

Ministry of Science and Higher Education of the Russian Federation



Federal State Budgetary Educational Institution of Higher Education
Perm National Research Polytechnic University



APPROVED BY

Pro-rector for Academic Affairs

N.V. Lobov

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ACADEMIC COURSE WORKING PROGRAM

Academic course: Knowledge and Change Management

(Name)

Form of education: Full-time

(Full-time /full-time - correspondence/correspondence)

Level of higher education: Master's program

(Bachelor's program/specialist program/Master's program)

Workload in hours (in credits): 144 (4)

(Hours (CU))

Training program (degree): 38.04.01 Economics

(Code and denomination of degree)

Direction: Oil and Gas Enterprise Economics and Management

(Title of curriculum)

1. General Provisions

1.1. Goals and Objectives of the Course

The goal of the academic course is to form a complex of knowledge, abilities and skills in the field of indefiniteness management for investment projects realization on the industry-specific enterprises.

1.2. Prescribed Objects of the Course

processes of indefiniteness management at industrial enterprise economic systems; methods of qualitative and quantitative analysis of risks; principles of trained company functioning and possibilities of its application for risk management during investment projects realization at industrial enterprises.

1.3. Starting Conditions

Unstipulated

2. Planned Results of the Course Training

Competence	Indicator's Index	Planned Results of the Course Training (to know, to be able, to master)	Indicator of Attaining Competence which the planned results of training are correlated with	Means of Assessment
PC-2.5	AI-1 _{PC-2.5}	To know the concepts: data, information, knowledge, indefiniteness, risk and theoretical base for productive economic systems management under indefiniteness conditions; the steps of cognitive evolution of community, economic functions of the knowledge at each step and typical for them strategies of risk management; fundamental principles and main causes of economic interests and stakeholder ethical principles conflicts and available methods of economic models' development of its functioning, based on	Knows methods of rating, documenting and risk assessment of investment projects at oil and gas enterprises, and well as instruments of risk management.	Grading test

		contradictions solving; methods of indefiniteness reduction and formalization of productive economic systems functioning conditions		
PC-2.5	AI-2 _{PC-2.5}	To be able to identify stakeholders' representation intellectual models of the enterprise and field of industry, competitors, markets, to search for versions for its development; to make diagnostics of effectiveness and evaluate industrial enterprise intellectual resource management process risks and identify directions for its improvement; to apply mutual intellectual activity management methods for alternates development which solve contradictions in current production economic system; to diagnose causes and to identify relevant organizational changes resistance overcoming methods	Is able to assess risks of investment projects at oil and gas enterprises and manage them	Case-study
PC-2.5	AI-3 _{PC-2.5}	To master the skills of indefiniteness management goals formulating and placing for economic systems of industrial enterprise; the skills of professional cooperation organization designed to collection, processing, analysis and systematization of business information under conditions of social, ethnical, confessional and cultural differences presence; the skills of development of econometric models for planned organization changes in industrial enterprise; the skills of methodic and normative document development which cover the issues of right functioning and development of industrial	Masters the skills of development of risk management measures within the implementation of an investment project at oil and gas enterprises	Case-study

		enterprise systems.	economic	
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3. Full time and forms of academic work

Form of academic work	Hours in all	Distribution in hours according to semesters	
		Number of semester	
		3	
<i>1. Holding classes (including results monitoring) in the form:</i>	58	58	
<i>1.1. Contact classwork, including:</i>			
- lectures (L)			
- laboratory work (LW)			
- practice, seminars and/or other seminar-type work (PW)	56	56	
- control of self-work (CSW)	2	2	
- test			
1.2. Students' self-work (SSW)	86	86	
2. Interim/midterm assessment			
Exam			
Grading test	9	9	
Test (Credit)			
Course Project (CP)			
Course Work (CW)			
Workload in hours	144	144	

4. Course contents

Course units with brief contents	Full time of classroom activity in hours according to the forms			Full time of extracurricular work in hours according to the forms SSW
	L	LW	PW	
semester				
Semester 3				
World social and economic processes and its influence on Russian industrial enterprises	0	0	8	12
Topic 1. Economic development of society and peculiarities of the knowledge economy. History, tendencies of cognitive evolution of society and economic functions of knowledge. Differentiation of the concepts 'data', 'information', 'knowledge'. Individualization of demand and supply, transactions and peculiarities of pricing mechanisms in the knowledge economy. Markets of information and markets of knowledge. Digitalization of economics as the factor of economic growth. Topic 2. Problems of knowledge economy development at macro- meso- and microlevel Precision of the concepts of system and system approach in appendix to economic phenomena				

