

Undergraduate track program: Economics and Econometrics

1. Olympiad winner's skill set

To excel in the Olympiad, a strong theoretical foundation is essential, demonstrated through the ability to solve problems at various levels, including:

- Analyzing the functioning of socio-economic systems and their financial support.
- Forecasting future trends and managing the study object based on probabilistic approaches.

Additionally, proficiency in the following skills is crucial:

- Collecting and processing statistical micro or macro data.
- Applying mathematical knowledge.
- Utilizing critical thinking and analytical skills.
- Understanding economic principles and their application.

2. List of degree programs

2.1 List of bachelor's programs

38.03.01 Economics

38.03.02 Management

38.03.05 Business Informatics

38.03.06 Commerce

01.03.05 Statistics

2.2. List of Specialist Programs

38.05.01 Economic Security

38.05.02 Customs Business

3. Program Content

Finance:

Social Studies

Topic 1: Finances and financial system.

1. Financial markets, types and functions.
2. Stock market.
3. Financial institutions.
4. Banks. Banking system. Central Bank: tasks and functions.
5. Monetary policy.
6. Money aggregates. Money supply and monetary base. Money multiplier.
7. Financial services. Deposits and loans.
8. Digital financial services. Financial technology and financial security. Digital financial assets.
9. State budget. State budget deficit and surplus. The principle of balancing the state budget. Public debt.
10. Personal budget and economic rationality of its formation.
11. Methods and sources of financing of enterprises. Indicators of the firm's activity.

Maths

Topic 2: Financial Calculus.

1. Using fractions and percentage to solve applied problems from various branches of knowledge and real life.

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2. Approximate calculations, rounding rules, approximation and estimation of the result of calculations.
3. Degree with integer exponent. Arithmetic root with natural degree. Operations with arithmetic roots of natural degree.
4. Identities and identity transformations.
5. Equation, solution of equation.
6. Inequalities, solution of inequalities.

Economic theory

Social Studies

Topic 1: Introduction to economic theory.

1. Economics as a science and as an economy.
2. Needs and their types.
3. Social institutions. Property as a basic economic institution.
4. The institution of entrepreneurship and its role in the economy.
5. Types of economic systems and society.

Topic 2: Microeconomics

6. Market. Market mechanism and pricing.
7. Demand and supply. Their main factors.
8. Giffen's goods and the Veblen effect.
9. Markets of factors of production: labour, capital, land, information.
10. Competition as a basis of market functioning. Types of market structures.
11. Enterprise (firm) in the economy. Objectives of the enterprise functioning. Economic goals of the firm.
12. Production. Factors of production and factor incomes.
13. Alternative cost. Methods and sources of financing of enterprises.
14. Costs, their types.

Topic 3: Macroeconomics

1. The state in the economy. Imperfections of markets.
2. Economic growth and ways of its achievement.
3. Measurement of economic growth.
4. The concept of economic cycle. Phases of the economic cycle.

Regional and sectoral economics

Social Studies

Topic 1: Regional Economy

1. The influence of a region's resources on its economic development.
2. Spatial organisation of the national economy.
3. Economic specialisation of regions.
4. Main factors influencing to the development of the region.
5. Economic resources and regional specialisation.

Topic 2: Sectoral economy.

1. Industry: concept and types.
2. Types of branch markets
3. Sectoral peculiarities of production resource utilisation.
4. Factors of production that determine the level of development of the industry.
5. Technological progress and development of industries.
6. Industries of specialisation and regional economy.
7. Competitiveness of manufacturers of industrial products.
8. Economic resources and specialisation of industries.

World economy

Social Studies

Topic 1: Basic elements of the world economy.

1. World economy. The concept and factors affecting the world economy.
2. Participants of the world economy: developed and developing countries in the world economy, international organizations, integration associations, TNCs.
3. Indicators of the development of the world economy.
4. The concept, trends and factors of international division of labour.
5. Basic forms of international economic relations

Topic 2: World Trade

1. World trade. Basic concepts, indicators, principles, factors.
2. Scale, structure and trends of international trade.
3. Exports and imports of goods and services. Indicators of world trade development.
4. Benefits and losses from participation in international trade.
5. State regulation of foreign trade.
6. Territorial structure of the world economy and spatial specialisation. Resources in the world economy.
7. The concept of trade policy, liberalism and protectionism, tariff and non-tariff methods of foreign trade regulation, the role of the WTO in the regulation of international trade.

