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Effective date 2021. 10. 11
(year, month, day)

1 Scope

This internal normative document is developed to realize a concept of risk-based thinking, to ensure planning and execution of actions of the risks and opportunities consideration, to create a basis for enhancing effectiveness of the quality management system, to achieve better results and prevent negative consequences.

Provisions of this internal normative document are obligatory to be used by all employees of the divisions of NLC "Karaganda Technical University" (hereinafter - KTU), included in the quality management system.

2 Regulatory references

This internal normative document uses references to the following normative documents:

ST RK ISO 9001-2016 (ISO 9001:2015) "Quality management systems. Requirements".

ST RK ISO 9000:2017 (ISO 9000:2015) "Quality management systems. Basic provisions and vocabulary".

3 Terms, definitions and abbreviations

Terms, definitions and abbreviations are used in this internal normative document, according to the Standard of the Republic of Kazakhstan ISO 9000:

- KTU - Karaganda Technical University;
- QMS – Quality Management System;
- DP – documented procedure;
- QMR – quality management representative;
- CQM&A – Center of Quality Management and Accreditation;
- PRQ – person, being responsible for quality.

Risk analysis is a process of understanding the nature of risk and determination of the level of risk.

Probability is a contingency, that something will happen.

Risk is an impact of vagueness on university goals.

Note No. 1 to the definition: Any vagueness can have positive or negative impacts. A positive deviation, arising from the risk, can create an opportunity, but not all positive deviations lead to the opportunities.

Note No. 2 to the definition: The word "risk" is sometimes used, when there is a possibility of the negative consequences.

Note No. 3 to the definition: The impact is expressed in deviation from the expected result in a positive or negative way.

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Note No. 4 to the definition: The vagueness is a condition, associated with lack or partial lack of information, understanding or knowledge of the event, its consequences or probability.

Risk owner is a person, who is responsible for risk management.

Risk identification is a process of finding, recognition and description of the risk.

Note No. 1 to the definition: The risk identification includes identification of the risk sources, events, their reasons and potential consequences.

Consequence is an outcome of the event, which influences on the university goals.

Note No. 1 to the definition: The consequence can be definite or uncertain and have a positive or negative impact on the goals.

Note No. 2 to the definition: The consequences can be expressed qualitatively and quantitatively.

Note No. 3 to the definition: Initial consequences can cause more serious consequences.

4 Responsibility and authority

4.1 This internal normative document (hereinafter - IND) is approved by the Board.

4.2 A quality management representative (hereinafter referred to as QMR) and a leader of the Accreditation and Quality Management Center (hereinafter referred to as AQMC) are responsible for introduction of the procedure.

4.3 A developer of this procedure is a Compliance officer.

4.4 Responsibility for organization and coordination of activity of the specific stages execution of the document management process and quality of the final results are born by leaders of the divisions, who are participants of the specific stage execution.

4.5 The leaders of the divisions are responsible for preservation, unauthorized copying QMS documents, located in the division, and leakage of restricted information.

5 General provisions

Objectives of the risks and opportunities management:

- Ensuring an achievement of the strategic goals of the university.
- Increasing the probability of processes' objectives achievement in the conditions of vagueness.
- Preventing situations, which negatively affect the achievement of processes' goals, as well as determination of the opportunities for improvement.
- The preservation and keeping an effective and efficient work of the university's Quality Management System.
- Reduction of losses, associated with elimination of the risks' consequences.

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- Providing and generation of data for strategic planning the goals and activity of the university (including the determination of directions for improving the QMS and quality policy), which enables to lead to the improvement of its activity.

- Achievement of the continuous improvement of university’s processes.

A risk management process includes the following stages:

- identification, analysis and determination of the degree of risks;
- planning necessary activities to eliminate the risks;
- fulfillment of the risks elimination activities;
- analysis of the results and effectiveness of the risks elimination activities.

6 Identification, assessment and analysis of risks

6.1 The purpose of identification is to make a complete list of the risks and opportunities, which can affect the achievement of the goals of KTU.

Risk identification is carried out at all levels of the university in accordance with a process model.

Responsible for identification, analysis and assessment of information on risks, the formation of the risk passport is the heads of structural divisions.

When identifying a risk / opportunity, a leader of the appropriate structural division (process owner) of the university determines and documents the following information:

- name of the risk;
- risk description;
- reasons of the risk formation;
- owner of the risk and a person, providing information about the risk;
- division.

Documented information, accompanying a risk process, can be divided into groups:

- documented information, required for management;
- input data;
- results of the process.

6.2 Risk analysis involves consideration of the reasons and sources of the risks and opportunities, their positive and negative consequences, and the probability, that these consequences can arise.

The result of the stage should be sufficiently detailed understanding of the level of risk and its nature for further processing.

