

МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ
Федеральное государственное бюджетное образовательное учреждение
высшего образования
«КУБАНСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ»
Факультет - экономический

УТВЕРЖДАЮ

Проректор по учебной работе,
качеству образования – первый
проректор

Хагуров Т.А.

подпись

«30» мая 2025 г.

РАБОЧАЯ ПРОГРАММА ДИСЦИПЛИНЫ (МОДУЛЯ)
Б1.В.08 СИСТЕМНЫЙ АНАЛИЗ И ПРИНЯТИЕ РЕШЕНИЙ В
ФИНАНСОВО-ИНВЕСТИЦИОННОЙ СФЕРЕ
(SYSTEM ANALYSIS AND DECISION-MAKING IN THE FINANCIAL AND
INVESTMENT SPHERE)

Направление подготовки/специальность	38.04.08 Финансы и кредит (Finance and Credit)
Направленность (профиль) / специализация	Финансы в цифровой экономике (Finance in the Digital Economy)
Форма обучения	очная с использованием электронного обучения и дистанционных образовательных технологий
Квалификация	Магистр

Krasnodar 2025

The work program of the discipline «System analysis and decision-making in the financial and investment sphere» is compiled in accordance with the Federal state Educational standard of higher education (FSES HE) in the field of training 04.38.08 Finance and Credit

The program was compiled:
Gish A.Z., docent



The work program of the discipline «System analysis and decision-making in the financial and investment sphere» утверждена на заседании кафедры анализа данных и искусственного интеллекта № 9 от 20 мая 2024 г.

Head of the Department of Data Analysis
and Artificial Intelligence Kovalenko A.V.



Approved at the meeting of the Educational and Methodological Commission of the Faculty of Computer Technology and Applied Mathematics Protocol № 3 от 21 мая 2024 г.

Chairman of the Educational and methodological
Commission of the Faculty, Drobishevskaya L.N.
Doctor of Economics, Professor



Reviewers:

Avdeeva I.A., Chief Economist of LLC PKF "Afips"

Shevchenko I.V., Doctor of Economics, Professor, Head of the Department of World Economy and Management, Kuban State University

1. Goals and objectives of the academic discipline

1.1 Objectives of the study of the discipline:

The goals are defined by the state educational standard of higher professional education and correlated with the general goals of the OOP in the field of training "Finance and Credit", within which the discipline is taught.

The purpose of mastering the academic discipline "System analysis and decision-making in the financial and investment sphere" is to develop professional competencies, acquire practical skills and use mathematical models of the theory and methods of operations research and the main provisions of system analysis.

1.2 Objectives of the discipline:

- characteristics of the main system-theoretical tasks;
- the study of system analysis as a methodology for solving problems;
- acquisition of skills in analyzing decision-making methods and procedures;
- acquisition of structured problem solving skills;
- acquisition of skills for solving poorly structured and structured problems.

1.3. The place of the academic discipline in the structure in the main educational program of higher professional education (MEP HPE)

It is aimed at the formation of knowledge and skills of system analysis and a systematic approach to solving a number of applied tasks of industrial and economic activity. Provides students with the ability to theoretical and methodological analysis of the problems of assessing the economic activity of enterprises and regions; the formation of competencies in the analysis of decision-making methods and procedures for structured, poorly structured and unstructured problems.

Courses required for preliminary study: Information and analytical systems and technologies in the financial sector, Financial and economic analysis, Strategic financial management and marketing.

Disciplines that use the material of this discipline: Financial planning and forecasting in the digital economy, Portfolio investment management, Financial consulting.

The study of this discipline is based on the economic training of students received during the completion of the Bachelor's degree program.

1.4 The list of planned learning outcomes in the discipline, correlated with the planned results of the development of the educational program

The student's competencies formed as a result of mastering the course "System analysis and decision-making in the financial and investment sphere": ИУК-1.1; ИПК-3.2; ИПК-5.2.

ИУК-1.1 Identifies a problematic situation based on a systematic approach performs its multifactorial analysis and diagnosis

to know: *Knows the methods of system analysis; stages of the life cycle*

be able to: *The ability to analyze a problematic situation based on a systematic approach, to carry out multifactorial analysis and diagnostics.*

to possess: *Skills of analyzing a problem situation based on a systematic approach, implementing its multifactorial analysis and diagnosis*

ИПК-3.2 Analyzes motivational and loyalty programs in the promotion of corporate lending programs

to know: *Knowledge of motivation and loyalty programs.*

be able to: The ability to apply motivational and loyalty programs in the promotion of corporate lending programs.

to possess: Skills in analyzing motivational and loyalty programs when promoting corporate lending programs.

