



ABSTRACTS

of the scientific works of Chief Assist. Prof. Velina Georgieva Yordanova, PhD, Department of Statistics and Applied Mathematics, in a competition for “Associate Professor“ in the professional field 3.8. Economics, Scientific Field/Specialty: "Quantitative Methods in Economics (Risk Management)", published in Darzhaven Vestnik, issue 98/18.11.2025

A. Scientific publications on the dissertation

| General number | Number in category | Title |
|--|--------------------|---|
| 1. | 1. | Yordanova, V. (2010) Optimization of the volume and structure of real investments of a construction company. The World Crisis and Economic Development – Varna: Science and Economics, 2, pp. 765 - 768., ISBN 978-954-21-0489-6 – 2010 |
| As a result of the economic crisis, a large part of the construction companies have serious difficulties that disrupt their normal functioning. This report presents an economic and mathematical model that allows for optimization of the planning of the volumes and structure of real investments. This, in our opinion, will help construction companies to determine the minimum volume of real investments and their most rational distribution by types of activities and sites, as well as by years of the planning period. | | |
| 2. | 2. | Yordanova, V. (2010) Opportunities for optimization of the contractual obligations of the construction enterprise. Construction Entrepreneurship and Real Estate, Varna: Science and Economics, pp. 304 - 309., ISSN 1313-2369 |
| The report examines some possibilities for optimising the contractual obligations of the construction company. This is achieved on the basis of a proposed economic-mathematical model with an appropriately selected optimality criterion and the corresponding restrictive conditions. | | |
| 3. | 3. | Yordanova, V. (2011) Using the Critical Path Method for Managing Construction Operations. Construction Entrepreneurship and Real Estate, Varna: Science and Economics, pp. 415 - 422., ISSN 1313-2369 |
| The report offers opportunities to use the critical path method for managing construction operations. The author points out the methodology for solving network models and demonstrates the use of the critical path method with an example. | | |

B. Scientific Publication on the Competition for Associate Professor

I. Monograph

| General number | Number in category | Title |
|----------------|--------------------|--|
| 4. | 1. | Yordanova, V. (2025) Quantitative Methods for Risk Management in the Construction Enterprise. Varna: Science and Economics, Bibl. "Prof. |



| | | |
|--|--|---|
| | | Tsani Kalyandjiev", Book One Hundred and Nine, ISBN 978-954-21-1212-9 |
| <p>Construction companies operate in a highly competitive market environment, striving to achieve optimal results with minimal risk. The need to make optimal decisions in the management of the construction enterprise presupposes scientific validity and objectivity of the applied approaches. In this regard, the use of economic and mathematical models and methods, as well as various other methodologies, is becoming more and more relevant, especially in the context of dynamic changes characterized by a high level of risk.</p> <p>The monographic paper defends the thesis that the developed new, modified and adapted models with uncertainty of the parameters, as well as the analyzes made, will reveal specific opportunities for optimization of various construction activities, which in turn contributes to the minimization of risk in the management of the construction enterprise. A risk study has been carried out and some topical issues have been considered and supplemented, related to it. Various possibilities for constructing new, modifying and adapting existing models for optimizing construction activities are also investigated, taking into account the uncertainty of parameters (i.e. risk), as well as analyzing the optimal results obtained. Methodologies have been developed for selecting the best investment project in terms of risk taking into account the risk and forming an optimal investment portfolio, and practical implementation has been made.</p> | | |