<p>investigation. Analysis of factors which influence the economic development of countries with transitive economics. Cognitive environment of economics and enterprise: system analysis of correlation and interconnection. Indefiniteness strengthening under the influence of objective and subjective factors.</p> <p>System-integrated theory and evolution approach by G.B. Kleiner.</p>				
<p>Structure of enterprise capital in knowledge economy and new conceptions of business value</p>	0	0	12	18
<p>Topic 3. Modern economic models of enterprisecapital gain</p> <p>Dynamic abilities in economic benefits receiving form the knowledge. A ladder of knowledge by K. North. Competence approach by D. Andrissen and R. Tissen. Information theory of cost by K. Valtukh.</p> <p>Topic 4. Continuum of ecosystem of knowledge development</p> <p>Communication management concept and strategies. 4-phase model of knowledge transformation by Nonaka and Takeuchi. Conception of learning organization by P. Senge. Classification of the knowledge on the basis of following actions.</p> <p>Topic 5. Knowledge engineering</p> <p>Models and methods of extraction, structuring and formalization of expert knowledge with following processing by intellectual and information systems. Ontological engineering. Two models of access to the knowledge in the company (“treasure chest”, “marker”).</p>				
<p>Risk management as main conceptual approach to business development in modern conditions</p>	0	0	8	13
<p>Topic 6. Investment as risk activity</p> <p>Risk as indefiniteness creation and indeterminacy consequence. Subject and object of riskology. Interconnection between indefiniteness and risk. Determination of economics category of risk. Types and causes of indefiniteness. Macroeconomic influence of regulation function of risk.</p> <p>Investment climate as institutional area which includes risks. Reveal of economic nature of administrative barriers of investment activity through the analysis of three main conceptions of transaction expenses foundations.</p> <p>Types of risk analysis: qualitative and quantitative. Methods of investment risks registration on country level (Business Environmental Risk Index (BERI) method, Standard & Poor's and “Expert-Rating Agency methods”). Approaches to risks evaluation of The World Bank and National rating committee of countries and regions. Risks of oil and gas industry.</p> <p>Topic 7. Risk management – form of stakeholders’ economic interests’ realization</p> <p>Academic and pragmatic approaches in methodology</p>				

<p>of risks classification.</p> <p>Investment risks: traditional approaches to definition and classification. Key dates of conception of production control management under the conditions of indefiniteness and risk. Stakeholders of oil and gas industry field enterprise. Process of management decision-taking under the conditions of indefiniteness and risk. Aspects of management decision-taking: psychologic, formal, alternate and organizational.</p> <p>Conception of eight steps of professional mastery by manager V. Tarasov.</p>				
Risk management of industrial enterprises' investment projects	3	0	4	9
<p>Topic 8. Methods of risks identification and measuring</p> <p>Methods of risks identification and measuring at microlevel: risks structure (tree); brainstorm; Delphi approach; surveys of group members; identification of main cause; SWOT analysis; analysis of control lists; diagrams' using. Risks register as a result of identification.</p> <p>Topic 9. Methods and models of analysis and evaluation of investment risks of projects</p> <p>Common methods of analysis of investment project risk: discount rate correction method; certainty equivalent method; effectiveness sensitivity test analysis; scenario method; threshold level parameters' analysis (break even point); the probability distribution of payment flows analysis; decision tree. Risk consideration in the process of quantitative analysis and investment decision-taking using Monte-Carlo Simulation.</p> <p>Topic 10. Risk management of investment project</p> <p>Investment risk management as a complex of methods of analysis and risk factors' neutralization united as a planning, monitoring and correction impacts' system. Methods of risk management: risk avoidance; risk localization; risk dispersion; offsetting risk. Structure and functions of oil and gas industry field enterprise economic parameters' management accounting. Strategy correction considering dynamics of risk factors.</p>				
Organization culture development as the main instrument of risks' compensation	0	0	8	12
<p>Topic 11. Approaches to self-organizing systems</p> <p>Concepts: synergetics, self-organization and entropy as appendix to economic systems.</p> <p>Disorganization as a risk factor. Regularities of organization development and role of organization culture in risk management at enterprise.</p> <p>Models of the organization life cycle by L. Greiner and I. Adizes. Conception of spiral dynamics by Cl. Graves as methodology of organization culture complexity</p>				

increases in response to external conditions' indefiniteness increase. Topic 12. Methods of organization changes' resistance factors' identification Conceptions of organization changes in Western school of management: model by K. Lewin, change management model by L. Greiner, theory E and theory O of organization changes, business transformation model by F. Gouillart and J. Kelly, change curve model by J. Duck, "Good to Great" model by J. Collins. East philosophy of change management: "Yi Jing" Book of Changes. Methods of change resistance overcoming. Model by V. Tokarev.				
Business processes formalization as the instrument of production risks' management.	0	0	8	13
Topic 13. Benchmarking as the instrument of organization development Standardization of business processes as a method of manufacturing environment indefiniteness reduction. Integration of personal parameters for job quality and parameters for company work: X-activity balanced parameters system. Rampersada. Economic reasons for oil and gas industry enterprise reengineering processes under conditions of digitalization. Development of job and job description positions. Topic 14. Continual development of production process on the base of the "Kaizen" conception Philosophy of "Kaizen" Japanese conception. Models of enterprise job organization with united conception aimed at production risks' reduction (5S, Kanban). "Lean production" – American adaptation of the conception. Investments to production management systems development.				
Total with regard to semester	0	0	56	86
Total with regard to the course	0	0	56	86