IIIK – 5.2 Demonstrates the ability to develop proposals for improving corporate lending business processes

to know: Knowledge of corporate lending business processes

be able to: The ability to develop proposals for improving corporate lending business processes

to possess: Skills in developing proposals for improving corporate lending business processes

2. The content of the discipline

2.1 The distribution of the labor intensity of the discipline by type of work

The total labor intensity of the discipline is 2 credits, 72 hours, their distribution by type of work is shown in the table:

Type of educational work		Total hours	The form of education			
			Full time		Mixed	correspondence
			1 semester (hour)	2 semester (hour)	1 semester (hour)	1 course (hour)
Contact work (total), including:				24,2		12,2
Classroom classes (total), including:				24		12
Lecture-type classes				6		4
Laboratory classes						
Seminar-type classes (seminars, practical classes)				18		8
Other contact work (total), including:				0,2		0,2
Control of independent work (CIW)						-
Intermediate certification (IC)				0,2		0,2
Independent work (total), including:				47,8		56
Course paper						14
Self-study of sections, self-preparation				47,8		42
Control:						3,8
Test						3,8
Total labor intensity	hours			72		72
	including contact work			24,2		12,2
	credits			2		2

2.2 The structure of the academic discipline

The distribution of types of educational work and their labor intensity by sections of the discipline. The sections of the discipline studied in the semester for full-time students)

№	Section names	Number of hours				
		Total	Classroom work			Extracurricular activities
			L	PE	LW	
1.	Fundamentals of system analysis and decision-making. The system as an object of research	11	3			8
2.	Setting the decision-making task. A model of a problematic situation. Factors affecting the effectiveness of the operation. Performance indicators. Principles of system behavior. Concepts of the organization of rational behavior of systems. Performance criteria. Criteria of suitability, optimality, adaptability.	11	3			8
3.	Solving optimization problems using MS EXCEL	12			4	8
4.	Decision-making in conditions of lack of information. Decision-making in conditions of uncertainty. Playing with nature.	14			6	8
5.	Hierarchy analysis method. Solving dynamic programming problems.	12			4	8
6.	Queuing systems. Inventory management models.	11,8			4	7,8
	Total by discipline sections:	71,8	6		8	47,8
	Control of independent work (CIW)	-				
	Intermediate certification (IC)	0,2				
	Control					
	Total labor intensity	72	4		8	56

Sections (topics) of the discipline studied in the winter and summer semesters of the 1st year (*correspondence course*)

№		Section names	Number of hours				
			Total	Classroom work			Extracurricular activities
				L	PE	LW	
Winter semester							
1.	Fundamentals of system analysis and decision-making. The system as an object of research	11	3			8	
2.	Setting the decision-making task. A model of a problematic situation. Factors affecting the effectiveness of the operation. Performance indicators. Principles of system behavior. Concepts of the organization of rational behavior of systems. Performance criteria. Criteria of suitability, optimality, adaptability.	11	3			8	
Summer semester							
3.	Solving optimization problems using MS EXCEL	12			4	8	
4.	Decision-making in conditions of lack of information. Decision-making in conditions of uncertainty. Playing with nature.	14			6	8	
5.	Hierarchy analysis method. Solving dynamic programming problems.	12			4	8	
6.	Queuing systems. Inventory management models.	11,8			4	7,8	
	Total by discipline sections:	71,8	6		8	47,8	
	Control of independent work (CIW)	-					
	Intermediate certification (IC)	0,2					
	Control						
	Total labor intensity	72	4		8	56	

Note: L – lectures, PE – practical exercises / seminars, LC – laboratory classes, IWS – independent work of the student

2.3 The content of the sections (topics) of the discipline

2.3.1 Lecture-type classes

№	Name of the section (topic)	Content of the section (topics)	Current control form
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1.	Fundamentals of system analysis and decision-making. The system as an object of research	Fundamentals of system analysis and decision-making. The system as an object of research	<i>T</i>
2.	Setting the decision-making task. A model of a problematic situation. Factors affecting the effectiveness of the operation. Performance indicators. Principles of system behavior. Concepts of the organization of rational behavior of systems. Performance criteria. Criteria of suitability, optimality, adaptability.	Setting the decision-making task. A model of a problematic situation. Factors affecting the effectiveness of the operation. Performance indicators. Principles of system behavior. Concepts of the organization of rational behavior of systems. Performance criteria. Criteria of suitability, optimality, adaptability.	<i>T</i>

