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MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN FEDERATION

Federal State Budgetary Educational Institution of Higher Education “Ural State University of Economics”

Approved

Approved

at the meeting of the Department

December 29, 2020.

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Methodological Issues

and Quality of Education

January 20, 2021.

Protocol № 6

Head of the Department \_\_\_\_\_ Plakhin A.E.

Chairman \_\_\_\_\_ Karh D.A.

PROGRAM

Title Theory and Methods of Managerial Decision-making

Field of study 38.04.02 MANAGEMENT

Profile All profiles

Forms of training Full time and part time

Start year 2021

Designed by:

Associate professor, candidate of sciences in economics L.A. Ramenskaya

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## INTRODUCTION

The program of the discipline is a part of the main professional educational program of higher education - Master's program, developed in accordance with the FSES of Higher Education

FGOS VO	Federal State Educational Standard of Higher Education - Master's Degree in 38.04.02 Management (Order of the Ministry of Education and Science of Russia from August 12, 2020 № 952)
PS	

### 1. PURPOSE OF THE DISCIPLINE

Acquaintance with theoretical provisions and methods of managerial decisions, mastering of practical toolkit for substantiation of tool choice, development, organization and realization of managerial decisions and formation on this basis of solid theoretical knowledge and practical skills for making operative, tactical and strategic decisions in organization activity.

### 2. THE PLACE OF THE DISCIPLINE IN THE STRUCTURE OF BPEP

The discipline refers to the basic part of the curriculum.

### 3. THE VOLUME OF THE DISCIPLINE

Intermediate control	Hours					Credits
	Total for a semester	Contact work. (Academic study)			Independent work including preparation of control and coursework	
		Total	Lectures	Practical lessons, including course design		
Semester 2						
Test with grade	72	twenty	eight	12	52	2

### 4. EXPECTED RESULTS OF THE EDUCATIONAL PROGRAM STUDY

A graduate must possess the following competencies, set in FGOS VO, as a result of basic educational program study

Code and name of competence	Competence achievement indicators
UK-1 Ability to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy	ID-3.UK-1 To have practical experience in developing and arguing a strategy for solving a problem situation based on a systematic approach
	ID-2.UK-1 To be able to: identify problem situations, search for information and solutions

<p>UK-1 Ability to carry out a critical analysis of problem situations based on a systematic approach, develop an action strategy</p>	<p>ID-1.UK-1 To know: methods of critical analysis; system approach methodology; methods of identifying a problem situation</p>
<p>UK-2 Ability to manage a project at all stages of its life cycle</p>	<p>ID-3.UK-2 To have practical experience in monitoring the progress of the project; correction of deviations; making changes to the project implementation plan</p> <p>ID-2.UK-2 To be able to: develop a plan for the implementation of the project, taking into account the possible risks of implementation and the possibilities of their elimination; plan necessary resources</p> <p>ID-1.UK-2 To know: the principles of the design task formation within the framework of the designated problem; basic requirements for project work and criteria for assessing the results of project activities</p>
<p>UK-3 Ability to organize and manage the work of a team, developing a team strategy to achieve a set goal</p>	<p>ID-3.UK-3 To have practical experience in organizing and managing team interaction in solving the set goals; experience in overcoming emerging</p> <p>ID-2.UK-3 To be able to: organize and adjust the work of a team, including on the basis of collegial decisions</p> <p>ID-1.UK-3 To know: teamwork strategies; ways and methods of selecting team members to achieve the goal</p>
<p>UK-6 Ability to determine and implement the priorities of his own activities and ways to improve it based on self-esteem</p>	<p>ID-3.UK-6 To have practical experience in determining the effective direction of action in the field of professional activity; making decisions at the level of their own professional activities; planning your own professional activities</p> <p>ID-2.UK-6 To be able to: determine the priorities of professional activity and ways to improve it on the basis of self-assessment; develop, control, evaluate and research the components of professional activity; plan independent activities in solving professional problems</p> <p>ID-1.UK-6 To know: theoretical and methodological foundations of self-development, self-realization, use of creative potential; the basics of planning a professional trajectory; technologies and methods of self-assessment</p>

General professional competencies (GPC)