Mathematical, statistical and instrumental methods in economics

Mathematics

Topic 1: Mathematics and the basics of probability theory.

1. Function and its basic characteristics. Graphs of functions. Extremum of a function. Monotonicity of a function.
2. Integer, rational, irrational, exponential and logarithmic equations and inequalities.
3. Derivative of a function. Derivatives of elementary functions.
4. Descriptive statistics.
5. Events, trials, probability, probability, random event, impossible and credible event.
6. The concept of classical probability.
7. Finding the probability of a random event using the definition of classical probability.
8. Finding the probability of the sum of events.

Social Studies

Topic 2: Basics of economic statistics

1. Data generated by participants of economic relations.
2. Indicators of the firm's activity in the system of economic relations.
3. Indicators of market activity in the system of economic relations.
4. Economic indicators of consumer behavior in the system of economic relations.
5. Basic macroeconomic indicators: gross national product (GNP), gross national income (GNI).
6. The relationship between the indicators of GDP and GNI.
7. Real and nominal gross national income.
8. Macroeconomic indicators and quality of life.
9. Inflation and its measurement.
10. Basic demographic indicators and the labour market.

4. 4. Recommended References

4.1. Reading List

Finance

Sources in English	Topic
1. Melicher R., Norton E. Introduction to Finance, Markets, Investments, and Financial Management. USA,	Topic 1. Finance and financial system.

Wiley, 2020. 690 p. URL: https://archive.org/details/introductiontofi0000meli_b6l6/page/n3/mode/2up (free access)	
1. Mitsel A. A. Basics of Financial Mathematics. Tomsk. Natioanal research Tomsk University, 2012. 145 p. URL: https://www.infobooks.org/pdfview/6938-basics-of-financial-mathematics-a-a-mitsel/ (free access)	Topic 2. Financial calculations.
2. Rabbior G. A Guide to Financial Literacy. Toronto: Canadian Foundation for Economic Education, 2018. 223 p. URL: https://www.infobooks.org/pdfview/a-guide-to-financial-literacy-gary-rabbior-46/ (free access)	Topic 1. Finance and financial system.

Sources in Russian	Topic
1. Brekhova Yu.V., Almosov A.P., Zavyalov D.Yu. Financial literacy Module "Financial risks": materials for students of grades 10-11 of comprehensive schools, 2018. 80 p. URL: https://xn--90ahkin7a2a.xn--80aaeza4ab6aw2b2b.xn--p1ai/active_textbooks/19#page3 (free access)	Topic 1. Finance and financial system.
2. Menshikov S.M., Financial Literacy: Materials for Students of Grades 10–11 of the omprehensive schools. Module “Stock Market”, 2019. 148 p. URL: https://xn--90ahkin7a2a.xn--80aaeza4ab6aw2b2b.xn--p1ai/active_textbooks/106#page3 (free access)	Topic 1. Finance and financial system.
3. Solodkov V.M., Belousova V.Yu. Financial literacy: materials for students of grades 10–11 of comprehensive schools. Module "Banks", 2019. 152 p. URL: https://xn--90ahkin7a2a.xn--80aaeza4ab6aw2b2b.xn--p1ai/active_textbooks/88#page3 (free access)	Topic 1. Finance and financial system.
4. Financial Literacy: Materials for Students. 10–11 Grades of General Education Organizations Mathematical Profile, 2018. 96 p. URL: https://xn--90ahkin7a2a.xn--80aaeza4ab6aw2b2b.xn--p1ai/active_textbooks/4#page3 (free access)	Topic 2. Financial calculations.