2.3.2 Занятия семинарского типа (практические / семинарские занятия/ лабораторные работы)

№	Наименование раздела (темы)	Тематика занятий/работ	Форма текущего контроля
1.	Solving optimization problems using MS EXCEL	Solving optimization problems using MS EXCEL	LC
2.	Decision-making in conditions of lack of information. Decision-making in conditions of uncertainty. Playing with nature.	Decision-making in conditions of lack of information. Decision-making in conditions of uncertainty. Playing with nature.	LC
3.	Hierarchy analysis method. Solving dynamic programming problems.	Hierarchy analysis method. Solving dynamic programming problems.	LC
4.	Queuing systems. Inventory management models.	Queuing systems. Inventory management models.	LC

Defending laboratory work (LW), completing a course project (CCP), term paper (TP), calculation and graphic assignment (CGA), writing an abstract (WA), essay (E), colloquium (C), testing (T), etc.

2.3.3 Approximate topics of coursework (projects)

Coursework is not provided.

2.4 The list of educational and methodological support for the independent work of students in the discipline (module)

№	Вид СРС	Перечень учебно-методического обеспечения дисциплины по выполнению самостоятельной работы
1	Lecture and seminar type classes	Methodological guidelines for preparing for lectures and seminars. Approved at the meeting of the Council of the Faculty of Economics of the Kuban State University. Protocol No. 1 dated August 30, 2018.. Access mode: https://www.kubsu.ru/ru/econ/metodicheskie-ukazaniya
2	Performing students' independent work	Methodological guidelines for preparing for lectures and seminars. Approved at the meeting of the Council of the Faculty of Economics of the Kuban State University. Protocol No. 1 dated August 30, 2018.. Access mode: https://www.kubsu.ru/ru/econ/metodicheskie-ukazaniya
3	Performing laboratory work	Methodological guidelines for preparing for lectures and seminars. Approved at the meeting of the Council of the Faculty of Economics of the Kuban State

		University. Protocol No. 1 dated August 30, 2018.. Access mode: https://www.kubsu.ru/ru/econ/metodicheskie-ukazaniya
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Educational and methodological materials for the independent work of students with disabilities and persons with disabilities are provided in forms adapted to the limitations of their health and perception of information.:

For people with visual impairments:

- in printed form in enlarged font,
- in the form of an electronic document,
- in the form of an audio file,
- in printed form in Braille.

For people with hearing impairments:

- in printed form,
- in the form of an electronic document.

For people with musculoskeletal disorders:

- in printed form,
- in the form of an electronic document,
- in the form of an audio file.

3. Educational technologies used in the development of the discipline (module)

During the study of the discipline, the use of the following educational technologies is provided: lectures, laboratory work, independent work of students.

The competence-based approach in teaching the discipline is implemented in the use of interactive technologies and active methods (design techniques, analysis of specific situations of other forms) in combination with extracurricular work.

Information technologies used in the study of the discipline: the use of information resources available on the Internet information and telecommunications network.

Adaptive educational technologies used in the study of the discipline – consultations using e-mail are provided for people with disabilities.

4. Assessment tools for ongoing academic performance monitoring and intermediate assessment

Assessment tools are designed to monitor and evaluate the educational achievements of students who have mastered the program of the discipline "System analysis and decision-making in the financial and investment sphere."

Assessment tools include control materials for conducting ongoing control in the form of multi-level tasks, situational tasks, solving practical problems and intermediate certification in the form of questions and assignments for assessment.

The structure of assessment tools for current and interim assessment

№	The code and name of the indicator (in accordance with p. 1.4)	Learning outcomes (according to p. 1.4)	Name of the evaluation tool	
			Current control	Intermediate certification
1	ИУК-1.1. Identifies a problematic situation based on a systematic approach, performs its multifactorial analysis and diagnosis.	To know: how to analyze a problematic situation based on a systematic approach Be able to: develop a strategy for solving a given task Possess: practical skills in forming possible solutions to problems based on critical thinking	Individual work, Laboratory work	Question on the test 1-7