II. Other monographs and extended scientific articles

| General number | Number in category | Title |
|--|--------------------|---|
| 5. | 1. | Nikolaev, R., D. Zhelyazkova, T. Milkova, R. Miryanov, V. Yordanova (2019). Optimization of economic processes in the production and transport system of the enterprise. Varna: Science and Economics, Bibl. "Prof. Tsani Kalyandjiev", Book Sixty-Two, (Chapter Two: Methods for solving single-product production and transport problems, pp. 64-103), ISBN 978-954-21-1030-9 |
| <p>Business operators operating in conditions of uncertainty and highly competitive environment strive to achieve optimal results from their activities. One of the possibilities in this direction is associated with the proper planning of economic processes taking place within the scope of the production and transport system of the enterprise, where objective conditions are established for conducting in-depth research of a theoretical and applied nature. The monographic work defends the thesis that the proposed economic analyses, constructed new and modified existing production and transport single-product and multi-product models, as well as the post-optimal analyses carried out, will reveal some specific opportunities for optimization of various economic processes taking place in the transport and logistics systems of enterprises. The studies carried out generally boil down to: laying methodological foundations for freight transport management in transport and logistics systems; development of single-product production and transport models, with and without a parameter, development of analytical methods for their solution, as well as performance of post-optimal analyses of the results; development of multi-product production and transport models, offering analytical methods for solving and demonstrating the possibilities for their application.</p> | | |
| 6. | 2. | Yordanova, V. (2025) Optimal management of investment portfolios |



| | | |
|---|--|--|
| | | under complete uncertainty. Wc. Mathematics Plus. Sofia: Archimedes, 33, no. 2, pp. 73-95. ISSN 0861-8321 ; ISSN 2603-4964 |
| <p>This study examines current issues related to investment management issues and in particular their diversification into investment portfolios. Models and methodology for finding an optimal investment portfolio according to various criteria are proposed. In order to demonstrate the effect of the application of the models and the developed methodology, practical implementation with numerical data has been made, and the relevant economic analyses of the optimal solutions obtained have been carried out.</p> | | |

III. Scientific articles

| General number | Number in category | Title |
|--|--------------------|---|
| 7. | 1. | Yordanova, V. (2013) Reliability Level of the Production Schedule Design in the Construction Company. // Izvestia Journal of University of Economics - Varna, № 3, p. 65 – 73. ISSN 1310-0343 |
| <p>The development of the modern market economy is characterized by significant complexity of relations between economic subjects. This determines the need to search for different methods and means for making optimal decisions related to the management of the enterprise. The efficiency of the economic activity of the construction enterprise is closely related to a well-prepared and reliable production program, which is the basis for ensuring the economic sustainability and stability of the enterprise. The demand for resources to increase the reliability of the production program is of utmost importance in a market-oriented economy. The purpose set in this study is to propose an economic and mathematical model for assessing the level of reliability in the development of the production program of the construction enterprise.</p> | | |
| 8. | 2. | Yordanova, V. (2013) Possibilities for Assessing the Economic Sustainability of the Construction Enterprise. // Izvestia Journal of University of Economics - Varna, № 4, p. 76 - 84. ISSN 1310-0343 |
| <p>The market conditions in which enterprises carry out their production and economic activities are characterised by increasing competition and a dynamic environment. This puts every business, including the construction company, in a position to face more and more demands and challenges that it has to deal with in order to survive in these circumstances. To stay in business, a construction company must be able to constantly adapt to a changing environment. For this reason, achieving economic sustainability is becoming increasingly important for the management of a construction company, as economic sustainability makes it possible to achieve the main business objectives. Economic sustainability is one of the most important factors influencing the functioning and development of an enterprise in emerging markets. A major issue related to economic sustainability is its assessment, as there is still no uniform methodology for this. Therefore, the goal we set for ourselves in this study is to propose a method for assessing economic sustainability, which could be used as an auxiliary tool by the management of the construction enterprise in analyzing the state of the business.</p> | | |
| 9. | 3. | Yordanova, V. (2014) Optimization of the Leasing Activity of the Construction Enterprise. // Izvestia Journal of University of Economics – Varna, Varna: Science and Economics, No 4, pp. 32 - 41. ISSN 1310-0343 |