Topics of exemplary **practicals**

Sl.No	Topic of practicals (seminars)
1	Case-tasks analysis. Individualization of demand and supply, transactions and peculiarities of pricing mechanisms in the knowledge economy. Markets of information and markets of knowledge.
2	Case-tasks analysis. Digitalization of economics as the factor of economic growth.
3	Case-tasks analysis. Analysis of factors which influence the economic development of countries with transitive economics.
4	Identification of types of enterprises according to system-integrated theory: processes, projects, environments, objects.
5	Development of intellectual capital measuring parameters system. Examples of intellectual cost evaluation.

6	Seminar. Comparative analysis of information theory of cost by K. Valtukh and competence approach by D. Andriessen and R. Tissen based on economic function of the knowledge.
7	Case-tasks analysis based on a 4-phase model of knowledge transformation by Nonaka and Takeuchi.
8	Studying and acquisition of abilities for educating organization competences' forming. "System thinking" and "Intellectual models".
9	Practice of building visual structuring of the knowledge models. Ontological engineering.
10	Development of the transfer knowledge systems based on the models ("treasure chest", "marker").
11	Seminar. Economic nature of administrative barriers of investment activity through the analysis of three main conceptions of transaction expenses foundations.
12	Case-tasks analysis. Industry field risks' identification.
13	Case-tasks analysis. Enterprise stakeholders' identification.
14	Exercises for acquisition of manager's V. Tarasov professional mastery eight steps' conception.
15	Case-tasks analysis on solving system contradictions in production systems.
16	Exercises for acquisition of risks' identification qualitative methods.
17	Econometrics models' of the project building.
18	General tasks decision-making on investment project risks' estimation .
19	Case-tasks analysis on alternate methods of risk management determination (avoidance, localization, dissipation).
20	Case-tasks analysis on alternate methods of risk management determination (compensation).
21	Business game "Ideal manager". Conception of EPIA functions of management by I. Adizes.
22	Identification of valuable memes and non-current assets (NCA) of managers' status on the base of video materials analysis(conception of spiral dynamics).
23	Investigation of practical application conditions of the "Good to Great" model by J. Collins.
24	Investigation of practical application conditions of the business transformation model by F. Guillard and J. Kelly.
25	Application of technical methods of business processes description.
26	Seminar. Review of business processes' reengineering conceptions. Methods of comparative analysis of management innovations' performance.
27	Business game "Diving into Gemba". Acquisition of "Kaizen" methodic instruments.
28	Development of lean production implementation performance evaluation model at the enterprise.

5. Organizational and Pedagogical Conditions

5.1. Educational Technologies Used for Competences Formation

Holding practicals of the discipline is based on the interactive method of training. Teacher's questions are aimed at activating the process of learning material as well as at the development of logical thinking. The questions stimulating associative thinking and connecting new material with the previous one are identified by the teacher in advance.

Practicals are held by realization of the method based on active training: problem areas are determined, groups are formed. The following aims are pursued in the process of practical education: use of definite disciplines knowledge and creative methods in solving problems and decision-making; students' skill-building of teamwork, interpersonal communication and development of leadership skills; consolidation of the basic theoretical knowledge.

Seminars, group discussions, role-playing games, training sessions, and analysis of situations and simulation models are used in academic studies.

5.2. Students' Manual for the Course Study

Learning the course, it is advisable for students to implement the following recommendations:

1. Learning of the discipline should be done systematically.
2. After learning one of the course units with the help of the text-book or lecture notes it is recommended to reproduce the basic terms, definitions, notions of the unit from memory.
3. Special attention should be paid to the reports on practical studies and individual complex tasks for self-work.
4. The topics list for individual study is given by the teacher at the lectures. The teacher also provides students with literary sources (first of all, new ones in the periodical scientific literature) for a more detailed understanding of the issues presented at the lectures.