2	ИПК-3.2. Analyzes motivational and loyalty programs in the promotion of corporate lending programs	Possess: promotion of lending programs through partner and corporate channels; analyze the effectiveness of motivational programs, loyalty programs for corporate clients and partners of the bank; interact with the bank's divisions on issues related to support activities for conducting motivational programs, loyalty programs for clients and partners of the bank; create technical specifications for automating the processes of conducting lending transactions to corporate clients.	Individual work, Laboratory work	Question on the test 8-15
3	ИПК-5.2 Demonstrates the ability to develop proposals for improving corporate lending business processes	Knowledge of: civil and banking legislation of the Russian Federation; rules of internal labor regulations, occupational safety and fire safety requirements, local regulations governing the work of personnel; legislation of the Russian Federation on personal data; modern methods of obtaining, analyzing, processing information; general issues of ensuring information security of the bank; rules of business communication with borrowers; methods and methods of model building; fundamentals of banking, economics, labor organization and management; rules of corporate banking ethics Be able to: describe the business processes of mortgage lending and carry out reengineering; analyze the effectiveness of mortgage lending business processes; organize work on interaction with the bank's divisions in order to ensure the effectiveness of lending activities; apply software products, organizational and technical tools and equipment in the professional field Possess: building business processes for corporate lending, their description; analyzing the effectiveness of business processes for corporate lending and optimizing them; organizing interaction with the bank's divisions on corporate lending support; developing and implementing credit products for legal entities; forming economic models to protect products at meetings of collegial bodies.	Individual work, Laboratory work	Question on the test 16-18

Standard control tasks or other materials necessary for the assessment of knowledge, skills, and (or) work experience that characterize the stages of competence formation in the process of mastering the educational program.

Sample list of questions and tasks

Individual assignments on the topic "Solving optimization problems using MS EXCEL".

Variant 1

Turning, milling and grinding equipment are used to produce two types of products A and B. The time consumption rates for each type of equipment per product of this type are shown in the table. It also indicates the total working time fund of each type of equipment, as well as the profit from the sale of one product.

Type of equipment	The cost of time (machine hours) for processing one product		The general fund of useful working hours
	A	B	
Milling equipment	10	8	168
Turning equipment	5	10	180
Grinding equipment	6	12	144
Profit from the sale of one product (rub.)	14	18	

Variant 2

Oliver A. Peters will retire soon, and he will have to decide what to do with the one-time benefit, which, in accordance with the pension program, will be provided to him by the company. Mr. Peters and his wife intend to take an extended trip to Australia to visit their daughter for a period of two years, so any investments made at the moment will be free to use for this period. Obviously, Mr. Peters' goal is to maximize the total return on investments earned over a two-year period.

Mr. Peters was advised that the best investment option would be an investment fund, and he is currently considering the possibility of investing in one of these funds, consisting of three types of investments – A, B, and C. The lump sum will amount to 25,000 pounds. However, Mr. Peters believes that there is no need to invest in this. The investment fund has all the money; he intends to transfer some of it to his account of the housing and construction cooperative, which guarantees him 9% per annum.

According to the firm's accountant, Mr. Peters should try to distribute his investments in such a way as to ensure both income generation and capital growth. Therefore, he was advised to invest at least 40% of the total amount in option A and transfer it to his account. To ensure significant capital growth, at least 25% of the total amount of funds invested in the investment fund must be invested in project B, however, investments in B should not exceed 35% of the total investment in the investment fund due to the high probability of risk corresponding to project B. In addition, at least 50% of the funds deposited in the investment fund should be invested in projects A and C to preserve capital.

Currently, Project A allows for 10% per annum and provides 1% capital growth, Project B assumes 15% capital growth; Project C provides 4% per annum and 5% capital growth.

Given Mr. Peters' goal, it is necessary to formulate a linear programming model that shows how the lump sum should be distributed among various investment projects.

Variant 3

Bricks manufactured at three factories are used for the construction of three facilities. Each factory can produce 100, 150 and 50 standard bricks daily. The daily requirements for bricks at each of the facilities under construction are 75, 80, 60 and 85 standard units, respectively. Tariffs for transportation of 1 standard unit of bricks from each factory to each of the facilities under construction are also known.:

$$C = \begin{pmatrix} 6 & 7 & 3 & 5 \\ 1 & 2 & 5 & 6 \\ 8 & 10 & 20 & 1 \end{pmatrix}$$

Make a plan for the transportation of bricks to the facilities under construction, in which the total cost of transportation is minimal.

Individual assignments on the topic "Decision-making in conditions of lack of information. Decision-making in conditions of uncertainty. Playing with nature."

Variant 1

A young Russian businessman is planning to build a nightclub near the university. According to one of the acceptable projects, an entrepreneur can open a canteen for students in the disco building during the day. The other option is not related to daytime customer service. The presented business plans show that a plan related to a canteen can generate income of 250 thousand rubles. Without opening a canteen, a businessman can earn 175 thousand rubles. Losses in case of opening a disco with a canteen will amount to 55 thousand rubles, and without a canteen – 20 thousand rubles. Determine the most effective alternative based on the average cost value as a criterion. The probability of a favorable condition is 0.5; the probability of an unfavorable condition is 0.5.