Code and name of competence	Competence achievement indicators
<p>OPK-3 Ability to independently make substantiated organizational and managerial decisions, assess their operational and organizational effectiveness, social significance, ensure their implementation in a complex (including cross-cultural) and dynamic environment;</p>	<p>ID-3.OPK-3 To have practical experience in the implementation of organizational and managerial decisions in a complex (including cross-cultural) dynamic environment</p>
	<p>ID-2.OPK-3 To be able to assess the operational and organizational effectiveness and social significance of organizational and managerial decisions</p>
	<p>ID-1.OPK-3 To know the methods of making informed organizational and managerial decisions</p>

<p>OPK-4 Ability to manage project and process activities in an organization using modern management practices, leadership and communication skills, identify and assess new market opportunities, develop strategies for creating and developing innovative areas of activity and the corresponding business models of organizations;</p>	<p>ID-3.OPK-4 To have practical experience in identifying and assessing new market opportunities, developing a strategy for the creation and development of innovative areas of activity and the corresponding business models of the organization</p>
	<p>ID-2.OPK-4 To be able to use modern management practices, leadership and communication skills in process and project activities</p>
	<p>ID-1.OPK-4 To know modern methods, technologies and tools for managing project and process activities in the organization of project and process activities in the organization</p>
<p>5. THEMATIC PLAN</p>	

Theme	Hours						
	Topic name	Total hours	Contact work. (Academic study)			Independent Work	Control of independent work
			Lectures	Laboratory work	Practical classes		
Semester 2		72					
Topic 1.	Fundamentals of the theory of managerial decision making	eight	1		1	6	
Topic 2.	Technology for the development, adoption and implementation of management decisions	ten	1		1	eight	
Topic 3.	Methods and technologies for the development of management decisions in conditions of certainty.	eleven	1		2	eight	
Topic 4.	Methods and technologies for the development of management decisions under conditions of uncertainty and risk.	12	2		2	eight	
Topic 5.	Game-theoretic models of managerial decision-making.	eleven	1		2	eight	
Topic 6.	Methods and models of multi-criteria choice.	eleven	1		2	eight	
Topic 7.	The concept of a business model in the practice of making management decisions	nine	1		2	6	
<b>6. FORMS OF CURRENT CONTROL AND INTERMEDIATE ATTESTATION ASSESSMENT SCALE</b>							
Section / Topic	Evaluation tool type	Description of the evaluation tool				Evaluation criteria	
Current control (Appendix 4)							
Topics 1-7	Test	The test consists of 20 multiple choice questions				20 points	
Topics 3-6	Task	Tasks represent the formulation of a business task and the necessary conditions for solving				35 points (5 points per task)	
Topic 2	Case	Teamwork "Development of a rational management decision on the choice of the organizational structure of the company" Stages: 1. Statement of the problem 2. Formation of a mechanism for evaluating alternatives 3. Formation of the initial set of alternatives 4. Modeling preferences 5. Summing up				10 points	
Intermediate control (Appendix 5)							
2 semester	Card	The card contains 2 theoretical questions and one practical task				100 points	

## DESCRIPTION OF ASSESSMENT SCALES

Assessment indicator of mastering the educational program is formed on the basis of the union of the current and interim certification of the student.

The rating indicator for each discipline is expressed as a percentage, which shows the level of training of the student.

Current attestation. A 100-point grading system is used. Assessment of the work of a student during a semester is carried out by a teacher in accordance with the developed system of evaluation of educational achievements in the process of training in the discipline.

In the working programs of disciplines and practices are fixed types of current assessment, the planned results of control activities and criteria for assessing learning achievements.

During a semester the teacher conducts at least 3 control activities to assess the activities of the student. If the attendance of classes in a discipline is included in the rating, then this indicator is no more than 20% of the maximum number of points in the discipline.

Intermediate attestation. A 5-point grading system is used. The assessment of the student's work at the end of the discipline (part of the discipline) is carried out by the teacher in accordance with the system of evaluation of the student's achievements in the course of study on the discipline developed by him.

Intermediate attestation is also carried out at the end of the formation of competencies.

The order of translation of the rating provided by the system of evaluation, on the discipline, in the five-point system.

