of making informed economic decisions in various areas of life	3-YK-10 [1] – Know: - basic principles of economic functioning and economic development, goals and forms of state participation in the economy; - main financial instruments for personal budget management Y-YK-10 [1] – Be able to: - apply methods of personal economic and financial planning to achieve current and long-

	term financial goals; - control personal economic and financial risks B-YK-10 [1] – Possess skills in: - planning and implementing activities considering economically justified costs aimed at achieving goals; - using financial instruments for personal finance (personal budget) management
--	---

4. PEDAGOGIC POTENTIAL OF THE COURSE

Pedagogic tracks/objectives	Pedagogic goals (code)
Intellectual education	Establishing conditions for: formation of culture of intellectual work (B11)
Intellectual education	Establishing conditions for: understanding the socio-cultural and interdisciplinary context of the development of various scientific fields (B12)
Vocational and labor education	Establishing conditions for: formation of a deep understanding of the profession's social role, a positive and active commitment to the values of the chosen specialty, and a responsible attitude towards professional activity and work (B14)

5. ACADEMIC COURSE STRUCTURE AND CONTENT

Academic course sections, their scope, terms of study and assessment:

No.	Academic course section name	Weeks	Lectures/ Practical (seminars)/ Laboratory sessions, hrs.	Compulsory current assessment (form *, week)	Maximum grade per section**	Section assessment (form *, week)	Competency-based rubrics
	<i>4 Semester</i>						
1	Introduction. Microeconomics	1-8	10/8/0		25	T-8	3-YK-10, Y-YK-10, B-YK-10
2	Macroeconomics. Global Economy. Russian Economy	9-15	8/10/0		25	T-15	3-YK-10, Y-YK-10, B-YK-10
	<i>Totals for 4 Semester</i>		18/18/0		50		
	Assessment events for 4 Semester				50	PFE	3-YK-10, Y-YK-10, B-YK-10

* – abbreviated name of assessment

** – 100 maximum points per semester including a pass/fail exam and (or) an exam

Abbreviated current assessment forms and section assessment

Abbreviation	Full name
T	Testing
PFE	Pass/fail examination

SYLLABUS

Weeks	Topics / Content	Lect., hrs.	Pr./sem., hrs.	Lab., hrs.
	<i>4 Semester</i>	18	18	0
1-8	Introduction. Microeconomics	10	8	0
1	Topic 1. Introduction to Economic Theory. Enter description The main stages of development of economic theory. Good, needs and resources. Economic choice. The productive forces and production (economic) relations. Economic systems. Circuit food and income. Subject and methods of economic theory.	All		
		2	0	0
		Online		
		0	0	0
2 - 3	Topic 2. Market. Supply and demand. Market: essence, functions, structure. Individual and market demand. The law of demand. Consumer preferences and marginal utility. The effect of income and substitution effects. Demand factors. The proposed law. The proposal and its factors. Supply and demand: market equilibrium. Price regulation. Price elasticity of demand. Indicator of total revenue and elasticity of demand. Factors of price elasticity of demand. The price elasticity of supply. Assessment of the role of the market system	All		
		2	2	0
		Online		
		0	0	0
4 - 5	Topic 3. Production costs. Firm. Organizing forms of business activity. The principle of profit maximization. Economic and accounting expenses. Economic and financial profit. Types of costs in the short term. The law of diminishing marginal productivity. The long-term costs. Economies of scale.	All		
		2	2	0
		Online		
		0	0	0
6 - 7	Topic 4. Market structure and competitive strategy. Four models of the market. Market power and monopoly. Revenue and profit. The condition of profit maximization. Offer perfectly competitive firm and industry. The efficiency of competitive markets. Monopoly. Natural monopoly. Monopolistic competition and oligopoly.	All		
		2	2	0
		Online		
		0	0	0
8	Topic 5. The state in a mixed economy. General equilibrium and welfare. The failure of the market and the role of the state. Externalities and public goods. Antitrust regulation. The distribution of income and wealth. Inequality.	All		
		2	2	0
		Online		
		0	0	0
9-15	Macroeconomics. Global Economy. Russian Economy	8	10	0
9	Topic 6. Introduction to Macroeconomic Analysis. The national economy as a whole. GDP and ways to measure it. Nominal and real GDP. Price indices. GDP expenditure and GDP by income. National income. Disposable personal income.	All		
		0	2	0
		Online		
		0	0	0
10 - 11	Topic 7. Macroeconomic analysis. Aggregate demand and	All		