Variant 2

A young Russian businessman is planning to build a nightclub near the university. According to one of the acceptable projects, an entrepreneur can open a canteen for students in the disco building during the day. The other option is not related to daytime customer service. The presented business plans show that a plan related to a canteen can generate income of 250 thousand rubles. Without opening a canteen, a businessman can earn 175 thousand rubles. Losses in the event of the opening of a disco with a dining room will amount to 55 thousand rubles, and without a dining room – 20 thousand rubles. Determine the most effective alternative based on the average cost value as a criterion.

Before making a decision, a businessman should determine whether to order additional market research or not, and the service provided will cost 2,000 rubles. Regarding the company to which the forecast can be ordered, it is known that it is able to clarify the values of the probabilities of a favorable or unfavorable outcome. The company's capabilities in the form of conditional probabilities of favorable and unfavorable sales market are presented in the table.

The company's forecast	Actually	
	favorable	unfavorable
favorable	0,8	0,2
unfavorable	0,3	0,7

Let's assume that the company that was ordered to forecast the state of the market claims:

The situation will be favorable with a probability of 0.48;

The situation will be unfavorable with a probability of 0.52.

Variant 3

The company chooses which type of product it is advisable to produce. There are four types of A_j products. The profit from the production of each type of product is determined depending on the conditions of the economic environment B_j . The profit values for different types of products and conditions of nature are given in the following table:

Product Type	The state of the economic environment		
	B_1	B_2	B_3
A_1	40	52	45
A_2	58	45	89
A_3	45	36	65
A_4	36	89	45

It is required to choose the best car design for production using the criteria of Wald, Savage, Hurwitz with a pessimism coefficient of 0.4. Compare solutions and draw conclusions.

Individual assignments on the topic "Hierarchy analysis method. Solving dynamic programming problems".

Choose a research topic according to your individual option.

Collect descriptive material on this topic and provide a verbal description of the studied variants of your research object.

Describe, evaluate, and select the best object (service) from six options based on six criteria according to your option using the hierarchy analysis method.

Variant	Research topic
1	The choice of household appliances. Washer
2	The choice of office equipment. The copier
3	Selection of cosmetics
4	Furniture selection
5	The choice of household appliances. Video camera
6	Perfume selection
7	The choice of household appliances. Digital camera
8	Jewelry Selection
9	The choice of office equipment. Telephone
10	Choosing a pet
11	Choosing an apartment
12	The choice of household appliances. A microwave
13	Choosing a car
14	Choosing a light industry product
15	The choice of office equipment. Scanner

Variant 2

Four industrial enterprises are planned to operate for the next year. The initial funds are equal to 5 conventional units. The size of the investment in each enterprise is a multiple of 1 conventional unit. The funds allocated to the company make a profit at the end of the year. The dependence of profit on the amount of funds invested is set in the table.

Attachments	Enterprises			
	1	2	3	4
1	8	6	3	4
2	10	9	4	6
3	11	11	7	8
4	12	13	11	13
5	18	15	18	16

Determine how much money should be allocated to each company so that the total profit is the largest.

Individual assignments on the topic "Queuing systems. Inventory management models".

Variant 1

The office accepts orders processed by a single clerk, which arrive according to Poisson's law at an average rate of 6 orders per day. The processing time is distributed exponentially with an average service level of 8 orders per day. Define:

- the average number of orders in the system;
- the average waiting time for the clerk to start processing an order;
- the average time that the order spends in the system.

Variant 2

Anna Vasilyeva from the Surprise company sells 400 water beds per year, with storage costs of 1 thousand rubles per bed per day and order costs of 40 thousand rubles. The number of working days is 250 and the order completion time is 6 days. What is the optimal order size? What is the stock recovery point? What is the optimal order size if the storage costs are 1.5 thousand rubles?

Test and examination materials for intermediate certification (credit)

1. The interaction of man and nature. Prerequisites for system analysis.
2. Mathematical model. The object of research, the purpose, the methods, the problem.
3. The concept of system analysis, its forms.
4. The sequence of solving the problem.