High level - 100% - 70% - excellent, good.

The average level - 69% - 50% - satisfactory.



Score indicator	On a 5-point system	Characteristics of the indicator
100% - 85%	excellent	have theoretical knowledge in full, understand, independently know how to apply, research, identify, analyze, systematize, categorize, calculate indicators, classify, develop models, algorithmize, manage, organize, plan research processes, evaluate results at a high level
84% - 70%	good	have theoretical knowledge in full, understand, independently know how to apply, research, identify, analyze, systematize, categorize, calculate indicators, classify, develop models, algorithmize, manage, organize, plan research processes, evaluate the results.  Deficiencies may be made, corrected by the student independently in the process of work (answer, etc.)
69% - 50%	satisfactorily	have general theoretical knowledge, are able to apply, research, identify, analyze, systematize, categorize, calculate indicators, classify, develop models, algorithmize, manage, organize, plan research processes, evaluate results at an average level. Mistakes are made that the student finds it difficult to correct on their own.
49% or less	unsatisfactory	have an incomplete amount of general theoretical knowledge, do not know how to independently apply, research, identify, analyze, systematize, categorize, calculate indicators, classify, develop models, algorithmize, manage, organize, plan research processes, evaluate results. Skills and skills for solving professional problems are not formed
100% - 50%	credited	the characteristic of the indicator corresponds to "excellent", "good", "satisfactory"
49% or less	not credited	the characteristic of the indicator corresponds to "unsatisfactory"

## 7. CONTENT OF DISCIPLINE

### 7.1 Content of lectures

<p>Topic 1. Fundamentals of the theory of managerial decision making Basic concepts of decision-making theory. Statement of the decision-making problem. Participants in the decision-making process. Factors that determine the effectiveness of decisions. Typology of management decisions.</p>
<p>Topic 2. Technology of development, adoption and implementation of management decisions Algorithm for developing a rational management decision. Features of making organizational and managerial decisions. The system of methods for making managerial decisions: methods for diagnosing problems, methods for generating alternatives, methods for assessing and choosing alternatives, methods for implementing decisions. Criteria for making rational decisions. The problem of communications in the process of developing rational management decisions. Group Decision Making Techniques: <b>Brainstorming, Delphi Method</b></p>
<p>Topic 3. Methods and technologies for the development of management decisions in conditions of certainty. The area of using deterministic methods of making management decisions. Advantages and disadvantages of making managerial decisions in conditions of complete certainty. Basic concepts of deterministic decision-making methods. Linear programming problems. Dual problems of linear programming and their application to analyze the properties of the solution to the original problem. Transport problem and assignment problem as special cases of linear programming problems. Multi-criteria tasks. Deterministic methods of inventory management.</p>
<p>Topic 4. Methods and technologies for the development of management decisions in conditions of uncertainty and risk. The essence of uncertainty and risk in the activities of the organization. The concept of systematic and non-systematic risk. Necessity and area of use of methods of making managerial decisions in conditions of uncertainty and risk. Peculiarities of decision making in conditions of risk. Criteria "Expected Monetary Value" - EMV (Expected Monetary Value) and "Minimum expected missed opportunities" - EOL (Expected Opportunity Loss). The expected value of perfect information is EVPI (Expected Value of Perfect Information). The essence of the decision trees method. Rules for constructing decision trees. Analysis of the "decision tree" taking into account posterior probabilities. Making decisions in the face of uncertainty. Formalization of the problem of choice under conditions of complete uncertainty. Laplace criterion. Minimax criterion. Savage criterion. Hurvich criterion. Stochastic models of inventory management. Project management taking into account random variations in the stage execution time.</p>
<p>Topic 5. Game-theoretic models of managerial decision-making. The need for and the area of using game methods for making managerial decisions. Basic concepts of game theory. Game Models Under Risk: Expected Value Criteria. Matrix games. Pure and mixed strategy of matrix games. Optimal solution for matrix games. Business tasks reduced to matrix games. Positional games. Bimatrix games. Endless games. Application of game models for solving linear programming problems.</p>
<p>Topic 6. Methods and models of multi-criteria choice. Pareto optimality. Generalized formulation of the multicriteria choice problem. The method of successive concessions. Methods for folding a vector criterion into a scalar one. Harrington's Desirability Method. <b>Hierarchy analysis method.</b></p>
<p>Topic 7. The concept of a business model in the practice of making management decisions Business model concept and elements. Types of business models. Business model change. Business model analysis. Business model sustainability as the foundation of continuity.</p>
<p>7.2 Content of practical exercises and laboratory work</p>