| | | |
|--|----|---|
| <p>Leasing is an important source of financing for the enterprise. Leasing arrangements allow construction companies to acquire assets and increase their production capacity on favourable financial terms. Therefore, leasing is an effective tool for optimizing the costs associated with an enterprise's equipment and facilities. In the article, the author proposes an economic and mathematical model for optimizing the leasing activity of construction enterprises, which allows making well-grounded and effective management decisions.</p> | | |
| 10. | 4. | <p>Miryanov, R., Yordanova, V. (2017) Optimizing the positioning of serving units in the tourism business. Mathematics and Informatics, Sofia: Az Buki, 60, 5, pp. 515-520. ISSN(print) 1310-2230 ; ISSN(online) 1314-8532</p> |
| <p>This article reveals an idea for optimizing the positioning of service units in the tourism business, using some applications of mathematics in economics. The development is methodological in nature. The authors assume that several tourist sites (hotels, restaurants, etc.) are given and try to determine the best possible position for a service unit (store, office, etc.) using a set of optimization tasks. Finally, approbation with a real example is considered.</p> | | |
| 11. | 5. | <p>Yordanova, V. (2017) The cluster approach as a means of forming the competitiveness of the regional economy. Izvestia Journal of the Union of Scientists - Varna, Economic Sciences Series, Varna, 2, pp. 169 - 173. ISSN 1314-7390</p> |
| <p>The present study offers opportunities to use the cluster as a form of organization that allows the regional economy to improve its competitiveness. The author tries to explore and clarify the essence of the cluster and derive the main benefits of its formation.</p> | | |
| 12. | 6. | <p>Mihaylov, D., Yordanova, V. (2019) Some Math Quizzes for Presenting a Number by Using Equal Digits and Math Operations. Mathematics and Informatics, Sofia: Az Buki, 62, 3, pp. 290 – 300. ISSN(print) 1310-2230 ; ISSN(online) 1314-8532</p> |
| <p>This article gives a formalization of a problem to represent a number using a certain set of equal digits and a set of mathematical operators. Based on the formal definition, an example is given of representing 7 in two ways, using the digit 2 4 times. The first option, without any restrictions, the goal is to obtain the maximum possible number of solutions. For the second option, there are some restrictions on the type and number of operations. The goal here is to achieve a result with minimal deviation from the restrictions. Both options can be used as a kind of mathematical test to improve cognitive thinking.</p> | | |
| 13. | 7. | <p>Yordanova, V. (2021) Functioning of the Construction Enterprise in the Conditions of Risk and Uncertainty. // Izvestia Journal of University of Economics – Varna, Varna: Science and Economics, Varna: Science and Economics, 65, 2, pp. 213-227. ISSN (printed) 1310-0343; ISSN (online) 2367-6949</p> |
| <p>Each business activity is accompanied by many risks that affect the final result. This also applies to construction activities, where the level of risk is even higher – given the specifics of the construction process. In this article, the author aims to study the risk accompanying the functioning of a construction enterprise and to propose effective methods for its reduction. In this regard, some key issues relating to risk are addressed.</p> | | |
| 14. | 8. | <p>Yordanova, V. (2022) Teaching irrational equations. Mathematics Plus, Sofia: Archimedes, 30, 2, pp. 58-65. ISSN(printed) 0861-8321, ISSN(online) 2603-4964</p> |