The risk analysis provides the input data for assessing the risks and making decisions about the need for further processing, as well as for choosing the most appropriate strategies and methods of risks processing.

6.3 Risk assessment is a combination of the probability of risk (Table 1). Risk assessment is carried out 2 times during the academic year at the beginning of the semester (October, March).

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The risk probability is determined, as per a 5-point scale (Risk probability scale, see the table No. 1).

Table No. 1

Score of the risk formation probability	Risk formation probability	Criterion of the risk formation probability
1	Very low	An event will probably occur no more than once per 5 years
2	Low	An event will probably occur once per 4 years
3	Average	An event will probably occur once per 3 years
4	High	An event will probably occur in the next two years
5	Very high	An event will probably occur in the coming year

The documented information, related to identification, analysis and risk assessment is given in the table No. 2.

Table No. 2

Type of the documented information	Description
Documented information, required for management	Organizational and administrative documented information of the university
Input data	Results of attestation, marketing research and marketing analysis, complaints, documented information about the processes
Process results	Risk description sheet (Appendix A)

6.4 As a result of the process of identification, analysis and risk assessment, heads of structural divisions fill out a risk passport (Appendix A). An example of filling out a Risk Passport is provided in Figure 1.

Figure 1. Example of filling out a Risk Passport.

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F.IND-I-01-01

RISK DESCRIPTION SHEET

Technological equipment, engineering and standardization

(name of the division)

Yurchenko V.V.

(Full name of the division leader) General information of risks

No.	Name of the process	Name of the risk	Reasons of the risk	Score of the risk probability	Probability of the risk consequences
1	Educational process	Decrease in the activity of students' participation in extracurricular activities	<ul style="list-style-type: none"> - Low level of motivation of students to participate in extracurricular work - Insufficient and untimely informing of students about the holding of events - Low executive discipline of teaching staff - incorrect planning of the work of the teaching staff by the head of the department 	4	Decrease in the prestige of the university; Decrease in the number of participants (university representatives) at city and regional events

6.5 Possible reasons of the risks formation at the university are given in the Appendix B.

7 Planning necessary activities of the risks elimination

7.1 Planning of measures to eliminate risks is carried out based on the results of the identification, analysis and assessment of risks.

7.2 When planning the activities to eliminate the risks, the leader of the appropriate structural division analyzes information about the possibilities of risks elimination, possible timeframes of the elimination and necessary resources.

7.3 When planning measures to prevent risks, the heads of the relevant structural divisions fill out a plan-report of measures to prevent the occurrence of identified risks (Appendix C) 2 times during the academic year at the beginning of the semester

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(October, March) and transmit it to the CQM&A. An example of filling out a Plan report is shown in Figure 2.

Figure 2 Example of filling out a Plan report in Figure 2.

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Plan-type report of the activities of risks formation prevention

Technological equipment, engineering and standardization

(name of the division)

Yurchenko V.V.

(Full name of the division leader) General information of risks

General information of risks

Name of the risk	Risk elimination activities	Responsible person	Timeframes of execution	Completion status	Confirming documents
Failure to fulfill the individual plan of the teacher	<ul style="list-style-type: none"> - Control by the head of the department over the implementation of the individual plan of the teacher - planning of the work of the teaching staff by the head of the department in accordance with the work plan of the department - uniform distribution of the work of teaching staff by the head of the department 	head of the department	10.10.2021		approved individual plan
reduced efficiency	planning of research and				work plan report

7.4 CQM&A employees form a consolidated risk analysis report (Appendix D) within 10 working days and transmit the information for analysis to a Representative of the Quality Management.

The documented information, related to planning the activities of risk elimination is given in the table No. 3.

Table No. 3

Type of the documented information	Description
Documented information, required for management	Organizational, reference and administrative documented information of the university, plan-

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	type report of the activities of identified risks formation prevention
Input data	Risk description sheet (Appendix A)
Process results	Plan-type report of the activities of identified discrepancies formation prevention, documented information about the need to eliminate the risks in the administrative, information and reference documentation (in the minutes of meetings of the faculties, departments, Academic Council, etc.)

8 Execution of the risks elimination activities

8.1 The leader is generally responsible for carrying out the risks elimination activities in the structural division. Direct executors, specified in the plan-type report of the identified risks elimination (Appendix C) are responsible for proper fulfillment of the planned activities, timeframes and information.

8.2 Managers and employees of structural divisions in the course of their work carry out measures to prevent the risks of the structural division in accordance with the deadlines specified in the plan report.

The documented information, related to the risk elimination is given in the table No. 4.