6. List of Teaching Materials and Information Supply for Students' Self work in the Discipline

6.1. Paper-based courseware

Sl.No	Bibliographic entry (author, title, mode of publication, place, publishing house, year of publication, number of pages)	Number of copies in the library
1. Basic literature		
1	Naunton J., Pohl A. Oil and Gas Vol. 2. Oxford : Oxford Univ. Press, 2011. 135 p.	70
2	Charette R.N. Software Engineering Risk Analysis and Management. New York : Multiscience Press, Inc., 1989. 325 p.	1
3	FISMA and the risk management framework the new practice of federal cyber security. New York : Elsevier, 2012	
2. Additional literature		
2.1. Educational and scientific literature		
	Is not used	
2.2 Quarterly Published literature		
	Is not used	
2.3. Standardized and Technical literature		
	Is not used	
3. Students' manual in mastering discipline		
	Is not used	
4. Teaching and learning materials for students' self-work		
	Is not used	

6.2. Electronic Courseware

Kind of literature	Name of training tool	Reference to information resource	Accessibility of EBN (Internet/local net; authorized free access)
Basic literature	FISMA and the risk management framework the	https://elib.pstu.ru/Record/RUPNRPUelib4223	local net; authorized access

	new practice of federal cyber security. New York : Elsevier, 2012		
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6.3. License and Free Distributed Software used in the Course Educational Process

Type of Software	Software branding
Operating systems	MS Windows XP (subscription Azure Dev Tools for Teaching until 27.02.2022)
Office applications	Microsoft Office Professional 2007. license 42661567

6.4. Modern Professional Databases and Inquiry Systems Used in the Course Educational Process

Branding	Reference to information resource
Scientific library of Perm National Research Polytechnic University	http://lib.pstu.ru/
Lan' Electronic library system	https://e.lanbook.com/
IPRbooks Electronic library system	http://www.iprbookshop.ru/
Information resources of Consultant+ web	http://www.consultant.ru/
Electronic library of dissertations of Russian State Library	http://www.diss.rsl.ru/

7. Logistics of the Course Educational Process

Type of classes	Name of the necessary basic equipment	Number of units
Practical task	Computer and projector	1

8. Fund of the Course Evaluating Tools

Is described in separate document

Ministry of Science and Higher Education of the Russian Federation
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FUND OF ESTIMATING TOOLS
For students' midterm assessment in the discipline
“Knowledge and Change management”
Supplement to the Academic Course Working Program

Training program (degree): 38.04.01 Economics

Direction: Digital Economics and Management on
Machinery Enterprises
Oil and Gas Enterprise Economics and
Management

Level of higher education: Master's degree

Graduate academic chair: Economics and Management of Industrial
Production

Form of education: Full-time

Year (-s): 2 Semester (-s): 3

Workload:
in credits: 4 CU
in hours: 144 h

The form of midterm assessment:
Grading test 3 semester

Fund of estimating tools for interim/midterm assessment of students learning the subject “Knowledge and Change Management” is the part (supplement) to the academic course working program. Fund of estimating tools for interim/midterm assessment of students’ learning the discipline has been developed in accordance with the general part of the fund of estimating tools for interim/midterm assessment of the basic educational program which determines the system of the interim/midterm assessment results and criteria of putting marks. Fund of estimating tools for interim/midterm assessment of students learning of the subject determines the forms and procedures of monitoring results and interim/midterm assessment of the students.

1. List of controlled results of studying discipline, objects of assessment and forms of control.

According to the Academic Course Working Program mastering course content is planned during one semester (the third semester of curriculum) and is divided into two educational modules. Classroom activities, lectures and practical works, as well as students’ self-work are provided for every module. In the frames of mastering course content such competences as *to know, to be able to, to master the skills* pointed out in the ACWP are formed. These competences act as the controlled results of learning the discipline “Knowledge and change management” (Table 1.1).

Monitoring of the acquired knowledge, abilities and skills is made in the frames of continuous assessment, progress check and formative assessment in the process of studying theoretical material, reports on laboratory works and credit. Types of control is given in Table 1.1

Table 1.1. List of controlled results of learning the discipline

Controlled results of learning the discipline (KAS)	Type of control		
	Continuous assessment	Progress check	Formative assessment
	PT	CW	Grading test
Acquired knowledge			
K.1 Knows the concepts: data, information, knowledge, indefiniteness, risk and theoretical base for productive economic systems management under indefiniteness conditions	AC	T1	TQ
K.2 Knows the steps of cognitive evolution of community, economic functions of the knowledge at each step and typical for them strategies of risk management	AC	T1	TQ
K.3 Knows fundamental principles and main causes of economic interests and stake-holder ethical principles conflicts and available methods of economic models’ development of its functioning, based on contradictions solving	AC	T2	TQ
K.4 Knows methods of formalization and indefiniteness reduction of productive economic systems functioning conditions	AC	T2	TQ
Acquired abilities			
A.1 Is able to identify stakeholders’ representation intellectual models of the enterprise and field of industry, competitors, markets, to search for versions for its		CT7 CT8	CT

