QMS QUALITY MANUAL OF MUST

Approved by: Professor Ochirbat Baatar

President of the Mongolian University of Science and Technology

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INTRODUCTION

MUST's vision:

"We will create a worldwide treasured intellectual value"

Mission:

"We will serve as a center for talent to define our country's development pathway and human-environment-friendly scientific breakthrough, technological know-how, and innovations"

Values:

- **Excellence**
- **Tradition**
- **Inspiration**
- **Innovation**
- **Human governance**

Since 2016, the MUST has been working to ensure that the quality management system meets the requirements of the international standard ISO 9001:2015. The implementation of its outcomes in educational organizations has several benefits. These include:

1. The better direction of the university's activities to achieve its vision, mission and strategic goals;

2. The enhancement of social responsibility by providing inclusive and equitable quality education for all;

3. The Consistent process and evaluation tools to demonstrate and increase effectiveness and efficiency;

4. The Increase of credibility and prestige of the university;

5. The large participation of interested parties;

6. The Improvement of process and operations by creating a quality-based culture;

7. The availability of flexible and appropriate training tailored to the learners' situation;

8. The Harmonization of regional, national, open, and other standards within an international framework;

9. The taking up of certain action to handle risks and spot opportunities related to the organization's position and objectives;

10. The improvement of abilities to demonstrate compliance with the requirements of the quality management system;

The continual improvement cycle of PDCA cycle was used in combination with the following three methods and tools namely process methods and risk-based thinking, the QMS of the Mongolian University of Science and Technology.Below are their brief introductions.

1. **Process approach**: International standards recommend the introduction of process methods to establish, implement and improve the quality management system. This approach enables the organization to control the interrelationships and interdependencies among the processes of the system, so that the overall performance of the organization can be enhanced.
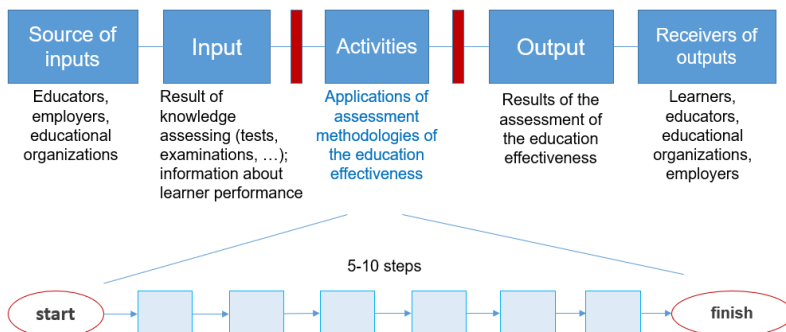
2. **Risk based thinking:** It allows to identify the factors that affect the organization's process and quality management system to achieve the planned results; to reduce its negative consequences; to create conditions that take full advantage of the opportunities, and to exercise preventive control.

Certain favorable conditions need to be met in order to reach the intended results. These later might be the ability to attract learners and other beneficiaries, to create new products and services, to reduce losses, or to increase productivity. Although the risk based thinking remains uncertain, it opens up opportunities. Yet, not every positive outcome of risk brings opportunity.
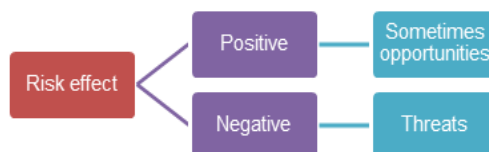
3. **Continuous improvement** PDCA (Plan-Do-Check-Act) cycle enables an organization to ensure that its processes are effective and efficient ; that opportunities for improvement are determined and acted on. This approach is generally used in our university.