Table No. 4

Type of the documented information	Description
Documented information, required for management	Organizational and administrative documented information of the university, plan-type report of the activities of identified risks formation prevention
Input data	Records of the need for the risks elimination activities, results and processes, where the risks are defined
Process results	Filled plan-type report of the activities of identified risks formation prevention, other records and appropriate minutes: <ul style="list-style-type: none"> - minutes of the university administration and academic council; - minutes of meetings of the faculties' councils; - minutes of meetings of the departments; - internal audit reports; - analysis of the effectiveness of the quality management system

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8.3 On the basis of the plan reports, the heads of structural divisions are responsible and monitor the effectiveness and efficiency of measures to eliminate the risks of structural divisions.

8.4 CQM&A employees 2 times a year at the end of each semester (December, May) accumulate information on the effectiveness of measures to eliminate risks (plans-reports with marks of fulfillment / non-fulfillment) from all structural divisions and transmit information for analysis to a Representative of the quality management

9 Analysis of the effectiveness and efficiency of the risks elimination activities

A representative of the quality management conducts an analysis of the effectiveness and efficiency of the measures taken to eliminate risks in order to form requirements for subsequent measures to eliminate risks and conclusions about strategic changes in the activities of the university.

The documented information, related to the analysis of the effectiveness and efficiency of the risks elimination activities is given in the table No. 5.

Table No. 5

Type of the documented information	Description
Documented information, required for management	Organizational and administrative documented information of the university
Input data	Plan-type report of the activities of identified risks formation prevention; Summary report-risk analysis
Process results	Decisions of the faculty council, Academic Council, concerning the conclusions about the strategic changes in the university’s activity, containing the requirements to further risks elimination activities

10 Risks monitoring

Risk monitoring is about control of the level of risk. This is achieved by annual updating information of the risks, risk management activities, a status of the activities execution, as well as by monitoring values of the key risk indicators, developed earlier at the stage of risk identification and assessment (at the meetings of various levels). Monitoring the key risk indicators of all departments (processes) of the university is carried out during internal checks on a regular basis, depending on significance of the risks and the level of making decisions about the risk.

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11 Agreement and introduction

This internal normative document is agreed in accordance with KTU DP II-01 and is drawn up in the “Coordination sheet” (Appendix E).

12 Replication and document sending

Replication and sending this internal normative document must be carried out in accordance with KTU DP II-01.

13 Keeping

This internal normative document must be kept in accordance with the documented procedure of KTU No. II-01.

14 Making modifications in the document

Making modifications in this internal normative document must be carried out in accordance with KTU DP II-01.

15 Cancellation and withdrawal of the document

Cancellation and withdrawal of this internal normative document must be carried out in accordance with KTU DP II-01.

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Appendix A
(mandatory)

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RISK DESCRIPTION SHEET

(name of the division)

(Full name of the division leader) General information of risks

No.	Name of the process	Name of the risk	Reasons of the risk	Score of the risk probability	Probability of the risk consequences

Leader of the division _____ “ ____ ” _____ 20__

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Appendix B (informative)

Approximate list of the reasons of processes’ risks

Name of the process	Name of the risk	Reason of the risk	A set of measures to eliminate or minimize risks
LEADERSHIP AND PLANNING			
Planning, analysis and improvement of the quality management system	The risk of foiling organization of the quality management system	<ul style="list-style-type: none"> - lack of funds for training QMS employees; - insufficient qualification of the internal auditors and university employees; - insufficient awareness of the division by appropriate services; - low performance discipline; - lack of necessary resources, etc. 	<ul style="list-style-type: none"> - allocation of funds for training the internal auditors and staff development; - providing the quality management system with necessary resources to maintain it in working condition.
	The risk of worsening a quality system	<ul style="list-style-type: none"> - wrong time of planning and making an internal audit; - wrong choice of the main goals and objectives for improvement planning; - lack of qualification among employees in monitoring and analysis. 	<ul style="list-style-type: none"> - formation of the scheduled plan for making the internal audits; - formation of the audit team, which has necessary knowledge and experience.
EXECUTION OF THE EDUCATIONAL ACTIVITY			
Admission of students	The risk of non-compliance with target figures of admission to the university	<ul style="list-style-type: none"> - decrease in demand at university entrants; - insufficient advertising; - careless attitude to work of the members of admission committee. 	<ul style="list-style-type: none"> - organization of activities to attract entrants to the university; - offsite occupational guidance events; - attracting schools’ pupils of the district to active participation in the “Open Day”, scientific and practical conferences; - organizing and giving targeted seminars in the general educational institutions with involvement of the university teachers.
	The risk of biased attestation of the students	<ul style="list-style-type: none"> - biased approach in putting marks, overstating the marks to artificially maintain the visibility of progress; - overstating the marks for remuneration or providing services from 	<ul style="list-style-type: none"> - Creation of regulations of the students attestation; - Making a decision by a committee; - Organization of work of the teachers’ activity control; - Consideration of the