Economic Theory

Sources in English	Topic
1. Greenlaw Steven A.. Principles of Economics 2e. – 2 nd ed. OpenStax, 2017, 974 p. URL: https://www.infobooks.org/pdfview/15837-principles-of-economics-2e-steven-a-greenlaw/ (free access)	Topic 2. Microeconomics. Topic 3. Macroeconomics.
2. Kishtainy Niall, Abbot George, Farndon John, Kennedy Frank, Meadway James, Wallace Christopher, Weeks Marcus. The Economics Book: Big Ideas Simply Explained - DK Publishing, 2012. 351 p. URL: https://archive.org/details/1.-the-economics-book-big-ideas-simply-explained-by-dk-niall-kishtainy-george-ab/1.%20The%20Economics%20Book%20%28Big%20	Topic 1. Introduction to economic theory.

Ideas%20Simply%20Explained%29%20by%20DK%2C%20Niall%20Kishtainy%2C%20George%20Abbot%2C%20John%20Farndon%2C%20Frank%20Kennedy%2C%20James%20Meadway%2C%20Christopher%20Wallace%2C%20Marcus%20Weeks%20%28z-lib.org%29/page/n5/mode/2up (free access)	
3. McConnell Campbell R. , Brue Stanley L.. Economics: principles, problems, and policies - 17th ed. McGraw-Hill. Irwin, 2008. 870 p. URL: https://archive.org/details/mcconnell-brue-economics-17th-edition/page/n867/mode/2up (free access)	Topic 2. Microeconomics. Topic 3. Macroeconomics.

Sources in Russian	Topic
1. Bogolyubov L.N. Social Science. 11th grade, 2014. – 335 p. URL: https://archive.org/details/11.-.-2014-335/page/1/mode/2up (free access)	Topic 1. Introduction to economic theory.
2. Bulatov A.S. Economy, 2003. 896 p. URL: https://studylib.ru/doc/3958493/bulatov.-e-konomika-2003 (free access)	Topic 2. Microeconomics. Topic 3. Macroeconomics
3. Lyubimov L.L., Ranneva N.A. Fundamentals of Economic Knowledge, 2000. 496 p. URL: https://institutions.com/download/books/3999-osnovy-ekonomicheskikh-znaniy-lyubimov.html (free access)	Topic 2. Microeconomics. Topic 3. Macroeconomics

Regional and Sectoral Economy

Sources in English	Topic
1. Cabral L. Introduction to industrial organization. Cambridge, Mass. : MIT Press. 2017. - 442p. URL: https://studylib.net/doc/25937153/introduction-to-industrial-organization.2ed.cabral.book17 (free access)	Topic 2. Sectoral economics.
2. Eberhard Faust, Joseph P. Hella, Surender Kumar, Kenneth M. Strzepek, Ferenc L. Tóth, Denghua Yan Key Economic Sectors and Services, 2018. 688 p. URL: https://www.ipcc.ch/site/assets/uploads/2018/02/WGII_AR5-Chap10_FINAL.pdf (free access)	Topic 2. Sectoral economics.
3. Grinevich Youlia A.. Regional economy and policy. - Nizhny Novgorod: Lobachevsky State University of Nizhni Novgorod, 2017. - 51 p. URL: http://www.unn.ru/books/met_files/Regional%20Economy%20and%20Policy.pdf (free access)	Topic 1. Regional Economy.

Sources in Russian	Topic
1. Arbuzkin A. M. Social Science. Part One, 2018. — 312 p. URL: https://edu.cnppm.ru/pluginfile.php/2811/mod_resource/content/1/uchebnik1.pdf (free access)	Topic 1. Regional Economy.

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2. Chupina I. P.. Regional Economy and Management, 2021. 146 p. URL: https://elar.rsvpu.ru/bitstream/123456789/38121/1/978-5-8050-0716-4_2021.pdf (free access)	Topic 1. Regional Economy.
3. Lysenko, N. N. Economy of the industry, 2020. – 282 p. URL: http://sakhgu.ru/wp-content/uploads/page/record_85102/2020_10/Лысенко-Н.-Н.-Экономи-отрасли.pdf (free access)	Topic 2. Sectoral economics.