Note: Numbers in brackets refer to clauses in this document.
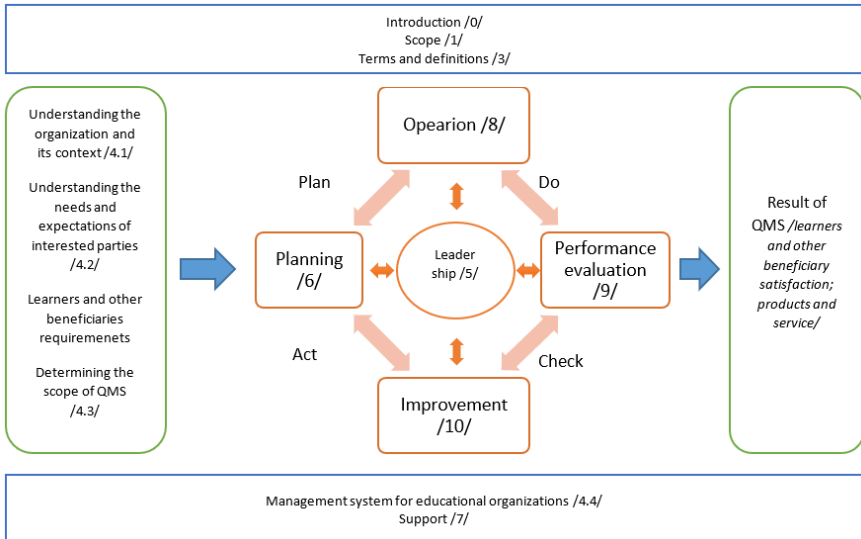
- **Plan:** Establish he objectives of the system and its processes, and the resources needed to deliver results in accordance with learners' and other beneficiaries' requirements and the organization's policies, and identify and address risks and opportunities;
- **Do:** Implement what was planned
- **Check:** Monitor (where applicable) and measure processes together with the resulting products and services against policies, objectives, requirements , planned activities, and report the results;
- **Act:** Take actions to improve performance if necessary.

1. SCOPE

The MUST Quality Management System Manual is a handbook and reference for all faculty and staff.It is suitable for reading in conjunction with other MUST policies, rules, regulations, and guidelines. This document (MUST-CH-GA01) defines the requirements of the MUST quality management system and demonstrates the commitment to meet the needs and expectations of learners and other beneficiaries in the delivery of educational products and services.The document aims at :

- Demonstrating its ability to support the acquisition and development of competence through teaching, learning or research

- Enhancing the satisfaction of learners, other beneficiaries and staff through the effective application of its QMS, including processes for improvement of the system and assurance of conformity to the requirement of learners and other beneficiaries.

2. NORMATIVE REFERENCES

The following documents are cited in part as normative. These include:

2.1 Legislation of Mongolia

    2.1.1 Education law

    2.1.2 Higher education law

    2.1.3 Mongolian science and technology law

    2.1.4 Innovation law

    2.1.5 Patent law

    2.1.6 Geographical indications of trademarks law

    2.1.7 Budget law

    2.1.8 Violations law

    2.1.9 Auditing law

2.2 MUST of policy and procedures
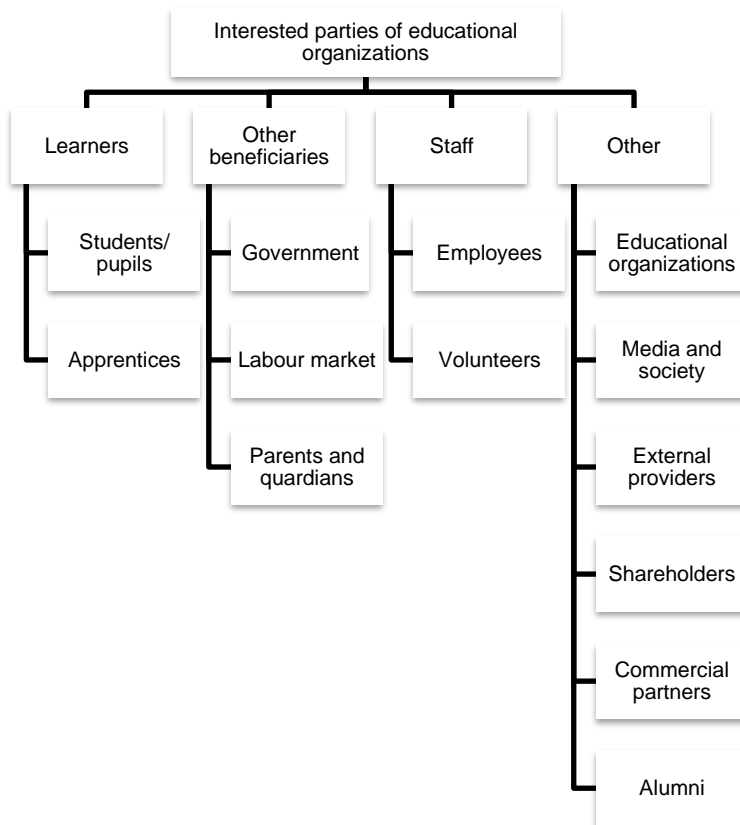
2.3 ISO 9001:2015 Quality management system- Requirements