5. The development of systems analysis as a science.
6. Principles of system analysis.
7. The concept of the system. The functioning of the system.
8. System properties.
9. The structure of the system.
10. The functioning of the system.
11. Complex systems. Their management levels.
12. Setting the decision-making task.
13. The matching function.
14. Investigation of the effectiveness of the operation.
15. Analysis of complex situations. Types of models.
16. The concept of a factor and its classification.
17. The concept of system quality and its properties.
18. Classification of measurement scales.
19. Types of uncertainties.
20. Quantitative and qualitative performance indicators.
21. The concept of the matching function. Its types.
22. Specification of the performance indicator.
23. System management.
24. Principles of system behavior and classification of systems according to the basic principles.
25. Concepts of the organization of rational behavior of systems.
26. Evaluation of the effectiveness of the operation behavior. The concept of an efficiency criterion.
27. General principles of behavioral rationalism.
28. The problem of mathematical programming.
29. Formation of the performance indicator and criterion.
30. The criterion of suitability.
31. The criterion of optimality.
32. The criterion of adaptability.

Criteria for evaluating learning outcomes

Assessment criteria for offsetting:

"credited": the student has theoretical knowledge of this section, knows the terminology, knows the tools of the discipline, makes minor mistakes; the student is able to correctly explain the studied material, illustrating it with examples.

"not counted": the material is not learned or partially learned, the student finds it difficult to give examples within the framework of the studied discipline, inability to use scientific terminology, the presence of gross errors, a rather limited amount of knowledge of the studied material.

Assessment tools for the disabled and people with disabilities are selected taking into account their individual psychophysical characteristics.

– if necessary, people with disabilities and people with disabilities are given additional time to prepare an answer for the exam.;

– when carrying out the procedure for evaluating the learning outcomes of people with disabilities and persons with disabilities, it is envisaged to use the technical means necessary for them in connection with their individual characteristics;

– if necessary, for students with disabilities and people with disabilities, the procedure for evaluating learning outcomes in the discipline can be carried out in several stages.

The procedure for evaluating the learning outcomes of people with disabilities and persons with disabilities in the discipline (module) provides for the provision of information in forms adapted to the limitations of their health and perception of information:

For persons with visual impairments:

- in printed form in enlarged font,
- in the form of an electronic document.

For people with hearing impairments:

- in printed form,
- in the form of an electronic document.

For people with disorders of the musculoskeletal system:

- in printed form,
- in the form of an electronic document.

This list can be specified depending on the number of students.

5. List of educational literature, information resources and technologies

5.1. Educational literature

1. Кузнецов, В. А. Системный анализ, оптимизация и принятие решений : учебник для студентов высших учебных заведений / В. А. Кузнецов, А. А. Черепашин. — Москва : КУРС : ИНФРА-М, 2023. — 256 с. - ISBN 978-5-906818-95-9. - Текст : электронный. - URL: <https://znanium.com/catalog/product/2001695> (дата обращения: 09.11.2024). – Режим доступа: по подписке.

2. Корилов, А. М. Теория систем и системный анализ : учебное пособие / А. М. Корилов, С. Н. Павлов. — Москва : ИНФРА-М, 2023. — 288 с. — (Высшее образование: Бакалавриат). — www.dx.doi.org/10.12737/904. - ISBN 978-5-16-005770-5. - Текст : электронный. - URL: <https://znanium.com/catalog/product/1941756> (дата обращения: 10.11.2024). – Режим доступа: по подписке.

3. Белов, П. Г. Управление рисками, системный анализ и моделирование в 3 ч. Часть 1 : учебник и практикум для вузов / П. Г. Белов. — Москва : Издательство Юрайт, 2022. — 211 с. — (Высшее образование). — ISBN 978-5-534-02606-1. — Текст : электронный // Образовательная платформа Юрайт [сайт]. — URL: <https://urait.ru/bcode/490634> (дата обращения: 10.11.2024).

4. Белов, П. Г. Управление рисками, системный анализ и моделирование в 3 ч. Часть 2 : учебник и практикум для вузов / П. Г. Белов. — Москва : Издательство Юрайт, 2022. — 250 с. — (Высшее образование). — ISBN 978-5-534-02608-5. — Текст : электронный // Образовательная платформа Юрайт [сайт]. — URL: <https://urait.ru/bcode/490635> (дата обращения: 10.11.2024).

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6. Алексеева, М. Б. Теория систем и системный анализ : учебник и практикум для вузов / М. Б. Алексеева, П. П. Ветренко. — Москва : Издательство Юрайт, 2022. — 304 с. — (Высшее образование). — ISBN 978-5-534-00636-0. — Текст : электронный // Образовательная платформа Юрайт [сайт]. — URL: <https://urait.ru/bcode/489572> (дата обращения: 10.11.2024).