| | | |
|---|-----|--|
| <p>This article discusses different types of problems related to the topic of "Irrational Equations". The main goal is to derive a methodology for teaching irrational equations that will contribute to the effective assimilation of the material by students.</p> | | |
| 15. | 9. | Miryanov, R., Yordanova, V. (2022) Comparison between two different types of market dominance. Mathematics Plus, Sofia: Archimedes, 30, 3, pp. 74-78. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |
| <p>In modern market dynamics, it is often a phenomenon for several companies operating in a given sector of the economy to play a major (leading) role, distributing its main part among themselves, and very often one of them is dominant. In the specialized literature on the topic, it is difficult to find a generally accepted definition of the concept of "dominant role in the market" and for this reason the authors give their own definition, which has a real practical sound. Dominance is divided into "strong" and "weak", both being given a convenient definition by an elementary geometric analogue. In the main part of the study, it is specified when there is a strong and sometimes weak market dominance, using an example with real data for approbation. The example is solved and illustrated by computer, after which appropriate conclusions are drawn. The proposed methods are not related to volumetric calculations by hand, but to those that can be carried out quickly and easily when changing the input data.</p> | | |
| 16. | 10. | Yordanova, V., Petkov, Y., Karadimova, D. (2023) Accuracy in calculations in financial literacy tasks. Mathematics Plus, Sofia: Archimedes, 31, 2, pp. 74-83. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |
| <p>This article proves that precision in calculation procedures in financial transactions is of utmost importance, as it affects the final results. Specific examples (tasks) are indicated, illustrating the need for correct rounding, which, according to the authors, should be done only at the end of the procedures.</p> | | |
| 17. | 11. | Nikolaev, R., T. Milkova, V. Yordanova (2023). Some peculiarities in loan repayment. Mathematics Plus. Sofia: Archimedes, 31, 1, pp. 94-103. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |
| <p>The lack of sufficient personal financial resources is related to the need to take out loans (credits). This requires a repayment plan to be prepared for the repayment of the respective loan. There are two main methods for this – with equal repayments of the principal and with equal monthly installments. Each of them is associated with different features. The purpose of this article is to consider some features and to make generalizations related to the preparation of repayment plans for taking out loans.</p> | | |
| 18. | 12. | Nikolaev, R., T. Milkova, V. Yordanova (2023). A type of problems for deposits with simple interest. Mathematics Plus. Sofia: Archimedes, 31, 3, pp. 67-75. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |
| <p>Deposits are formed when individuals and legal entities deposit amounts into bank accounts. Interest should be charged on the amounts paid. In theory and in practice, some specific situations in deposit management are possible. This article discusses some such features of deposits with simple interest.</p> | | |
| 19. | 13. | Nikolaev, R., T. Milkova, Y. Petkov, V. Yordanova (2023). Student Olympiad in Financial Mathematics'2023. Mathematics Plus. Sofia: Archimedes, 31, 4, pp. 65-71. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |



| | | |
|---|-----|---|
| Details of the organization of the Student Olympiad in Financial Mathematics' 2023 are presented. Methodological solutions to the problems of the competition topic are proposed. | | |
| 20. | 14. | Nenkov, V., Nikolaev, R., Yordanova, V. (2024) Miniature for three squares on a diagonal per square. Mathematics Plus, Sofia: Archimedes, 32, 3, pp. 48-51. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |
| Two ways of proving an interesting property of a square are shown. This property was applied to solve the competition problem M+700, published in issue 4, 2023 of Mathematics Plus magazine. | | |
| 21. | 15. | Yordanova, V. (2024) Risk Assessment in Uncertain Future Cash Flow. Mathematics Plus, Sofia: Archimedes, 32, 2, 72-82. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |
| In a dynamic economic environment characterized by a high level of uncertainty and risk, investment valuation is vital for investors. This article discusses the possibilities for evaluating investments, taking into account some features and proposing various criteria for choosing the best investment. | | |
| 22. | 16. | Yordanova, V. (2024) Risk Assessment Under Absolute Uncertainty. Mathematics Plus, Sofia: Archimedes, 32, 3, 86-93. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |
| In a highly competitive economic environment, where investment plays a key role in the development of various sectors, assessing potential investment opportunities is essential for investors and entrepreneurs. This scientific article focuses on the possibilities for evaluating investments, taking into account some peculiarities and proposing various criteria for optimal selection. | | |
| 23. | 17. | Nikolaev, R., Milkova, T., Petkov, Y., Yordanova, V. (2025) Olympiad in Financial Mathematics for Students 2024. Mathematics Plus, Sofia: Archimedes, 33, 1, pp. 52-59. ISSN(printed) 0861-8321, ISSN(online) 2603-4964 |
| Details of the organization of the Student Olympiad in Financial Mathematics' 2024 are presented. Methodological solutions to the tasks of the competition topic are proposed. | | |