    2.3.1 ISO 9000:2015 Quality management system - Fundamentals and vocabulary

2.4 ISO 21001:2018 management systems for educational organization – Requirements with guidance for use

3. DEFINITIONS OF TERMS

3.1 **Quality management system:** A quality management system is a set of interrelated or interacting elements that organizations use to formulate quality policies and quality objectives and to establish the processes that are needed to ensure that policies are followed and objectives are achieved. These elements include structures, programs, procedures, practices, plans, rules, roles, responsibilities, relationships, contracts, agreements, documents, records, methods, tools, techniques, technologies, and resources.

3.2 **Quality policy:** It is a policy which tries to express the top management's commitment to the QMS by allowing managers to set quality objectives.

3.3 **Quality:** The adjective quality applies to objects and refers to the degree to which a set of inherent characteristics fulfills a set of requirements.

3.4 **Requirement:** need or expectation that is stated, generally implied or obligatory

3.5 **Educational service:** process that support acquisition and development of learners' competence through teaching, learning or research

3.6 **Educational product:** /learning resource/ tangible or intangible goods used in pedagogical support of an educational service

3.7 **Teaching:** working with learners to assist and support them with learning

3.8 **Training:** The process of imparting and developing knowledge, skills, and abilities to meet requirements

3.9 **Curriculum:** documented information of what, why, how and how well learners should learn in a systematic and intentional way

3.10 **Strategy:** plan to accomplish the organization's mission and achieve the organization's vision

3.11 **Process:** set of interrelated or interacting activities that use inputs to deliver an intended result

3.12 **Output:** An output is the result of a process that has been successfully completed.

3.13 **Context of the organization:** An organization's context is its business environment. It includes all of the internal and external factors and conditions that affect its products and services, have an influence on its QMS, and are relevant to its purpose and strategic direction.

3.14 **Interested parties:** /stakeholder/ person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity

Interested parties of educational organizations

- **Learners**
  - Students/pupils
  - Apprentices
- **Other beneficiaries**
  - Government
  - Labour market
  - Parents and quardians
- **Staff**
  - Employees
  - Volunteers
- **Other**
  - Educational organizations
  - Media and society
  - External providers
  - Shareholders
  - Commercial partners
  - Alumni

3.15 **Top management:** person or group of people who direct and control an organization at the highest level. There in university board and presidents

3.16 **Learner:** beneficiary acquiring and developing competence using an educational service

3.17 **Outsource:** make a arrangement where an external organization performs part of an organization's function or process

3.18 **Social responsibility:** responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that

- Contributes to sustainable development, including health and the welfare of society;
- Takes into account the expectations of interested parties;
- Is in compliance with applicable law and consistent with international norms of behaviour; and

- Is integrated throughout the organization and practiced in its relationships

3.19 **Documented information:** information required to be controlled and maintained by an organization and the medium on which it is contained

3.20 **Risk:** effect of uncertainty

3.21 **Opportunity:** Positive change from risk creates opportunity, but not every positive risk outcome brings opportunity

3.22 **Competence:** ability to apply knowledge and skills to achieve intended results

3.23 **Audit:** systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

3.24 **Internal audit:** A documented process for determining compliance and non conformance with standards

3.25 **Performance:** measurable result

3.26 **Correction:** A correction is any action that is taken to eliminate a nonconformity. However, corrections do not address root causes. When applied to products, corrections can include reworking products, reprocessing them, regrading them, assigning them to a different use, or simply destroying them.