World Economy

Sources in English	Topic
1. Carbaugh Robert J. International Economics 13e, 2008. 580 p. URL: https://wyamaka.wordpress.com/wp-content/uploads/2019/08/international-economics_30.pdf (free access)	Topic 2. World trade
2. Dunn Robert M., Mutti John H. International Economics 6e, 2004/ 539 p. URL: https://ndl.ethernet.edu.et/bitstream/123456789/6394/1/78%20.%20Dunn%2C_Mutti.pdf (free access)	Topic 1. World Economy Topic 2. World trade
3. Krugman Paul R., Obstfeld Maurice, Melitz Marc J. International Economics Theory & Policy Ninth Edition, 2012. 736 p. URL: https://cdn.prexams.com/8978/International%20Economics%20Theory%20and%20Policy%20Book%209th%20Edition.pdf (free access)	Topic 1. World Economy Topic 2. World trade
4. World Economic Outlook 2023, 2023. 8 p. URL: https://www.imf.org/en/Publications/WEO (free access)	Topic 1. World Economy
5. World Trade Statistical Review , 2023. 138 p. URL: https://www.wto.org/english/res_e/publications_e/wtsr_2023_e.htm (free access)	Topic 2. World trade

Sources in Russian	Topic
1. Bulatov A.S., N.N. Liventseva. World Economy, 2003. 734 c. URL: https://www.azstat.gov.az/Kitweb/zipfiles/11676.pdf (free access)	Topic 1. World Economy Topic 2. World trade
2. Lomakin V.K. World Economy: a textbook for university students studying in economic specialties and areas, 2007. 531 p. URL: https://institutiones.com/download/books/531-mirovaya-economica.html (free access)	Topic 1. World Economy Topic 2. World trade
3. Aleksandrov E.L., Kruglov V.N. World Economy and International Economic Relations, 2017. – 112 p. URL:	Topic 1. World Economy Topic 2. World trade

https://elib.fa.ru/fbook/Aleksandrov_1806.pdf/download/Aleksandrov_1806.pdf (free access)

Mathematical, statistical and instrumental methods in economics

Sources in Russian	Topic
1. Akimov D. V., Dicheva O. V., Shchukina L. B.. Economics tasks: from simple to Olympiad ones, 2020. - 368 c. URL: https://studylib.ru/doc/6304607/akimov--zadachi-po-mikroe-konomike--mikre- (free access)	Topic 2. Principles of economic statistics
2. Aleshkovsky I. A. Mathematics in economics: economic and mathematical tasks of the entrance exam in social science, 2006. 80 c. URL: https://studylib.ru/doc/2377819/matematika-v-e-konomike---g (free access)	Topic 1. Mathematics and basics of probability theory. Topic 2. Principles of economic statistics
3. Algebra and basic mathematical analysis. Grades 10-11, 2016. 466 c. URL: https://www.utgt73.ru/uploads/rezetkina/366_2-algebra-i-nach.-mat.-analiza.-10-11kl._alimov-sh.a.-i-dr_2016-464s.pdf (free access)	Topic 1. Mathematics and basics of probability theory.

Sources in English	Topic
1. Grines V., Gurevich E., Pochinka O.. Precalculus/ Study book, 2012. 119 p. URL: http://www.unn.ru/books/met_files/precalculus.pdf (free access)	Topic 1. Mathematics and basics of probability theory.
2. Keller G. Statistics for management and economics abbreviated. Mason. South-Western Cengage Learning, 2012. 244 p. URL: https://gimmenotes.co.za/wp-content/uploads/2017/07/STA1501-statistics_for_management_and_economics_9th_chp_1-6.pdf (free access)	Topic 2. Principles of economic statistics
3. Zorine A.V. Eight lectures in probability theory and mathematical statistics. A course book, 2014. 108 p. URL: http://www.unn.ru/books/met_files/PTMScoursebook.pdf (free access)	Topic 1. Mathematics and basics of probability theory.

4.2. Recommended Online Courses

Finance

Online course in English	Link	Summary
1. An Introductory Course in Personal Finance and Credit (Alison)	https://alison.com/courses/an-introductory-course-in-personal-finance-and-credit/resources	A brief course in the Basics of Personal Finance
2. Introduction to Banking (Corporate Finance Institute)	https://corporatefinanceinstitute.com/course/introduction-to-banking-course/	This course describes the basic elements of the banking system.