development			
A.2 Is able to make diagnostics of effectiveness and evaluate industrial enterprise intellectual resource management process risks and identify directions for its improvement		CT1 CT14	CT
A.3 Is able to apply mutual intellectual activity management methods for alternates development which solve contradictions in current production economic system		CT5 CT10	CT
A.4 Is able to diagnose causes and to identify relevant organizational changes resistance overcoming methods		CT12	CT
Mastered skills			
S.1 Masters the skills of indefiniteness management goals formulating and placing for economic systems of industrial enterprise		CT2 CT6	CT
S.2 Masters the skills of professional cooperation organization designed to collection, processing, analysis and systematization of business information under conditions of social, ethnical, confessional and cultural differences presence		CT4 CT11	CT
S.3 Masters the skills of development of econometric models for planned organization changes in industrial enterprise		CT3 CT9	CT
S.4 Masters the skills of methodic and normative document development which cover the issues of right functioning and development of industrial enterprise economic systems		CT13	CT

AC – colloquium (discussion of theoretical material, academic conference); CT – case-task (individual task); TQ – theoretical question; CT – complex task of grading test.

Final assessment of the learned discipline results is the interim/midterm assessment which is made in the form of grading test taking into consideration the results of the running and progress check.

2. Types of control, standard control tasks and scales of learning results assessment

Continuous assessment of the academic performance is aimed at maximum effectiveness of the educational process, at monitoring students' specified competencies formation process, at increase of learning motivation and provides the assessment of mastering the discipline. In accordance with the regulations concerning the continuous assessment of the academic performance and interim/midterm assessment of students taught by the educational programs of Higher education – programs of the Bachelor's Course, Specialists' and Master's Course the next types of students' academic performance continuous assessment and its periodicity is stipulated in PNRPU:

- acceptance test, check of the student's original preparedness and his correspondence with the demands for the given discipline learning;
- continuous assessment of mastering the material (the level of mastering the component "to know" defined by the competence) at every group studies and monitoring of lectures attendance;
- interim and progress check of students' mastering the components "to know" and "to be able to" of the defined competences by computer-based or written testing, control discussions, control works (individual home tasks), reports on laboratory works, reviews, essays, etc.

Discipline progress check is conducted on the next week after learning the discipline module, while the interim control is made at every monitoring during the discipline module study;

- interim assessment, summarizing of the current students' performance at least once a semester in all disciplines for every training program (specialty), course, group;
- retained knowledge control.

2.1. Continuous assessment of education

Continuous assessment of learning is made in the form of discussion or selective recitation on each topic. According to the four-point system the results of assessment are put into the teachers' note-book and are considered in the form of an integral mark in the process of the interim/midterm assessment.

2.2. Progress check

For the complex assessment of the acquired knowledge, abilities and skills (Table 1.1) progress check is carried out in the form of test, reports on practical works in the form of case-task (individual task) solving.

2.2.1 Report on practical tasks

28 practical tasks on 14 themes are planned. Standard topics of practical tasks are given at ACWP.

Practical task is defended individually by each student or a group of students. Standard scale and evaluation result criteria are given in the main part of the training program FET.

2.2.2. Midterm control test

According to ACWP 2 interim/midterm tests (T) are planned to be realized after learning the educational modules of the discipline by the students.

The first test is realized with respect to the module 1 "Theoretical base for indefiniteness and risk management in the context of strategic development of industrial enterprise", the second test – with respect to the module 2 "Risk managementscientific and applied developments under the conditions of digitizing economics".

Standard tasks of the midterm control testwith respect to the module 1:

1. Which of the group of processes is not included in the three main processes, defining changes in the modern world economics:

- a) globalization
- b) privatization
- c) post-socialist structural transformation
- d) cognition

2. Indicators of knowledge that distinguish it from data are:

- a) generalized character
- b) proof (validity)
- c) potential usefulness
- d) personal character (conviction)

3. The organization represents an open system because it...

- a) assumes dynamic interaction with the world
- b) is self-restrained
- c) is under the influence of the environment