	aggregate supply. Aggregate Demand and Aggregate Supply factors and its factors. Macroeconomic balance. Classical and Keynesian theory of employment.	2	2	0
		Online		
		0	0	0
12	Topic 8. Macroeconomic instability. Economic cycles. Theories of cyclical development. Unemployment and its forms. Inflation and its types. Methods of measuring inflation. The Phillips curve. Stabilization policy	All		
		2	2	0
		Online		
		0	0	0
13 - 14	Topic 9. Equilibrium output in the Keynesian model. Planned total expenditure. Consumption and savings. Investments. Equilibrium in the goods market. The equilibrium level of output and the multiplier effect. Savings and investments. The paradox of thrift.	All		
		2	2	0
		Online		
		0	0	0
15	Topic 10. Fiscal policy. Government spending and taxes, and their effect on aggregate demand. Discretionary fiscal policy and the built-in stabilizers. Issues of fiscal policy.	All		
		2	2	0
		Online		
		0	0	0

Abbreviated names of online options:

Abbreviation	Full name
EC	E-course
FtM	Full-text material
FtL	Full-text lectures
VM	Video materials
AM	Audio materials
Prs	Presentations
T	Tests
ERM	E-reference materials
IS	Interactive site

PRACTICAL SESSIONS TOPICS

Weeks	Topics / Content
	<i>4 Semester</i>
1	Topic 1. INTRODUCTION TO ECONOMICS 1. The subject of economic theory. Microeconomics and Macroeconomics. Economic theory and applied economics. Applied economic disciplines. Economic analysis. Economic institutions. The economic model. Methods of study of economic phenomena. 2. The resources and factors of production. Gains on the factors of production. The benefits and needs. Classification of goods. 3. The problem of choice. Opportunity cost. Production possibilities curve. The law of increasing opportunity costs. 4. The main issues of the economy. The types of economic systems. The role of ownership in shaping the economic system.
2	Topic 2. MARKET. SUPPLY AND DEMAND 1. The market, its types and structure. The subjects of market relations. 2. Spros. The magnitude of demand. The scale of the demand, the demand curve. The law of demand. Factors that shape demand. Individual and market demand. 3. Offer. The value proposition. Scale offers the supply curve. The proposed law. Factors shaping the proposal. Individual and market supply.