3.27 **Corrective action:** action to eliminate the cause of a nonconformity and to prevent recurrence

3.28 **Monitoring:** Determining the status of a system, a process or an activity

3.29 **Review:** A review is an activity. Its purpose is to figure out how well the thing being reviewed is capable of achieving established objectives.

3.30 **Effectiveness:** extent which planned activities are realized and planned results achieved

3.31 **Validation:** confirmation, through the provision of objective evidence, that the requirements for a specific intended use or a application have been fulfilled

3.32 **Accessibility:** usability of product, service, environment, or facility by people within the widest range of capabilities

3.33 **Continual improvement:** recurring activity to enhance performance

3.34 **List of abbreviations**

| ISO | International Organization for Standardization |
| MUST | Mongolian university of science and technology |

QMS	Quality management system
MECSS	Ministry of education, culture. Science and sports
MNCEA	Mongolian national council for education accreditation
IA	Internal audit
QCE	Office of Quality control and evaluation

4. CONTEXT OF THE ORGANIZATION

4.1 Understanding the organization and its context

The MUST uses the SWOT analysis method to determine and analyze both external and internal issues that are relevant to its purpose and its strategic direction and that affect its ability to achieve the intended results of its management system.The SWOT analysis consists of a description of the strengths and weaknesses of the organization's internal environment (values, culture, knowledge, performance, environment, infrastructure, resources) and the opportunities and risks of the external environment (macro and micro).

The process of strategic planning and evaluation of the university is the following :
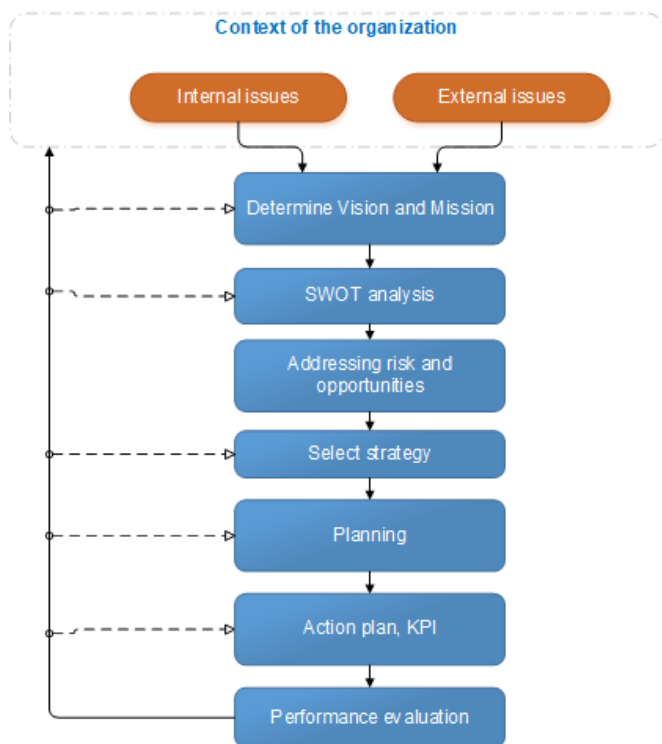
The implementation of the strategic plan will be monitored and evaluated annually; measures will be taken to intensify its implementation. Based on the assessment, measures will be planned to improve the performance of the activities that did not reach the target for the current year, and to include them in the next year's performance plan.