4. The socio-economic function of risk is
- a) in the fact that in the process of market activity, risk and competition allows to identify social groups of effective owners in social classes, and industries in which the risk is acceptable in the economics
 - b) in the fact that the realization of the risk can provide additional profit in comparison to planned profit in case of a favorable outcome
 - c) both versions are correct
5. The compensating function of risk is concluded
- a) in the fact that in the process of market activity, risk and competition allows to identify social groups of effective owners in social classes, and industries in which the risk is acceptable in the economics
 - b) in the fact that the realization of the risk can provide additional profit in comparison to planned profit in case of a favorable outcome
 - c) both versions are correct
6. The protective function of risk is concluded in
- a) the objective need for legislative consolidation of the concept “legitimacy of risk”, legal regulation of insurance activities
 - b) that legal entities and individuals are forced to look for means and forms of protection against unwanted risk realization
 - c) both versions are correct
7. The stimulating function of risk is manifested in
- a) that the implementation of solutions with unexplored or unreasonable risk can lead to the implementation of objects or operations that are related to adventurous ones
 - b) the study of risk sources in the operations’ and systems’ planning, special devices’, operations’ and transaction forms’ design, excluding or reducing the possible consequences of risk as a negative deviation
 - c) both versions are correct
12. Material damage is initially expressed in...
- a) kind
 - b) money
 - c) both versions are correct
14. The monetary form of damage is called
- a) loss
 - b) lost profits
 - c) financial losses
15. A company with skills in knowledge creating, acquiring and transferring and modifying behavior so that it reflects new knowledge and understanding is ...
- a) network company
 - b) circular corporation
 - c) intellectual company
 - d) learning organization.
16. Risk is ...
- a) a kind of situation that objectively contains a high probability of goal achieving impossibility
 - b) the presence of factors under which the results of actions are not determined

and the degree of possible influence of these factors on the results is unknown

c) the consequence of an action or inaction, as a result of which there is a real possibility of obtaining indefinite results of various types

17. The consequences of the risk can be

- a) rather positive
- b) both positive and negative
- c) only negative

18. According to the conception of P. Senge, the “fifth discipline” of the learning organization is

- a) system thinking
- b) intellectual models
- c) group training
- d) mastery in personal improvement

Standard tasks of the midterm control test with respect to the module 2:

1. According to the concept of “environmentally conscious management” of the enterprise, the most important goals of the enterprise are ...

- a) waste reduction
- b) production of harmless products
- c) production costs' reduction
- d) profit growth.

2. Which of the stages of problem solving is the final one?

- a) creating a problem situation
- b) analysis of the problem situation, problem formulation and its presentation in the form of one or more problem tasks
- c) checking the problem solution
- d) problem task (tasks) solving by making hypotheses and its consecutive verification

3. Hypertrophied development of which of the four management functions, in contrast from the other functions, does not bear risks for the development of the organization?

- a) administration
- b) entrepreneurship
- c) production
- d) integration.

4. The purpose of this type of accounting is to prepare information for the management decision-making...

- a) financial
- b) managerial
- c) statistical
- d) accounting.

5. Which of the conditions are not included in the list of control function requirements?

- a) knowledge of the normative and actual state of the controlled object
- b) existence of a procedure for decision-making on deviations

- c) existence of a procedure for establishing the parameters of the normative state of the controlled object
- d) existence of a procedure for identifying deviations in the actual state of controlled object from normative state
- 6. Note the losses that can be attributed to labour losses
 - a) loss of working hours
 - b) a decrease in revenue due to a decrease in prices for sell products
 - c) payment of additional taxes
 - d) damage to health
- 7. Note the losses that can be attributed to financial losses
 - a) loss of raw materials
 - b) a decrease in revenue due to a decrease in prices for sell products
 - c) payment of a fine
 - d) payment of additional taxes
- 8. Note the loss that can be attributed to the loss of time
 - a) failure to meet a deadline for the commissioning
 - b) damage to health
 - c) loss of working hours
 - d) damage to reputation
- 9. Note the losses that can be attributed to special losses
 - a) payment of a fine
 - b) damage to health
 - c) damage to reputation
 - d) failure to meet a deadline for the commissioning
- 10. Risk analysis is ...
 - a) systematization of many risks based on any attributions and criteria for combining subsets of risks into more general concepts
 - b) system scientific research of the degree of risk to which specific objects, types of activity and projects are exposed
 - c) the initial stage of the system of measures for risk management that consists in systematic identification of risks which are specific for a certain type of activity, and definition of its characteristics
- 11. Risk identification is ...
 - a) systematization of many risks based on any attributions and criteria for combining subsets of risks into more general concepts
 - b) the initial stage of the system of measures for risk management that consists in systematic identification of risks which are specific for a certain type of activity, and definition of its characteristics
 - c) system scientific research of the degree of risk to which specific objects, types of activity and projects are exposed
- 12. Risks that may involve both losses and additional profits are called
 - a) pure
 - b) critical
 - c) speculative
- 13. Risks that almost always involve losses are called

- a) critical
- b) speculative
- c) pure

14. Risks caused by activity of the enterprise itself and its public are called

- a) external
- b) internal
- c) pure

15. Risks as a result of the realization of which the enterprise is threatened with loss of profit are called

- a) catastrophic
- b) critical
- c) possible

16. Risks as a result of the realization of which the enterprise is threatened with loss of sales revenue (i.e. losses exceed the expected profit) are called

- a) catastrophic
- b) critical
- c) possible

17. How is the quantity or degree of risk measured?

- a) by expected value
- b) by the variability of the possible result
- c) both versions are correct

18. Note the losses that can be attributed to material losses

- a) decrease in revenue due to price reduction for products sold
- b) loss of materials
- c) loss of raw materials
- d) damage to health

2.3.1 Midterm assessment procedure without additional evaluation testing

Midterm assessment is made in the form of a grading test. Credit on the discipline is based on the results of the previously fulfilled by the student individual tasks on the given discipline.