IV. Research papers

| General number | Number in category | Title |
|---|---------------------------|---|
| 24. | 1. | Yordanova, V. (2012) Planning of the production and economic activity of the construction enterprise. Trends and Challenges in the Development of the Economy: Proceedings of the International Scientific Conference, Varna: Science and Economics, 4, pp. 255 - 259. ISBN 978-954-21-0603-6 |
| The conditions in which construction enterprises operate are characterized by uncertainty, rapid changes in the environment, increasing competition, and limited resources. An effective way to solve all these problems is activity planning. In the planning, the goals to be pursued, the means of achieving them in accordance with the capabilities of the construction enterprise are determined and all activities are coordinated. The author's aim is to clarify on the basis of | | |



| | | |
|---|----|--|
| <p>a summary of the basic principles of planning its importance for the management of the construction enterprise.</p> | | |
| 25. | 2. | <p>Yordanova, V. (2012) Efficiency and competitiveness of the functioning of construction machinery. Construction Entrepreneurship and Real Estate: Proceedings of the 27th Scientific Conference with International Participation, Varna: Science and Economics, pp. 438 - 443. ISSN 1313-2369</p> |
| <p>The development of market relations sets important tasks for construction enterprises related to improving the management of production and the implementation of modern technological solutions. Competitive advantages are those enterprises that provide shorter performance of work at minimal costs. The rational and effective use of construction machinery, based on modern management methods, largely determines the high pace of work and is an important prerequisite for the competitiveness of the construction enterprise.</p> | | |
| 26. | 3. | <p>Milkova, T., V. Yordanova (2014). Solving multi-stage tasks for resource allocation in MS Excel. Proceedings of the International Scientific Conference "Information Technologies in Business and Education", Varna: Science and Economics, pp. 411-420. ISBN 978-954-21-0780-4</p> |
| <p>One of the main classes of operational tasks widely used in the optimization of some economic processes are multi-stage tasks for the allocation of resources, in which discrete processes are observed. They are well developed theoretically and are known methods for finding their optimal solution, which, however, involve time-consuming computational procedures. This report proposes a method for determining the optimal solution of this class of operational tasks using the Solver tool in MS Excel.</p> | | |
| 27. | 4. | <p>Yordanova, V. (2014) Innovations in the construction enterprise. Construction Entrepreneurship and Real Estate: Proceedings of the 29th Scientific Conference with International Participation, Varna: Science and Economics, pp. 283 - 290. ISSN 1313-2369</p> |
| <p>Innovation is a means of achieving economic sustainability and a competitive advantage on the part of the construction company. In this regard, this report examines innovation in the construction company. The study aims to identify innovation objectives and benefits for the construction company.</p> | | |
| 28. | 5. | <p>Yordanova, V. (2015) Prerequisites for the formation of logistics systems in the construction sector. Economics in a Changing World: National, Regional and Global Dimensions: Proceedings of an International Scientific Conference: Vol. 2, Varna: Science and Economics, pp. 82 - 88. ISBN 978-954-21-0853-4</p> |
| <p>The construction sector in Bulgaria in recent years has been characterized by a high degree of dynamism. Construction, as it is known, is a significantly complex and diverse process, involving not only the design, preparatory work and production of a construction product, but also numerous operations related to design, finishing works, the sale of housing and the performance of construction services. The implementation of the logistics approach in construction management is becoming more and more relevant at the modern stage of development of our economy. The logistics approach, as one of the modern and successful approaches to doing business, provides real competitive advantages under the scheme: "investments – design – construction – sale". The aim of this report is to identify the prerequisites for the formation of logistics systems in the construction sector and to expose</p> | | |