RELATED DOCUMENTS

- MUST-2030 strategic plan
- MUST-DI-PR03 Procedures for planning, reporting and monitoring activities
- MUST-HR-PR02 Procedure for evaluating and rewarding the work of teachers and staff

4.2 Understanding the needs and expectations of interested parties

The Mongolian University of Science and Technology (MUST) identifies and categorizes its interested parties in order to ensure the continuity and sustainability of educational services in accordance with the requirements of the law and regulations. These include:

№	Interested parties	Type	Needs and expectations
1	Government	External	- Increase the reputation and rating of the university - High performance and results - Quality products and services - Current curriculum, plan and content
2	Learners	Internal	- Favorable learning environment, infrastructure and facilities - Teachers and staff understand each other and help and advise - Eligibility for tuition discounts and scholarships - Promote the profession you are studying - Independent learning, development and creative thinking - Participate in contests, competitions and Olympiads and show success - Increase practical experience - Graduate on time and receive a diploma - Conduct research and write diplomas that meet the needs of the market, society and time - Get a job after graduation
3	Board of the MUST	External	- Increase the reputation and rating of the university - High performance and results - Quality products and services
4	Director, Board of Directors, Academic Council of the MUST	Internal	- Revenue growth - Cost savings - Increase enrollment - Increase foreign and domestic donations and investment
5	Teachers and staff	Internal	- Sufficient environment, material base, supply and support for work, training and study - Current curriculum, plan and content - High salaries and bonuses - Receive merit, awards and respect - Develop and improve knowledge, experience and skills - Talented and skilled entrants - Internal information flow should be fast and transparent - Management that delivers on its promises and accepts criticism - Satisfaction with the work you do
6	Labour market	External	- Graduates who meet or exceed job expectations - A graduate with well-developed personal soft skills - Continue to employ interns
7	Partners	External	- Exchange of experience and learning - Provide scholarships to learners in related fields - Work with the best graduates - Donate to the university

			• Carry out trustworthy and reliable operations • Use of university material resources
8	Society	External	• Carry out trustworthy and reliable operations • Results and evidence of social research
9	Trade unions	Internal	• Protection of labor rights and legitimate interests of members and citizens • Trade union membership tax
10	Consulting Professor, Senior Lecturer	Internal	• Improving and supporting the teaching methods of young teachers • Receive titles and awards • Get help in times of need • Continue to work and school • Have additional financial income
11	Contract teachers and staff	External	• Favorable working environment and infrastructure • Have additional financial income • Work for a reputable organization called MUST
12	Parents and guardians	External	• Training in a prestigious public school • Socialize your child • Get to know your child's learning at any time • Successfully educate and graduate your child • Get a good job after graduation
13	Organizations with similar activities	External	• Exchange of experience • Collaborate on training and research
14	Student Union of the MUST	Internal	• To create conditions for the protection and development of learners interests • To develop learners' creative thinking and increase their active participation
15	Alumni Association	External	• Attend professional development and advanced training • Stay in touch with school and alumni
16	Foreign and domestic accreditation and certification bodies	External	• Provide quality education services • Increase the number of programs and institutional accreditations • Meet the requirements • Continuous improvement
17	Other government agencies	External	• Expand science - based research • Recruit quality professionals • Receive specialized training • Use of university material resources
18	Courts and Police	External	• Comply with laws and regulations • Organize crime prevention activities • Resolve issues internally without labor disputes

We will always focus on meeting the needs and expectations of interested parties.
Here are some indicators of how their needs are being met:

- QS ranking
- Activity reports and results
- Financial statements
- Performance evaluation
- Number of admissions
- GPA

- Graduate employment rate
- Satisfaction survey results
- Status of petitions, comments and complaints

4.3 Determining the scope of the management system for university

The MUST is implementing a quality management system in the following processes. These include:

1. Educational service:
   - Complete secondary, vocational and higher education training
   - Bachelor's, Master's and Doctoral degree programs
   - Long-term and short-term professional training
   - Research and innovation

2. Educational support processes
   - Human resource
   - Finance
   - Environment and facilities
   - Utilities (library and health center)
   - Information technology

Location information of the units covered:

№	Хамрах нэгжүүд	Building No	Location
1	Administration office (https://www.must.edu.mn/en/)	I	
2	MUST central library (http://www.must-library.edu.mn/)	IX	Location of Ulaanbaatar
3	School of civil engineering and architecture (http://www.scea.edu.mn/)	II, III	
4	School of business administration and humanities (http://www.sbh.edu.mn/mn/)	V	
5	Graduate school of business (http://www.bzgrad.edu.mn/mn/)		**Address: 8th khoroo, Baga toiruu 34, Sukhbaatar district, Ulaanbaatar, Mongolia**
6	School of geology and mining engineering (http://www.guus.edu.mn/)	I,II	
7	School of foreign language (http://fli.edu.mn/)	I	
8	School of mechanical engineering and transportation (http://www.mes.edu.mn/)	VII	

9	School of information and telecommunication technology (http://www.sict.edu.mn/)	VI	
10	School of industrial technology (http://www.sitech.edu.mn/mn)	IV	
11	School of applied sciences (http://www.sas.edu.mn/)	I,III	
12	School of power engineering (http://www.pes.edu.mn/)	II,III	
13	MUST- high school (http://musthighschool.mn/)	IV	
14	MUST- Kosen college	VIII	
15	School of technology, Darkhan (http://stda.edu.mn/)	-	Location of Darkhan: **Address: 5th street of Tsagaan chuluut, 15th bag, Darkhan sum, Darkhan-Uul aimag**

4.4 Quality management system and process

The MUST will establish, implement, maintain and continually improve a quality management system, including the processes needed and their interaction, in accordance with the requirements of this international standard. The following processes work together to turn the needs and requirements of interested parties into their satisfaction.

Process model of MUST
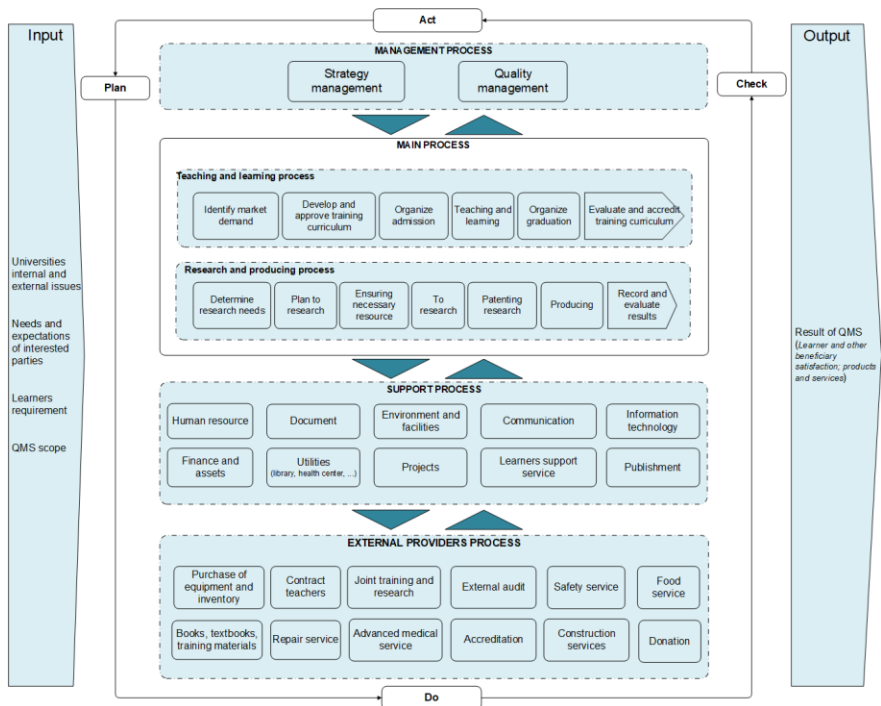
Management process: MUST uses quality management tools to achieve the university's vision, its mission, and the strategic goals in order to provide valuable services to learners, employers, and society. Here are the processes that define the direction, purpose, and plan of action, and manage, organize, monitor, evaluate, and improve to achieve the desired results.

Main process: Above all, this aims to meet the needs and requirements of learners and other beneficiaries, creating educational products and educational services, and adding value to the organization.

Support process: The activities required to improve the performance of the core process of providing the resources and data necessary for the smooth and uninterrupted operation of the organization on a day-to-day basis.

External providers process: A product, service, or process received from an external provider or customer.