	<p>4. Market equilibrium. Demand, supply, price as the basic elements of the market mechanism. Background model building. The interaction of demand and supply in time. Market equilibrium. Winnings of buyers and sellers. Effect of changes in supply and demand on the equilibrium price and the equilibrium quantity.</p>
3	<p>Topic 3. MARKET. ELASTICITY OF SUPPLY AND DEMAND. THE ROLE OF THE STATE IN MARKET REGULATION</p> <p>1. Price elasticity of demand. Spot and arc elasticity. Elastic and inelastic demand. Elasticity and revenue. Income elasticity of demand. Cross-price elasticity of demand.</p> <p>2. Elasticity proposal. Elastic and inelastic supply. Proposal for a moment, short and long term.</p> <p>3. State regulation of the market and its consequences. Legislative establishment of minimum and maximum market price. Quotas for producers. Legislative taxation or subsidization.</p> <p>4. The tax burden of buyers and sellers. Lost Society from taxation. Elasticity of demand and supply and the distribution of the tax burden between sellers and buyers.</p>
4	<p>Topic 4. PRODUCTION COSTS</p> <p>1. Firm. Organizing forms of business activity.</p> <p>2. Proizvodstvo: long-term, short-term and immediate period. The model of the production function. Production technology.</p> <p>3. Performance. Performance factors of production. The dependence of productivity on the quantity and quality of production resources. The law of diminishing marginal productivity of variable factor of production. Models of the total, average and marginal product in the short term.</p> <p>4. The optimal combination of resources. Economic efficiency. Economies of scale.</p>
5	<p>Topic 4, PRODUCTION COSTS</p> <p>1. The costs (production costs). Cost Classification. Production function and cost function. Costs in the short term. Cost of production (manufacturing cost). Fixed (fixed) and variable costs. Depreciation and methods of its calculation. Total, average and marginal costs.</p> <p>2. Accounting and economic costs. Irreversible costs.</p> <p>3. Cost curves in the short term. Economies of scale (positive, DC negative).</p> <p>4. Vyruchka and company income. Gross, average and marginal revenue of the company. Accounting and economic profit. The condition of profit maximization. (Graphic and analytical models).</p>
6	<p>Topic 5. СТРУКТУРА РЫНКА И КОНКУРЕНТНАЯ СТРАТЕГИЯ</p> <p>1. The market of perfect competition. Demand, supply and price for the products of a competitive firm in the short term. Gain a competitive firm and its maximization in the short run. The company's offer of perfect competitor.</p> <p>2. Monopoly. Key assumptions monopoly simulation. Types of entry barriers. Natural monopoly. Modeling maximizing monopolist profits.</p> <p>3. Oligopoly. Key assumptions oligopoly modeling. Models of oligopolistic behavior. The rigidity of prices in an oligopolistic market. Cartels. Indicators of market monopolization.</p> <p>4. Monopolistic competition. Key assumptions modeling firm behavior - monopolistic competitor. Non-price competition: product differentiation, quality, warranty, service and advertising.</p>
7	<p>Topic 6. FACTOR MARKETS</p> <p>1. Features of factor markets. Conditions minimize company costs for a given output.</p> <p>2. Assumptions constructing a model of the labor market. The demand for labor and demand factors. Labor supply and demand factors. Formation of demand in the labor market. Individual and market labor supply. The impact of trade unions on labor markets. Motivation and stimulation of labor.</p> <p>3. The capital market. Features of the capital market. The price of capital goods. The optimal</p>

	<p>amount of capital services for the company. Discounting. Investment projects, the order of their development. Feasibility study and environmental investment projects. Methods for evaluating the effectiveness of investment projects. The investment component in the company's development strategy</p> <p>4. Features of the land market. Determination of rents and land prices.</p>
8	<p>Topic 7. STATE IN A MIXED ECONOMY</p> <p>1. Market failures: monopoly power, externalities, public goods, information asymmetry, inequality in personal income distribution.</p> <p>2. Effect of the monopoly on the allocation of resources. Antitrust regulation.</p> <p>3. External effects and corrective taxes.</p> <p>4. Public goods: the inefficiency of the competitive market.</p> <p>5. The asymmetry of information.</p> <p>6. Incomes and sources of their formation. Income inequality. Social justice. social protection system and its development. Inequality in the personal income distribution. The Lorenz curve. The coefficients of the degree of income inequality. Measures of state regulation of income inequality. Market mechanism of income and social policy.</p> <p>7. Theory of General Equilibrium and Welfare.</p>
9	<p>Topic 8. INTRODUCTION TO MACROECONOMIC ANALYSIS</p> <p>1. Subject of macroeconomics and research methods. Aggregation and macroeconomic modeling. Macroeconomic variables, agents, markets. Nominal and real value. Flows and stocks. Exogenous and endogenous variables.</p> <p>2. The model of the circuit products, expenses and income in a closed economy. An open economy and a model of the circuit. The basic macroeconomic identities for two, three and four-sector economy.</p> <p>3. The system of national accounts. Assumptions and limitations of the SNA. Gross domestic product (GDP) and gross national product (GNP) as the sum of the final product. Intermediate products; added value (value). Methods of calculation of GDP and GNP.</p> <p>4. Ratio of the SNA. Net National Product. National income. Personal income and personal disposable income.</p> <p>5. The nominal and real income. The concept of deflator. Inflation and deflation. Laspeyres and Paasche indexes. The Fisher index. Value indexes. Indices and inflation measurement.</p>
10	<p>Topic 9. MACROECONOMIC EQUILIBRIUM MODELS: AGGREGATE DEMAND AND AGGREGATE SUPPLY</p> <p>1. Aggregate demand and the factors determining it. The aggregate demand curve. Non-price factors.</p> <p>2. Aggregate supply and the factors determining it. The classical approach to the analysis of aggregate supply. The aggregate supply curve in the long term. Non-price factors.</p> <p>3. The aggregate supply curve in the short term. Keynesian approach to the analysis of aggregate supply. The aggregate supply curve in the short term. Non-price factors.</p> <p>4. The balance of aggregate demand and aggregate supply. Basic principles of classical and Keynesian analysis of macroeconomic equilibrium in the commodity market. Shocks of aggregate demand and aggregate supply.</p>
11	<p>Topic 10/ MACROECONOMIC EQUILIBRIUM MODELS: EQUILIBRIUM OUTPUT IN THE KEYNESIAN MODEL</p> <p>1. Product market its features and agents. Background and methodological principles of Keynesian analysis.</p> <p>2. consumption, savings, investment in the Keynesian model.</p> <p>3. The balance of the commodity market. The simple Keynesian model. The concept of macroeconomic equilibrium in the commodity market. The paradox of thrift.</p> <p>4. The balance of the two, three and four-sector model.</p>