5.2. Periodical literature

1. Company databases «Ист Вью» <http://dlib.eastview.com>
2. Electronic Library GREBENNIKON.RU <https://grebennikon.ru/>

5.3. Online resources, including modern professional databases and information reference systems

Electronic library systems (ELS):

1. ELS «ЮРАЙТ» <https://urait.ru/>
2. ELS «УНИВЕРСИТЕТСКАЯ БИБЛИОТЕКА ОНЛАЙН» www.biblioclub.ru
3. ELS «BOOK.ru» <https://www.book.ru>
4. ELS «ZNANIUM.COM» www.znanium.com
5. ELS «ЛАНЬ» <https://e.lanbook.com>

Professional databases:

1. Web of Science (WoS) <http://webofscience.com/>
2. Scopus <http://www.scopus.com/>
3. ScienceDirect www.sciencedirect.com
4. Publishing house magazines Wiley <https://onlinelibrary.wiley.com/>
5. Scientific Electronic Library (SEL) <http://www.elibrary.ru/>
6. Full-text archives of leading Western scientific journals on the Russian Scientific Journal platform НЭИКОН <https://archive.neicon.ru>
7. National Electronic Library (access to the Electronic Library of Dissertations of the Russian State Library (RSL) <https://rusneb.ru/>
8. Boris Yeltsin Presidential Library <https://www.prilib.ru/>
9. Electronic collection of the Oxford Russian Foundation <https://ebookcentral.proquest.com/lib/kubanstate/home.action>
10. Springer Journals <https://link.springer.com/>
11. Nature Journals <https://www.nature.com/siteindex/index.html>
12. Springer Nature Protocols and Methods <https://experiments.springernature.com/sources/springer-protocols>
13. Springer Materials <http://materials.springer.com/>
14. zbMath <https://zbmath.org/>
15. Nano Database <https://nano.nature.com/>
16. Springer eBooks: <https://link.springer.com/>
17. "Лекториум ТВ" <http://www.lektorium.tv/>
18. University Information System РОССИЯ <http://uisrussia.msu.ru>

Information reference systems:

1. Консультант Плюс - legal reference system (LAN access from library computers)

Free access resources:

1. American Patent Database <http://www.uspto.gov/patft/>
2. Full texts of Canadian theses <http://www.nlc-bnc.ca/thesescanada/>
3. КиберЛенинка (<http://cyberleninka.ru/>);
4. Ministry of Science and Higher Education of the Russian Federation <https://www.minobrnauki.gov.ru/>;
5. Федеральный портал "Российское образование" <http://www.edu.ru/>;
6. Информационная система "Единое окно доступа к образовательным ресурсам" <http://window.edu.ru/>;
7. Единая коллекция цифровых образовательных ресурсов <http://school-collection.edu.ru/> .
8. Федеральный центр информационно-образовательных ресурсов (<http://fcior.edu.ru/>);
9. Проект Государственного института русского языка имени А.С. Пушкина "Образование на русском" <https://pushkininstitute.ru/>;
10. Справочно-информационный портал "Русский язык" <http://gramota.ru/>;
11. Служба тематических толковых словарей <http://www.glossary.ru/>;
12. Словари и энциклопедии <http://dic.academic.ru/>;
13. Образовательный портал "Учеба" <http://www.ucheba.com/>;

14. Законопроект "Об образовании в Российской Федерации". Вопросы и ответы http://xn--273--84d1f.xn--p1ai/voprosy_i_otvety

Kuban State University own electronic educational and information resources:

1. Modular Dynamic learning environment <http://moodle.kubsu.ru>
2. Database of curricula, educational and methodical complexes, publications and conferences <http://mschool.kubsu.ru/>
3. Library of Information Resources of the Department of Information Educational Technologies <http://mschool.kubsu.ru;>
4. Electronic archive of documents KubSU <http://docspace.kubsu.ru/>
5. Electronic educational resources of the Department of Information Systems and Technologies in Education of KubSU and the scientific and Methodological journal "ШКОЛЬНЫЕ ГОДЫ" <http://icdau.kubsu.ru/>

6. Methodological guidelines for students on mastering the discipline (module)

The course provides lectures, which provide basic theoretical material, laboratory classes, allowing students to fully familiarize themselves with system analysis and decision-making in the financial and investment sphere and get used to solving practical problems.

The most important stage of the course is independent work on the discipline "System analysis and decision-making in the financial and investment sphere".

The aim of the master's independent work is to deepen the knowledge gained as a result of classroom activities. Independent work skills are being developed. The experience and knowledge gained during laboratory classes are consolidated.

The independent work of students in the course of studying the discipline consists in performing individual tasks set by the teacher conducting laboratory classes, preparing theoretical material for laboratory classes, based on lecture notes and educational literature, according to the calendar plan and preparing theoretical material for the test, according to the questions.