| | | |
|--|----|--|
| some organizational mechanisms of their functioning. | | |
| 29. | 6. | Yordanova, V. (2015) Some Prerequisites for the Application of Mathematics in Economics. Mathematics as a fundamental and applied science: Collection of reports from the international scientific and practical conference: Dedicated to the 45th year of cat. "Applied Mathematics", Varna: Science and Economics, pp. 230 - 235. ISBN 978-954-21-0860-3 |
| In this study, an attempt is made to show the connection between mathematics and economics. Some basic prerequisites for the application of mathematical tools in economic research are derived, as well as the opportunities they provide. | | |
| 30. | 7. | Yordanova, V. (2015) Some Theoretical Aspects of the Process Approach to Management of the Construction Organization. Construction Entrepreneurship and Real Estate: Collection of Reports from the 30th Anniversary International Scientific and Practical Conference, Varna: Science and Economics, p. 438 - 445. ISSN 1313-2369 |
| This report examines some theoretical aspects of the process approach to the management of the construction enterprise. For the purposes of the report, the author clarifies the essence of the process approach, the benefits of its application and last but not least clarifies the concept of business process. | | |
| 31. | 8. | Yordanova, V. (2016) Some Theoretical Foundations of the Competitiveness of the Construction Enterprise. // Construction Entrepreneurship and Real Estate: Collection of Reports from the 31st International Scientific and Practical Conference, Varna: Science and Economics, pp. 423 - 428. ISSN 1313-2369 |
| This report examines some theoretical aspects of the competitiveness of a construction company. For the purposes of the report, the author clarifies the essence of the competitiveness of the construction enterprise and identifies the factors on which it depends. | | |
| 32. | 9. | Petkov, Y., Yordanova, V. (2017) A Case of Conflict Decision-Making with the Help of Matrix Games. The Economy in a Changing World - National, Regional and Global Dimensions: EMU - 2017 : Proceedings of the VIII International Scientific Conference, Varna: Science and Economics, 1, pp. 316 - 321. ISBN 978-954-21-0927-3 |
| Many conflict situations in economics, management and politics find their scientifically based solution thanks to Game Theory. It represents the study of mathematical models of decision-making processes with respect to strategic uncertainty or cooperation and their properties. Game theory achieves its greatest success in the field of finite games with a constant sum between two persons (or the so-called. "matrix games"), for the solution of which effective methods have been developed. They are characterized by the presence of two participants – "players" with completely opposite interests, possessing a finite number of pure strategies (ways of acting in the conflict situation). Solving the game aims to identify the optimal strategies of the players – clean or mixed, through which they achieve the maximum possible result. This report looks at one particular case of 2x n and m x2 matrix games, where one of the players has exactly two pure strategies and the other player has three or more non-dominant (active) pure strategies. An approach is proposed to directly identify the appropriate 2x2 subgames and obtain the corresponding optimal strategies, which is an addition to the well-known graphical method. The methodology is demonstrated using a numerical example. | | |



| | | |
|--|-----|--|
| 33. | 10. | Yordanova, V., Petkov, Y. (2017) Peculiarities of the Economic and Mathematical Models for Optimization of the Production Program of the Construction Enterprise. // Construction Entrepreneurship and Real Estate: Collection of Reports from the 32nd International Scientific and Practical Conference, Varna: Science and Economics, pp. 342 - 349. ISSN 1313-2369 |
| <p>In today's economic reality, every enterprise, including construction, is forced to look for various tools to optimize its activities in order to achieve high competitiveness. In this regard, the authors of this report consider such a tool, namely economic and mathematical models. This report attempts to point out some features related to the construction of economic and mathematical models for optimizing the production program of the construction enterprise. The authors consider two main types of economic-mathematical models. The main problem related to the definition of the criterion for optimality of the model is considered.</p> | | |
| 34. | 11. | Milkova, T., V. Yordanova (2018). A model for determining an optimal plan for transporting a material flow. Proceedings of the Eleventh International Scientific and Practical Conference "Digital Economy and Blockchain Technologies", Varna: Largo City, pp. 338-344. ISBN 978-619-7026-28-3 |
| <p>The conditions of the global digital economy lead to the expansion of the borders within which the production and trade of each product takes place. The need to physically transport material flows from raw material sources to production plants and from them to final users is associated with significant costs, as transport distances are already taking on significant dimensions. With this in mind, this report proposes an economic-mathematical model for determining an optimal plan for transporting a material flow under specific restrictive conditions.</p> | | |
| 35. | 12. | Miryanov, R., Yordanova, V. (2018) One Approach to Optimizing the Positioning of Serving Units in Modern Tourist Resorts. // [Fifth] 5-th International Multidisciplinary Scientific Conference on Social Sciences and Arts : SGEM 2018 : Conference Proceedings : Vol. 5. Modern Science. Issue 1.4. Economics and Tourism, Sofia : STEF92 Technology Ltd., 5, 1.4, p. 611 - 617. ISBN 978-619-7408-64-5 |
| <p>The report proposes an idea to optimize the positioning of service units in modern tourist resorts, using some adapted applications of mathematics in economics. The new idea in this study is that service units are not fixed or are selected from a specific area or area, or are selected from a number of preset points. Methodologically, the authors assume that some tourist sites (hotels, restaurants, etc.) are fixed and opted to determine the best position of the service unit using a set of optimization tasks. An example approbation of the results with a real example is described.</p> | | |
| 36. | 13. | Miryanov, R., Yordanova, V. (2018) Opportunities for optimization of the leasing activity of the construction enterprise. // Construction entrepreneurship and real estate: Collection of reports from the 33rd International Scientific and Practical Conference, November 2018, dedicated to the 65th anniversary of the establishment of the Department of Economics and Construction Management, Varna: Science and Economics, pp. 145 - 152. ISSN 1313-2369 |
| <p>In today's market conditions, construction companies are forced to look for and apply new methods to achieve optimal economic and financial results. One of these innovative methods</p> | | |