RELATED DOCUMENT

● MUST-DI-PR01 Procedure of document processing, registration and control

5. LEADERSHIP

5.1 Leadership and commitment

5.1.1 The top management of the Mongolian University of Science and Technology will take a firm position, make efforts and pay attention to the introduction and implementation of the "Quality Management System" and its further improvement.

The top management of the MUST is:

- Encouraging the sustainable implementation of university vision and other educational concepts;.
- Identify and meet relevant laws and regulations;
- Accountability for the effectiveness of the QMS;
- Ensuring that the quality policy and quality objectives are established for the QMS and are compatible with the context and strategic direction of the university;
- Develop and maintain a university strategic plan;
- Ensuring the integration of the QMS requirements into the university's business processes
- Promoting the use of the process approach and risk-based thinking
- Ensuring that the QMS achieves its intended results;
- Communicating the importance of effective quality management and of conforming to the QMS requirements;
- Promoting and support improvements;

5.1.2 Identify and meet the learners educational needs, including special needs.

5.1.2.1 Considering principles of social responsibility.

5.1.2.2 Top management should focus on learners and other beneficiaries. In this context:

- Identify and meet relevant laws and regulations;
- The needs and expectations of learners and other beneficiaries are determined, understood and consistently met, as improving their satisfaction;
- The risks and opportunities that can affect conformity of products and services and the ability to enhance learner and other beneficiary satisfaction are determined and addressed;

RELATED DOCUMENTS

- MUST-DI-PL01 Rule of the MUST
- MUST-DI-PL02 Rule of the MUST board

- MUST-DI-PL03 Rule of the MUST academic council
- MUST-HR-PR03 Procedures for awarding academic and honorary degrees
- MUST-HR-PR04 Procedures for rewarding professors and staff
- MUST-HR-PR10 Procedure for selecting the best teacher and staff of the year

5.2 Quality policy

5.2.1 The Continuous development of quality policy, objectives and quality work in the activities of the Mongolian University of Science and Technology is important to create a culture of quality at the individual and unit level.

MUST's quality policy:

"MUST shall provide education services in line with international standards and become the university which prepares leaders to build a knowledge-based society."

Principles:

1. Focus on the expectations and needs of learners, their parents, employers, and employees
2. Create leaders' values and models and promote them within MUST
3. All staff is involved in the Quality Management System of the University and their competency is developed
4. Apply the processing ways and approaches to make the process understandable and interrelated (sequential)
5. Performance is monitored and continuously improved
6. Ensure all decisions are based on data and information analysis
7. Prefer mutually beneficial cooperation
8. Be responsible to society
9. Ensure educational products and services are accessible and equally.
10. Adhere to educational ethics
11. Provide the safety and security of information
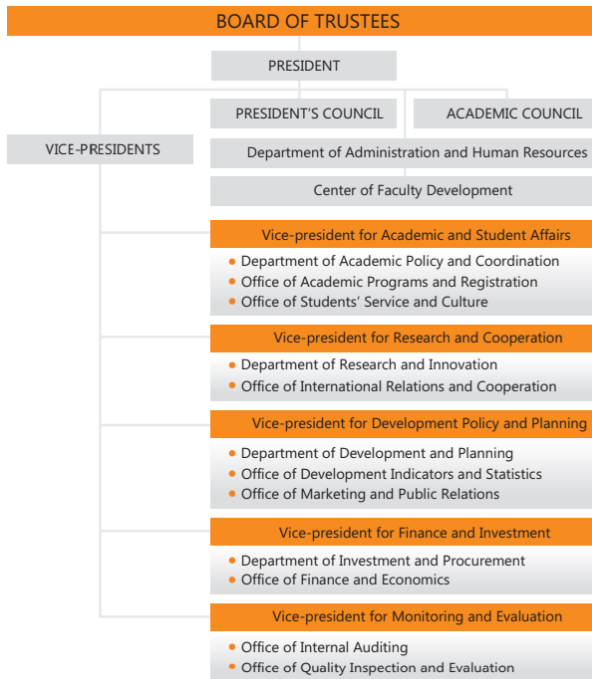
5.2.2 Communicate quality policies throughout the organization and keep them as accessible as possible to stakeholders. Information channels:
- https://www.must.edu.mn/
- Magazines and catalogs
- Information boards, etc.