12	<p>Topic 11. ECONOMIC GROWTH AND MACROECONOMIC INSTABILITY</p> <p>1. Unemployment. Employed, unemployed and unemploye. Types of unemployment: frictional, structural, cyclical, seasonal. Natural unemployment and full employment. Measuring unemployment: the unemployment rate and the employment rate. Measures of social support for the unemployed. Measures to combat unemployment.</p> <p>2. Inflation and purchasing power of money. Inflation due to demand (demand pull) and inflation caused by supply (inflation offers). Inflation and deflation. The rate of inflation. Price Index. Inflation and real income. Nominal and real indices. Types of inflation: moderate, galloping inflation, hyperinflation. Inflation expectations. The costs and effects of inflation. The relationship of inflation and unemployment. Measures to combat inflation.</p> <p>3. Economic cycles. The phases of the economic cycle. Dynamics of prices, employment, interest rates on the various phases of the cycle. The duration of economic cycles. The relationship of unemployment and business conditions.</p> <p>4. Economic growth. Growth rate. Sources of Economic Growth. Extensive and intensive growth. Economic development. Developed and developing countries. The level of welfare. The quality of life.</p>
----	--

6. EDUCATIONAL TECHNOLOGIES

Traditional, interactive

7. ASSESSMENT TOOLKIT

The assessment toolkit ensures verification of the intended learning outcomes achievement (competency-based rubrics) using current, midterm and interim assessment of the course.

The link between developed competencies and their assessment is presented in the following table:

Competency	Achievement rubrics	Assessment activity (Syl 1)
YK-10	3-YK-10	PFE, T-8, T-15
	Y-YK-10	PFE, T-8, T-15
	B-YK-10	PFE, T-8, T-15

Educational achievement rubrics scales

The scale of each assessment activity varies from 0 to the maximum established point, inclusive. The final assessment of the course is performed on a 100-point scale and represents the sum of the points earned by the student in the section assessments, framework of current and interim assessment.

Sections and interim assessments are considered passed when the student achieves a minimum score equal to 60% of the maximum. The final grade is assigned only upon passing all sections and the interim assessment.

The final grade is assigned in accordance with the following scale:

Total score	Rating on a 4-point scale	Pass/fail examination	ECTS assessment
90-100	5 – « <i>excellent</i> »	« <i>pass</i> »	A

85-89	4 – « <i>good</i> »		B
75-84			C
70-74			D
65-69	3 – « <i>satisfactory</i> »		E
60-64			F
below 60	2 – « <i>fail</i> »	« <i>fail</i> »	

An “excellent” grade indicates a deep and solid mastery of the program material by a student who presents their answers consistently, clearly, and logically, is able to closely link theory with practice, and uses materials from monographic literature in their answers.