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3. Financial Maths (Alison)	https://alison.com/course/financial-maths-revised	This course immerses in basic financial calculations.
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Online course in Russian	Link	Summary
1. ABC of Finance (lecture)	https://www.lektorium.tv/finance	This course helps to acquire the necessary knowledge and practical skills, as well as improve professional qualifications in matters of investing and personal finance management.
2. Online lessons on financial literacy for schoolchildren (Bank of Russia)	https://dni-fg.ru/	The course includes materials at basic and advanced levels.
3. Financial Mathematics (Stepik)	https://stepik.org/course/90544/promo?auth=registration	The course covers ways to save and intelligently distribute financial resources based on calculations and forecasts.

Economic theory

Online course in English	Link	Summary
1. Introduction to Economic Theories (Coursera)	https://www.coursera.org/learn/intro-economic-theories	The course includes several sections devoted to micro- and macroeconomics.
2. Principles of Microeconomics (Coursera)	https://www.coursera.org/learn/microeconomics	The course covers the basic concepts of microeconomics.
3. Public Economics (Open Education)	https://openedu.ru/course/hse/PUBECO NOM/?session=2023	This course provides an introduction to the theory of public sector economics.

Online course in Russian	Link	Summary
1. Institutional Economics (Open Education)	https://openedu.ru/course/hse/INSTECH/?session=2023	This course helps in understanding institutions and their role in the economy and society, a first look at the rich, insightful and fruitful field of economic analysis we call institutional economics.
2. Economics (Open Education)	https://openedu.ru/course/hse/ECONOM/	This introductory-level online course covers the

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		most important and relevant topics from the two branches of economic theory, microeconomics and macroeconomics.
3. Macroeconomics (Open Education)	https://openedu.ru/course/hse/MACREC/?session=2023	The course covers the issue of economics and analysis of the current economic situation and the policies.

Regional and Sectoral Economy

Online course in English	Link	Summary
1. Beyond Silicon Valley: Entrepreneurship Development in Transition Economies (Coursera)	https://www.coursera.org/learn/entrepreneurship-development?action=enroll	The course examines the specifics of doing business in transition markets.
2. Developing innovative ideas for new companies: The first step in entrepreneurship (Coursera)	https://www.coursera.org/learn/innovative-ideas	This course examines how to recognize business opportunities based on market conditions and industry factors.
3. Local economic development (Coursera)	https://www.coursera.org/learn/local-economic-development	The course presents basic materials on regional economics.

Online course in Russian	Link	Summary
1. Economic Theory for Non-Economic Fields of Study (Open Education)	https://openedu.ru/course/misis/ECN/?session=spring_2024	The course presents the basic concepts of organizing the production of goods and services.
2. Russian Economy: Industries and Regions (Part 1) (Open Education)	https://openedu.ru/course/hse/RUSSEC_1/?session=2022	The course covers the history of economic transformations that have shaped the modern Russian economy, an analysis of the structure of the Russian economy, and the characteristics of companies, industries, and regions of our country.
3. Russian Economy: From Regions to International	https://openedu.ru/course/hse/RUSSEC_3/?session=2022	The course covers the principles of zoning and development of regions of Russia are presented.

Markets (Part 1) (Open Education)		
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Online course in English	Link	Summary
1. Business, International Relations and the Political Economy (Edx)	https://www.edx.org/executive-education/the-london-school-of-economics-and-political-science-business-international-relations-and-the-political-economy?index=product&queryID=3b8135b9b0d80b311bd4a9c4657e86e7&position=1&linked_from=autocomplete&c=autocomplete	This course includes a module on business, production and investment in the global economy.
2. Fundamentals of Macroeconomics (Edx)	https://www.edx.org/course/fundamentals-of-macroeconomics?index=product&queryID=47d9260cb1bfebd0fb92c8bea7f86334&position=2	The course includes information on international trade.
3. International Macroeconomics (Edx)	https://www.edx.org/learn/macroeconomics/the-university-of-queensland-international-macroeconomics?index=product&queryID=25e2e088fadf71ecfb950aba9786be06&position=15&results_level=second-level-results&term=international+economics&objectID=course-d3546dd2-634d-4e23-b3fe-eae95b72e132&campaign=International+Macroeconomics&source=edX&product_category=course&placement_url=https%3A%2F%2Fwww.edx.org%2Fsearch	This course provides a high level of understanding of international economics, as well as trade balances and exchange rates.
4. Principles of Economics (Edx)	https://www.edx.org/course/principles-of-economics?index=product&queryID=47d9260cb1bfebd0fb92c8bea7f86334&position=1	The course includes some issues of the world economy, such as: gains from trade and international trade policy (tariffs and quotas).