<p>Topic 1. Fundamentals of the theory of managerial decision making Round table: Models and typology of decision making. Questions: 1. National models of decision making. 2. Advantages and disadvantages of the individual and collective decision maker. 3. Features of the organization of collective decision-making. 4. External and internal solutions. 5. Single-purpose and multi-purpose solutions. <u>6. Intuitive and rational decisions</u></p>
<p>Topic 2. Technology of development, adoption and implementation of management decisions Teamwork "Development of a rational management decision on the choice of the organizational structure of the company" Stages: 1. Statement of the problem 2. Formation of a mechanism for evaluating alternatives 3. Formation of the initial set of alternatives 4. Modeling preferences <u>5. Summing up</u></p>
<p>Topic 3. Methods and technologies for the development of management decisions in conditions of certainty. Solving problems.</p>
<p>Topic 4. Methods and technologies for the development of management decisions in conditions of uncertainty and risk. Solving problems</p>
<p>Topic 5. Game-theoretic models of managerial decision-making. Solving problems</p>
<p>Topic 6. Methods and models of multi-criteria choice. Solving problems.</p>
<p>Topic 7. The concept of a business model in the practice of making management decisions Case solution</p>
<p>7.3. Content of independent work</p>
<p>Topic 1. Fundamentals of the theory of managerial decision making Study of basic and additional literature. Preparation for the seminar "Models and Typology of Decision Making" on the issues. Preparation for testing on topics 1-7</p>
<p>Topic 2. Technology of development, adoption and implementation of management decisions Study of basic and additional literature. Preparation for teamwork on topic 2. Preparation for testing on topics 1-7</p>
<p>Topic 3. Methods and technologies for the development of management decisions in conditions of certainty. Study of basic and additional literature. Preparation for practical training. Preparation for testing on topics 1-6</p>
<p>Topic 4. Methods and technologies for the development of management decisions in conditions of uncertainty and risk. Study of basic and additional literature. Preparation for practical training. Preparation for testing on topics 1-7</p>
<p>Topic 5. Game-theoretic models of managerial decision-making. Study of basic and additional literature. Preparation for practical training. Preparation for testing on topics 1-7</p>
<p>Topic 6. Methods and models of multi-criteria choice. Study of basic and additional literature. Preparation for practical training. Preparation for testing on topics 1-7</p>
<p>Topic 7. The concept of a business model in the practice of making management decisions Study of basic and additional literature. Preparation for practical training. Preparation for testing on topics 1-7</p>

7.3.1 Example questions for independent preparation for the test/exam  
Appendix 1

7.3.2. Practical tasks on the discipline for independent preparation for examination/examination  
Appendix 2

7.3.3. List of course paper 7.3.3.  
Coursepaper is not stipulated by the discipline.

7.4 Electronic portfolio of the learner  
Materials are not placed.

7.5 Methodical recommendations for the performance of the test work  
The curriculum makes no provision for it

7.6 Methodical recommendations for the performance of the course paper  
Course paper is not included in the course plan.

## **8. PECULIARITIES OF ORGANIZATION OF THE EDUCATIONAL PROCESS FOR STUDENTS WITH DISABILITIES**

On the application of the student

In order to ensure the accessibility of the program for persons with disabilities, if necessary, the department provides the following conditions:

- a special order of mastering the discipline, taking into account their state of health;
- electronic educational resources for the discipline in forms adapted to the limitations of their health;
- study of the discipline on the individual curriculum (regardless of the form of training);
- e-learning and distance learning technologies, which provide opportunities to receive and transfer information in accessible forms.
- access (remote access), to modern professional databases and information reference systems, the composition of which is determined by the Program.