| | | |
|---|-----|--|
| <p>is leasing, which is becoming more and more relevant as an effective financing instrument. In this article, the authors offer some options for optimizing the leasing activity of the construction enterprise. New conditions for the leasing scheme are introduced and dynamic optimization models are proposed in order to achieve an optimal strategy for replacing the leased subject using the criterion of optimality – obtaining maximum income for the entire period.</p> | | |
| 37. | 14. | <p>Yordanova, V. (2020) Corporate governance as a factor in the competition of the construction enterprise. Economic Science, Education and Real Economy: Development and Interactions in the Digital Age: Collection of Reports from the Jubilee International Scientific Conference in Honor of the 100th Anniversary of the Golden Age. since the founding of the University of Economics - Varna: Vol. 3, Varna: Science and Economics, 3, pp. 179 - 186. ISBN 978-954-21-1039-2</p> |
| <p>Dynamic changes in market relations and increased competition between companies require the search for new organizational forms that contribute to improving competitiveness. One such form is corporate governance, in which the interest of economists, politicians and businessmen is constantly growing. However, there is still no consensus on the nature of corporate governance, which also raises one of the main problems with its implementation in practice. In this regard, in this report, the author tries to clarify the essence of corporate governance and outline the benefits of its implementation.</p> | | |
| 38. | 15. | <p>Yordanova, V. (2020) Generalized economic and mathematical model of the production program of the construction enterprise. Construction Entrepreneurship and Real Estate: Collection of Reports from the 35th International Scientific and Practical Conference - November 2020, dedicated to the 15th anniversary of the establishment of the special. Real Estate and Investments, Varna: Science and Economics, pp. 82 - 87. ISSN 2683-0280</p> |
| <p>Modern requirements for sustainable development, as well as the high level of competition between the different economic entities, necessitate the need to search for various opportunities for effective management of the construction enterprise. Issues related to the optimal management of construction production are always relevant and prioritized. In this regard, in this report, the author tries to propose a global economic and mathematical model for optimizing the production program of a construction enterprise, taking into account various restrictive conditions related to the specifics of construction production.</p> | | |
| 39. | 16. | <p>Yordanova, V. (2021) Sources of risk in the activities of the construction enterprise. Construction Entrepreneurship and Real Estate: Collection of Reports from the 36th International Scientific and Practical Conference, Varna: Science and Economics, 135-140. ISSN 2683-0280</p> |
| <p>The construction sector is one of the most important sectors of the economy, where the level of risk is significantly high. Therefore, in this report, the author aims to identify the most significant sources of risk in the activities of the construction company.</p> | | |
| 40. | 17. | <p>Yordanova, V. (2022) Economic efficiency of leasing in the construction enterprise. Construction Entrepreneurship and Real Estate: Collection of Reports from the 37th International Scientific and Practical Conference, Varna: Science and Economics, pp. 152-156. ISSN 2683-0280</p> |



In today's dynamic market conditions, construction companies are forced to look for various tools to modernize and increase their competitiveness. One such instrument is leasing, which is widely used in many European countries. This article addresses the issue of the economic efficiency of leasing. The author tries to examine the methods of leasing valuation, presents its advantages over bank lending. The factors influencing the economic efficiency of leasing are also indicated.