Online course in Russian	Link	Summary
1. State regulation of foreign economic activity (Stepik)	https://stepik.org/course/175452/promo?search=4673015629	The course presents the basic rules of currency, customs and tax regulation of foreign economic activity
2. Trade and Investment: Evidence-Based Policies for	https://www.coursera.org/learn/trade-and-investment-policies-for-development	This course examines theories of international trade, recent developments in the global economy and

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Development (Coursera)		their impact on issues related to developing countries and emerging markets.
3. Trade, Immigration and Exchange Rates in a Globalized Economic World (Coursera)	https://www.coursera.org/learn/trade-immigration-exchange-rates-globalized-world	The course includes a module covering issues of international trade, trade policy, balance of payments, etc.
4. Theories of foreign trade and trade policy (Open Education)	https://openedu.ru/course/hse/TEORVNESH TOR/?session=2023	The course examines the evolution of foreign trade and is devoted to issues of analysis of foreign trade and trade policy
5. World Economy: Basics (Stepik)	https://stepik.org/course/122403/promo?search=4672976549	The course introduces students to the stages of development of the global economy, theoretical concepts, as well as the concept of economic growth, its dynamics, trends and problems that the global economy faces at the present stage.
6. World economy: subjects and resources (Stepik)	https://stepik.org/course/122447/promo?search=4672976550	The course introduces students to the main subjects of the global economy, and provides information on the scale and proportions of such economic resources as human capital, financial and real capital and natural resources.
7. World Economy: Leading Member-Countries (Stepik)	https://stepik.org/course/122494/promo?search=4672976551	The course introduces the features of the socio-economic development of the USA, EU member states, developed countries of Asia, China and India.

Mathematical, statistical and instrumental methods in economics

Online course in English	Link	Summary
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1. Algebra: From Elementary to Advanced level - Equations and Inequalities (Coursera)	https://www.coursera.org/learn/algebra-i	The course explores computational methods, examining algebraic dependencies and their properties, and applies these concepts to model real-world situations.
2. Probability Theory, Statistics and Exploratory Data Analysis (Open Education)	https://openedu.ru/course/hse/probability_theory_stat/?session=2022	This online course introduces the essential topics of probability and statistics, from the very basics to the level needed to begin your journey in data science.
3. Probability Theory: The Foundation for Data Science (Coursera)	https://www.coursera.org/learn/probability-theory-foundation-for-data-science	The course introduces the basics of probability theory and explains its relationship with statistics and data science. Here you can learn: such a probability calculation, independent and dependent variables, and conditional events.

Online course in Russian	Link	Summary
1. Foundations of Algebra and Geometry (Open Education)	https://openedu.ru/course/hse/AGBASE/?session=2022	This course helps to study all those mathematical topics that are not sufficiently covered in schools, but at the same time are actively and almost without reminders used in the first years of university mathematical programs.
2. Mathematical Analysis (Open Education)	https://openedu.ru/course/urfu/CALC/?session=spring_2024	The course is devoted to the study of methods of differential and integral calculus of functions of a real argument, which are a powerful tool for solving problems in physics, engineering, medicine, economics, statistics and other fields.
3. Probability Theory and its	https://openedu.ru/course/hse/prob_theory/?session=2022	The course contains both theoretical material

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Applications (Open Education)		and analysis of practical tasks.
4. Unified State Exam Mathematics PROFILE 2024 (Stepik)	https://stepik.org/course/182288/promo	The course contains an overview of the rules, examples of their application and assignments for practice.