## **9. LIST OF THE BASIC AND ADDITIONAL EDUCATIONAL LITERATURE NECESSARY FOR MASTERING THE DISCIPLINE**

Website of the USUE library

<http://lib.usue.ru/>

Basic literature:

1. Mikhaleva M.Y., Orlova I.V. Mathematical modeling and quantitative methods of research in management. [Electronic resource]:tutorial for students of universities studying in the direction of training 38.04.02 "Management" (qualification (degree) "master"). - Moscow: University textbook: INFRA-M, 2018. - 296 - Mode of access: <https://znanium.com/catalog/product/948489>
2. Osipova V.A., Alekseev N.S.. Mathematical methods of decision support. [Electronic resource]:Tutorial : VO - Masters. - Moscow: LLC "Scientific-Publishing Center INFRA-M", 2020. - 134 - Mode of access: <https://znanium.com/catalog/product/1062368>
3. Busov V. I., Lyabakh N. N., Satkalieva T. S., Taspenova G. A. Theory and practice of managerial decision-making. [Electronic resource]:Textbook and practice for universities. - Moscow: Yurait, 2020. - 279 - Mode of access: <https://urait.ru/bcode/450352>

Additional literature:

1. Yukaeva V. S., Zubareva E. V., Chuvikova V. V.. Adoption of managerial decisions. [Electronic resource]:textbook. - Moscow: Dashkov and K<sup>o</sup>, 2016. - 324 - Mode of access: <https://znanium.com/catalog/product/430348>
2. Beloliptsev I. I., Gorbatkov S. A. A., Romanov A. N., Farkhieva S. A.. Modeling of managerial decisions in the economy under uncertainty. [Electronic resource]:Monograph. - Moscow: INFRA-M, 2015. - 299 - Mode of access: <https://znanium.com/catalog/product/480352>
3. Shapkin A.S., Shapkin V.A.. Mathematical methods and models of operations research. [Electronic resource]:Tutorial. - Moscow: Dashkov & K Publishing and Trading Corporation, 2019. - 398 - Mode of access: <https://znanium.com/catalog/product/1091193>
4. taha H. A. Introduction to the study of operations.:scientific publication. - Moscow; St. Petersburg; Kiev: Williams, 2007. - 901

**10. LIST OF INFORMATION TECHNOLOGIES, INCLUDING THE LIST OF LICENSED SOFTWARE AND INFORMATION REFERENCE SYSTEMS, ONLINE COURSES USED IN THE EDUCATIONAL PROCESS ON THE DISCIPLINE**

List of licensed software:

- Microsoft Office 2016.Contract № 52/223-PO/2020 from 13.04.2020, Act № Tr000523459 from 14.10.2020 License validity period 30.09.2023.
- MyOffice standard. Agreement No. SK-281 dated June 7, 2017. Date of conclusion - 07.06.2017. License validity period - without term limits.
- Astra Linux Common Edition. Agreement No. 1 dated June 13, 2018, act dated December 17, 2018. License validity period - without time limitation.
- Microsoft Windows 10 .Contract No. 52/223-PO/2020 dated 13.04.2020, Act No. Tr000523459 dated 14.10.2020. License expiration date 30.09.2023.

The list of information reference systems, resources of information and telecommunication network "Internet":

- Garant reference legal system. Contract No. 58419 of December 22, 2015. License validity period - without time limitation
- Legal reference system Consultant +. Contract No. 163/223-U/2020 of 14.12.2020. Duration of the license until 31.12.2021

## 11. DESCRIPTION OF THE MATERIAL AND TECHNICAL BASIS NECESSARY FOR THE IMPLEMENTATION OF THE EDUCATIONAL PROCESS

The implementation of the discipline is carried out with the use of material and technical base of USUE, providing all kinds of classes and research and independent work of students:

Special rooms are classrooms for all types of classes, group and individual consultations, current monitoring and interim certification.

Rooms for students' independent work are equipped with computers with the ability to connect to the Internet and access to the electronic information and educational environment of USUE.

All rooms are equipped with specialized furniture and multimedia equipment (information and telecommunications, other computer equipment), access to information retrieval, reference and legal systems, electronic library systems, databases of current legislation, other information resources used to present educational information to a large audience.

For lecture-type classes presentations and other educational and visual aids, providing thematic illustrations.