V. Textbooks and Practical Textbooks

| General number | Number in category | Title |
|--|--------------------|--|
| 41. | 1. | Atanasov, B., Nikolaev, R., Milkova, T., Petkov, Y., Yordanova, V. Optimization methods: A guide. Varna: Science and Economics, 2010. - <i>Chapter Five "Transport Task"</i> . |
| <p>The textbook is prepared in accordance with the curriculum in the discipline "Optimization Methods" for students majoring in Tourism at the University of Economics - Varna. It presents primarily the main classes of linear optimization problems, as well as problems of analytical geometry and linear algebra, which are consistent with the theoretical presentation of the existing textbook. From the tasks offered in the textbook, those interested can study various mathematical methods and get ideas for some of their applications in economic research. Special attention is paid to the opportunities provided by ready-made software products for solving various classes of optimization problems, as well as for carrying out a detailed post-optimal analysis.</p> | | |
| 42. | 2. | Dochev, D., Petkov, Y., Karakulakov, M., Milkova, T., Miryanov, R., Boshnakov, V., Yordanova, V. Mathematics (problems with applications in economics). - Varna: Univ. Ed. Science and Economics, 2012. - <i>Chapter Nine "Indefinite Integral"</i> |
| <p>The manual clarifies basic concepts from different areas of mathematics through well-chosen solved examples, many of which illustrate the use of mathematical methods and models in various economic disciplines. A large number of tasks for independent work of students are also offered.</p> | | |
| 43. | 3. | Atanasov, B., Nikolaev, R., Petkov, Y., Miryanov, R., Yordanova, V. Mathematics and optimization methods. - Varna: Univ. Ed. Science and Economics, 2014. - <i>Chapter Two "Analytical Geometry", Chapter Four "Function of Two and More Variables" and Chapter Ten "Some Special Classes of Optimization Problems"</i> . |
| <p>The textbook "Mathematics and Optimization Methods" is intended for students from the University of Economics - Varna in the EQD of "Master", studying the disciplines "Mathematics" and "Optimization Methods". It is consistent with the curriculum in these disciplines, and mainly topics that have application in economics have found a place in it. The textbook can also be useful to everyone who uses or shows interest in the application of mathematical methods in economic research</p> | | |
| 44. | 4. | Miryanov, R., Petkov, Y., Yordanova, V. Mathematics and Optimization Methods: A Guide. Varna: Science and Economics, 2015. - <i>Chapter One "Linear Algebra", Chapter Four "Function of Two Variables" and Chapter Nine "Transport Problem"</i> . |



The manual "Mathematics and Optimization Methods" is intended for students from the University of Economics – Varna in the EQD of "Master", studying the disciplines "Mathematics" and "Optimization Methods". It is consistent with the curriculum in these disciplines, and mainly topics that are applied in economics have found a place in it. The guide can also be useful to anyone who uses or is interested in applying mathematical methods in economic research.

| | | |
|-----|----|--|
| 45. | 5. | Atanasov, B., Dochev, D., Nikolaev, R., Miryanov, R., Petkov, Y., Mihaylov, D., Yordanova, V. Sample tests for a competitive exam in mathematics. Varna: Science and Economics, 2014. - Test 3 "Logarithm and Logarithmic Function", Test 8 "Irrational Equations and Inequalities", Test 9 "Exponential and Logarithmic Equations" and Test 10 "Exponential and Logarithmic Inequalities". |
|-----|----|--|

The sample tests are designed for the preparation of applicants to the University of Economics - Varna. They can also be very useful for students taking the matriculation exam in mathematics, as well as to help first-year students who have not applied with mathematics - to check and refresh their knowledge.

Varna
05.12.2025 г.

Author: 
/Velina Yordanova/