A “good” grade corresponds to a student’s solid knowledge of the material, who presents their answers competently and to the point, without any significant inaccuracies.

A “satisfactory” grade corresponds to the basic level of mastery of the material by the student, in which the main material has been mastered, but its details have not been assimilated, the answers contain inaccuracies, insufficiently correct wording and logical inconsistencies.

A grade “pass” corresponds to at least a basic level of mastery of the program material, in which the student possesses the necessary knowledge, skills, and abilities, and is able to apply theoretical principles to solve typical practical problems.

A grade “fail” is given to a student who lacks a significant understanding of the curriculum material, makes significant errors in their answers, or fails all required assignments. These students are generally unable to continue their studies without additional classes.

8. ACADEMIC COURSE EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT

CORE READING:

1. 65 К88 Бухгалтерский учет и аудит внешнеэкономической деятельности : учебное пособие, Кувяткина Н.Н., Леонов П.Ю., Москва: НИЯУ МИФИ, 2012
2. ЭИ Д93 Экономика : курс лекций, Дьяченко Б.А., Найденова Е.М., Москва: МИФИ, 2008
3. ЭИ Э40 Экономика : методические рекомендации к изучению курса, , Москва: МИФИ, 2007
4. ЭИ Т37 Экономическая теория : курс лекций, Тэфанов В.И., Москва: НИЯУ МИФИ, 2009
5. ЭИ Т 52 Экономическая теория : учебник и практикум для вузов, Толкачев С. А., Москва: Юрайт, 2021
6. 33 Н84 Экономическая теория для бакалавров : учебное пособие для вузов, Носова С.С., Новичкова В.И., Москва: Кнорус, 2016

FURTHER READING:

1. И E83 Managing innovation : new technology, new products, and new services in a global economy, Ettlíe J.E., Amsterdam [and oth.]: Elsevier, 2006

SOFTWARE:

No special softwares is required

LMS AND ONLINE RESOURCES

<https://online.mephi.ru/>

<http://library.mephi.ru/>

9. LOGISTICAL SUPPORT

Any special logistical support is not required

10. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR STUDENTS

1. Actively interact with the teacher during class
2. Creatively complete independent work
3. Use the information resources recommended by the teacher

11. EDUCATIONAL AND METHODOLOGICAL RECOMMENDATIONS FOR TEACHERS

During a lecture, the instructor, using oral presentation and demonstration methods, imparts knowledge on the fundamental issues of the subject to students. The purpose of the lecture is to clearly, convincingly, and convincingly explain the fundamental theoretical principles of the subject, to focus students on the most important issues, topics, and sections of the academic discipline, to provide guidance and assistance in mastering scientific methodology (methods, techniques, and methods) for acquiring the necessary knowledge and applying it in practice.

Students are required to:

preview the course syllabus before each lecture, which will save time on writing down the lecture topic, its main points, and recommended reading;

bring relevant material (tables, graphs, and diagrams) to individual lectures, presented by the instructor on the portal or sent to the "group email" for individual lectures. This material will be reviewed, commented on, and supplemented directly during the lecture. - review the materials from the previous lecture before each lecture. If you have difficulty understanding the material, consult the primary literary sources. If you still have trouble understanding the material, consult the lecturer (according to their consultation schedule) or the instructor during practical classes. Don't leave any gaps in your understanding of the material.

You can record lecture material using keywords, notes, or structural-logical diagrams (SLDs).

Keywords are words that are particularly important in expressing the meaning of the text, reflecting the content and specific features of the text.

A note is a brief transcript of the text, including its main aspects, additional explanations from the lecturer, and the author's own notes. Notes typically use abbreviations and symbols.

Author(s):

Timokhin Dmitriij Vladimirovich / Тимохин Дмитрий
Владимирович / , к.э.н., доцент

Reviewer(s):

d-r.ehkon.nauk, prof. Vorobev A. G., kand.ehkon.nauk,
doc. Terlyakov A. YU., assistent Bugaenko M.V. / д-
р.экон.наук, проф. Воробьев А. Г., канд.экон.наук,
доц. Тепляков А. Ю., ассистент Бугаенко М.В. /