The final mark is estimated as arithmetic average mark of three components:

- arithmetic average mark for midterm control test with respect to the modules 1 and 2;
- arithmetic average mark for the answers to the current discussions of theoretical material all in all;
- arithmetic average marks for practical tasks.

Criteria of putting the final mark for the components of competences in the process of interim/midterm assessment made in the form of grading test are given in the general part of FET of the educational program.

2.3.2 Midterm assessment procedure followed by evaluation testing

In definite cases (for example, in case of re-attestation of the discipline) midterm assessment in the form of grading test on this discipline can be made as the card evaluation test. Every card includes theoretical questions (TQ) aimed at control of the acquired knowledge, practical tasks (PT) aimed at mastered abilities, and complex tasks (CT) aimed at control of the acquired skills of all declared competences.

The card is formed in such a way that the included questions and practical tasks could estimate the level of maturity of **all** declared competences.

2.3.2.1 Standard questions and tasks for a grading test in the discipline

Standard questions for the acquired knowledge control:

1. Definitions and differentiation of the concepts 'data', 'information', 'knowledge'.
2. Structure of intellectual capital (by Stewart, by Sveiby).
3. 4-phase model of knowledge transformation by Nonaka and Takeuchi.
4. Continuum of ecosystem of knowledge development stages (non-system, with separate connections, network, adaptive).
5. Markets of information and markets of knowledge. Peculiarities of markets of knowledge.
6. Knowledge engineering. Main phases of knowledge processing.
7. Communication management concept and strategies.
8. Organizational forms of knowledge management (networking, virtual, intellectual, learning organizations, strategic alliances, public and private partnership).
9. Strategies of networks' development in projects.
10. Information theory of cost by K. Valtukh.

Standard case-tasks for the acquired skills and mastered abilities control:

1. Identify the stakeholders as participants and their interests in the proposed situation, describe the problem in terms of intellectual resources management quality at the enterprise, suggest the measures for its improvement and build an economic model to assess their effectiveness.
2. Identify the stakeholders as participants and their interests in the proposed situation, study the proposed situation and suggest a sequence carrying out the necessary organizational changes, taking into account measures for resistance reduction, build an economic model to assess their effectiveness.
3. Determine the system archetype of the risk management task with regard to the proposed situation, formulate a goal and explain the method for solving it.

A list of standard tasks and case-studies for knowledge and abilities check is given in Appendix 1. *Full list of theoretical questions and practical tasks in the form of an approved set of examination tickets is represented at the graduate academic chair.*

2.3.2.2 Scales of test assessment of educational achievements

Evaluation of discipline achievements in the form of maturity level of the components *to know, to be able to, to master the skills* of the declared competences is made according to the four-point assessment scale.

Standard scale and criteria of estimating educational achievements in the process of grading test for the components *to know, to be able to, to master the skills* are given in the general part of FET of educational program.

3. Assessment criteria for components and competences level of maturity

3.1. Assessment of competences components level of maturity

While estimating the level of competences maturity by selective control in the process of grading test it is considered that *the mark obtained for the components of the*

examined competence is combined with the corresponding component of all competences formed in the frames of the given academic course.

General assessment of maturity level of all competences is made by aggregation of marks obtained by the student for each component of the formed competences taking into account the results of continuous assessment and progress check in the form of integral mark according to the four-point scale. All control results are put into the assessment sheet by the teacher according to the results of midterm attestation.

The form of the assessment sheet and requirements for its completion are given in the general part of FET of the educational program.

While making the final assessment of the midterm attestation in the form of grading test, standard criteria given in the general part of FET of the educational program are used.

Appendix 1.

Task №_ (case-study analysis)

Controlled results of the studies: A.1, A.2, S.3, S.4

Task. Identify the stakeholders as participants and their interests in the proposed situation, describe the problem in terms of intellectual resources management quality at the enterprise, suggest the measures for its improvement and build an economic model to assess their effectiveness.

Situation “UNIQUE OPERATOR”

An urgent order which must be completed by tomorrow (11 a.m.) has arrived at the workshop. There are no people at the workshop who can do this task qualitatively and in time. The time is 4 p.m.