Instructions for the design of works:

- Laboratory work and lecture notes can be done on separate sheets or directly in a workbook.;

- registration of individual tasks (reports) preferably in the form of files in MS Word or MS Excel format. The result of the student's independent work is a report in which, based on the original table of source data, the student independently analyzes the data using all the methods studied during the course and submits it for verification in electronic form.

Verification of individual assignments on topics discussed in laboratory classes is carried out a week later in the current laboratory lesson, or within a week after this lesson for consultation.

To clarify unclear issues, the lecturer and the assistant hold weekly consultations, the time of which the groups are notified in advance.

Individual educational work (consultations), which is an additional explanation of the educational material, is of great importance in the development of the discipline by people with disabilities and persons with disabilities.

Individual consultations on the subject are an important factor contributing to the individualization of learning and the establishment of educational contact between a teacher and a student with a disability or a person with disabilities.

7. Logistical support for the discipline (module)

Name of special premises	Equipment of special rooms	List of licensed software
Classrooms for lecture-type classes	Furniture: educational furniture Technical training facilities: screen, projector, laptop	Microsoft Windows 8, 10, Microsoft Office Professional Plus

Classrooms for seminar-type classes, group and individual consultations, ongoing monitoring and intermediate certification	Furniture: educational furniture Technical training facilities: screen, projector, laptop	Microsoft Windows 8, 10, Microsoft Office Professional Plus
Classrooms for laboratory work	Furniture: educational furniture Technical training facilities: screen, projector, laptop	Microsoft Windows 8, 10, Microsoft Office Professional Plus 1C: Предприятие 8 SPSS Statistics
Laboratory of Information and Control Systems 201H Laboratory of Economic Informatics 202H	Equipment: PC, Terminal stations, Wireless stand-alone amplifier	Microsoft Windows 8, 10, Microsoft Office Professional Plus
Laboratory of management in Technical systems 207H	Standard set of educational equipment "Theory of automatic control", Presentations and posters Stand-alone Wireless Amplifier with Microphone	Microsoft Windows 8, 10, Microsoft Office Professional Plus 1C: Предприятие 8
Laboratory of organizational and technological support of trade and marketing activities 201A	Interactive panel, Conference system, Mixer-amplifier, Acoustic feedback suppressor, Wall speaker, Radio system, Microphone on a flexible holder, HP monoblock, Document camera, Wireless access point, Video display system, LCD panel, Splitter, Multimedia lectern lecturer, Video conferencing system, Posters	Microsoft Windows 8, 10, Microsoft Office Professional Plus
Laboratory of Economics and Management 212H	Presentations and posters, Multifunctional professional video detector of banknotes and securities, Banknote counters, Infrared Banknote and Securities detector, Universal Banknote and securities detector, Banknote Authenticity Detector, Cash drawer, Tablet Imprinter, The amplifier is self-contained wireless	Microsoft Windows 8, 10, Microsoft Office Professional Plus
Laboratory of Life Safety 105A	Laboratory stands, Standard set of educational equipment, Simulator stands, Tablet stand, A training complex for the use of primary fire extinguishing equipment, a simulator complex for first aid, A simulator robot, a set of posters, a set of demonstration manuals, a set of audiovisual manuals	Microsoft Windows 8, 10, Microsoft Office Professional Plus
Classrooms for course design (course work)	Furniture: educational furniture Technical training facilities: screen, projector, computer	Microsoft Windows 8, 10, Microsoft Office Professional Plus

For students to work independently, there are rooms equipped with specialized furniture, equipped with computer equipment with the ability to connect to the Internet and provide access to the electronic information and educational environment of the university.

The name of the premises for independent work of students	Facilities for independent work of students	List of licensed software
A room for students to work independently (the reading room of the Scientific Library)	Furniture: educational furniture Set of specialized furniture: computer desks Equipment: computer equipment with connection to the Internet information and communication network and access to the electronic information and educational environment of the educational organization, webcams, communication equipment providing access to the Internet (wired connection and wireless connection using Wi-Fi technology)	Microsoft Windows 8, 10, Microsoft Office Professional Plus
A room for students to work independently (ауд.213 А, 218 А)	Furniture: educational furniture Set of specialized furniture: computer desks Equipment: computer equipment with connection to the Internet information and communication network and access to the electronic information and educational environment of the educational organization, webcams, communication equipment providing access to the Internet (wired connection and wireless connection using Wi-Fi technology)	Microsoft Windows 8, 10, Microsoft Office Professional Plus