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		the students or their legal representatives.	students’ progress at the meetings of teachers council; - Explanation of punishments for committing corruption offenses to responsible people.
Designing and development of the basic educational programs	The risk of late designing and development of the educational programs	- insufficient level of the employees qualification; - lack of necessary equipment (programs) for development of the educational programs.	- improvement of management; - determination of a responsible person from the upper management, who keeps an eye on the timeframes of work.
	Absence of demand for the educational program	- unreliable information of demand.	- assessment of the students satisfaction with the educational program, using questionnaires, as per specialities; - evaluation of the effectiveness of educational program implementation; - analysis of the employers’ requests; - updating the educational program, taking into account the requirements of labor market and employers.
Implementation of the basic educational programs	The risk of insufficient theoretical training of employees	- missing meetings, seminars, councils by teachers; - personal characteristics of the employees; - illness of the staff.	- making a comprehensive, timely assessment of the level of personnel competence; - carrying out internal and external training of the personnel, focused on professional development and acquisition of new knowledge.
	The risk of insufficient (low) quality of the educational services	- insufficiently high initial level of the university entrants; - gaps in the working curricula; - impossibility to provide necessary funding for educational activity; - low performance discipline of the employees; - insufficient material and technical basis for	- motivation of the university entrants; - creation of learning environment, which includes computer equipment, software programs, a website, computer classrooms, reading rooms, a book collection, a fund of the digital educational materials, etc.

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		implementation of the educational programs; - impossibility to provide the students with modern literature and access to information resources; - insufficient quantity of highly qualified teachers.	
	The risk of insufficient theoretical basis	- lack of teaching aids (tables, slides, films and other videos) and technical support, etc.	- making a comprehensive, timely assessment of the level of personnel competence; - carrying out the internal and external training of the personnel, focused on the professional development and acquisition of the new knowledge.
Educational and extracurricular work	The risk of decreased activity of the students’ participation in the extracurricular activities	- low level of students’ motivation to participate in the extracurricular activities.	- conducting talks
Research and development and innovation activity	Lack of effectiveness of the research activity	- low publication activity; - low students’ activity in the work of student society.	- conducting motivational talks; - financial incentives, announcement.
SUPPORTING MEANS MANAGEMENT			
Resource management	Financial risk	- unexpected inflation; - tax increase; - improper planning and budget allocation (ineffective expenditure of money).	- making financial forecasts; - formation of financial management of the university; - correct formation of the budgetary funds.
	Legal risk	- changes in the legislation of the Republic of Kazakhstan and its imperfection, etc.	- constant explanation of the current labor and administrative legislation; - constant check of the legislative changes.
Personnel management	The risk of deficiency of the qualified teaching staff	- inability of the employees to work with office equipment, computer; - insufficient quantity of the highly qualified teachers.	- staff training; - carrying out a timely rotation of the personnel in accordance with the level of employees.
	The risk of difficulty of attracting talented young teachers	- non-prestigious salary.	- selection work in the departments, training of the personnel reserve; - attracting the young

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			teachers; - to motivate the young teachers to research activity.
	The risk of insufficient practical experience of the employees	- insufficient practical experience of the teaching staff; - lack of funding to teach the employees; - lack of the professional development cycles in a number of specialities.	- making a comprehensive, timely assessment of the level of personnel competence; - carrying out the internal and external training of the personnel, focused on the professional development and acquisition of the new knowledge.
Library and information services	Non-compliance of the library collection with modern requirements	- late updating student’s books and textbooks; - difficulty in access or lack of the student’s books and textbooks; - non-correspondence of educational and methodological support of the educational process.	- constant updating the library collection; - involvement of leading scientists and workers in the joint scientific work; - creation of the opportunities for academic teaching staff to publish educational and methodological literature at the expense of the university, thereby, the teachers contribute to replenishment of the university's book collection.
Management of the information environment	The risk of insufficient information provision of the scientific and educational process	- lack of internet; - lack of actions coordination of the different executors.	- systematic work with an information process; - monitoring IT competencies of the academic teaching staff and conducting special courses to improve the qualification of teachers in the field of information and telecommunication technologies; - systematic work with a website.

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Appendix C (mandatory)

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Plan-type report of the activities of risks formation prevention

(name of the division)

(Full name of the division leader) General information of risks

General information of risks

Name of the risk	Risk elimination activities	Responsible person	Timeframes of execution	Completion status	Confirming documents

Leader of the division _____ “ ____ ” _____ 20__

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Appendix D (mandatory)

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Consolidated analysis report of executing the risks elimination activities by all university’s divisions

№	Structural subdivision	Name of the risk	Number of identified risks	Measures to eliminate the risk and its consequences	Mark of implementation	Note

Leader of the division _____ “ ____ ” _____ 20__

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Appendix F (mandatory)