The head of workshop No. 1 Pyotr Ivanovich addresses to his colleague, to the head of workshop No. 2 Aleksandr Dmitrievich, with a request to transfer qualified operator Aleksei from workshop No. 2 to workshop No. 1 for today's evening and tomorrow's morning.

Aleksey worked for 2 weeks in sequence, 10-12 hours a day, seven days a week. Today he has an opportunity to come home in time and to have a rest, which he promised to his wife. Also, the final game of “Uralochki” with the Brazilian team (world championship!) is on TV tonight, and Aleksey is an ardent fan.

The head of workshop No. 2 Aleksandr Dmitrievich knows the current situation, but offers Alexei to work for the workshop No. 1.

Assessment criteria for situation tasks

Mark “excellent” is put if a student summarizes and evaluates intentionally the essence of the present situation with arguments for own point of view, is able to analyze, deduce and propose right ways of solving the resulting situation.

Mark “good” is put if a student understands the essence of the situation, logically structures own answer, but permits insignificant inaccuracies during the definition of ways of solving.

Mark “satisfactory” is put if student orients in the essence of the resulting

situation, but needs leading questions, is not able to analyze and propose ways of solving the situation incorrectly.

Mark “unsatisfactory” is put if a student does not orient and does not understand the essence of the present situation, cannot propose the ways of its solving, makes significant mistakes.

Task №_ (case-study analysis)

Controlled results of the studies: A.1, A.4, S.3, S.4

Task. Identify the stakeholders as participants and their interests in the proposed situation, study the proposed situation and suggest a sequence carrying out the necessary organizational changes, taking into account measures for resistance reduction, build an economic model to assess their effectiveness.

Situation “THE PRICE OF QUESTION”

The enterprise has access to the railway line. Basic supplies of raw materials and shipment of finished products are carried out by railway. For the current service of the railway line, the director of the enterprise signed an agreement with a specialized contractor organization. The main condition of the contract is no restrictions on the supply of railway wagons to the access to railway line due to troubles in the railway line. For several years the company has not received comments from the authorities controlling the railway line. Number of remarks is revealed during a sudden check, according to which the railway line of the enterprise can be closed.

When explaining the situation to the director of the enterprise, the director of the contract organization argues that usually the inspections were carried out by “their” inspector, but at the last moment he was changed to “incorruptible” one. The director thinks about termination of the contract, as he believes that contractual obligations were fulfilled formally all the years of work of a contract organization, and this could lead to an accident on the railway line of the enterprise.

Task №_ (case-study analysis)

Controlled results of the studies: A.1, A.2, S.3, S.4

Task. Identify the stakeholders as participants and their interests in the proposed situation, describe the problem in terms of intellectual resources management quality at the enterprise, suggest the measures for its improvement and build an economic model to assess their effectiveness.

Situation “OIL PRODUCTION”

Trading company specializing in the sale of anti-friction additives, entered a promising buyer, a large regional plant for oil production. The head of the sales department held negotiations with the general director of the plant, during which the latter was interested in two types of raw materials: cylinders and cans. The sales manager of the company has drawn up an agreement on cooperation with the plant and organized the supply of raw materials to plant (100 liters of each type). At the same time, the plant received a deferred payment for two weeks. After the first week after the supply of raw materials, the general director of the plant informs the head of the department sales that the raw materials in barrels were not suitable for production. They agree on the return of these raw materials to the supplier's warehouse.

However, during the acceptance of the goods, it was found that 10 of 20 cylinders of raw materials were opened, which violated their tightness and thereby affected quality and presentation of raw materials.

The company did not accept the opened cylinders back; the payment date came up. There was a problem: the general director of the plant strongly refused to pay for raw materials in cans until the question of opened cylinders which were not accepted would be solved. At the same time, he hints to the head of the sales department that the sales manager is guilty in the misunderstanding, because he did not give the correct information on the quality of raw materials in cylinders before their delivery to the plant.

Task №_ (case-study analysis)

Controlled results of the studies: A.3, A.4, S.1, S.4

Task. Determine the system archetype of the risk management task with regard to the proposed situation, formulate a goal and explain the method for solving it.

Situation “NON FULFILMENT OF CONDITIONS”

The plant has permanent and good relations with an intermediary company. The plant delegates an intermediary company to select a supplier for a technological line for the plant. The intermediary company finds a supplier for the plant in Germany.

The contract was signed, the equipment was delivered on time. Commissioning works were delayed for 6 months. Under the terms of the contract, this comes to 30 days from delivery date. The plant did not make the last payment, although the commissioning certificate is signed. The plant is trying to impose a fine for delayed commissioning.

The supplier requires pay for the last payment, since all the work on a contract is fully completed.