5.3 Organizational roles, responsibilities and authorities

The MUST has a structure of administration office, schools, vocational training centers, training, research and innovation institutes, and centers. Top management defines responsibilities and powers related to the functions of the relevant unit and official and assigns them by job description and decrees, orders and decisions.

Organizational main chart of the MUST:

BOARD OF TRUSTEES

PRESIDENT

PRESIDENT'S COUNCIL | ACADEMIC COUNCIL

VICE-PRESIDENTS

Department of Administration and Human Resources

Center of Faculty Development

Vice-president for Academic and Student Affairs
- Department of Academic Policy and Coordination
- Office of Academic Programs and Registration
- Office of Students' Service and Culture

Vice-president for Research and Cooperation
- Department of Research and Innovation
- Office of International Relations and Cooperation

Vice-president for Development Policy and Planning
- Department of Development and Planning
- Office of Development Indicators and Statistics
- Office of Marketing and Public Relations

Vice-president for Finance and Investment
- Department of Investment and Procurement
- Office of Finance and Economics

Vice-president for Monitoring and Evaluation
- Office of Internal Auditing
- Office of Quality Inspection and Evaluation

Functions in a quality management system:

- Responsible for quality control unit (QCE)
    - Monitor and evaluate the implementation and execution of the multifaceted activities of the MUST
    - Monitor and integrate the flow of processes to ensure the integrity and continuous improvement of the QMS of the MUST.
    - Focus on meeting the needs and expectations of learners and other beneficiaries, and update their information regularly.
    - Ensure and implement international standards requirements.
    - Responsible for conducting external and internal QMS audits.

- o Manage risks and opportunities that affect the adequacy of educational products and services.
- o Report to top management on the performance of the quality management system and opportunities for improvement.
- o Provide professional and methodological advice and oversight on the development of new and improved university policy documents.
- o Disseminate quality culture to staff and learners, conduct training and advocacy.
- o The MUST's quality policy should be communicated to the organization and made accessible to interested parties as much as possible.

- Staffs
  - o Responsible for meeting the requirements of the international standards of the QMC and continuously developing the competencies required.
  - o Understand and apply the tools recommended by the standard, such as process methods, PDCA continuous improvement cycles, and risk-based thinking.
  - o Report to QM management and quality control units on QM performance and opportunities for improvement.
  - o Focus on learners and other beneficiaries, meet their needs and expectations, and be as accessible as possible to interested parties.
  - o Everyone values educational products and services and is responsible for their quality.
  - o Report any nonconformities and report any corrective action taken
  - o Implement the university's social responsibility policy and plan and support information exchange.
  - o Prompt and responsible organization of external and internal relations of the University.
  - o Determine and implement the quality objectives of the affiliated units in accordance with the quality policy and objectives of the MUST.
  - o Identify and meet the teaching and learning environment for learners with special needs and disabilities.
  - o Take measures to reduce potential risks to the university.

- Job description
- MUST-HR-PR01 Internal labor regulations
- MUST-HR-PR02 Procedure for evaluating and rewarding the performance of the staff of MUST
- MUST-TS-PR08 Procedure for regulating the activities of professional branches and departments

6. PLANNING

6.1 Action to address risks and opportunities

The MUST will consider risks and opportunities to continuously improve process performance and the quality of educational products and services. This manual and related procedures have used this approach. In addition, risk and opportunity measures will be planned and implemented during the QM's internal audit as follows. These include:

    6.1.1   Use risk-based thinking

    6.1.2   Identify potential risks and opportunities. The risk categories are:
1. Financial risk
2. Conformity or regulatory risk
3. Environment security and protection risk
4. Information technology risk
5. Research risk
6. Training risk
7. Learners risk
8. Human resource risk
9. Other operational risks
10. Risks due to external factors or others

    6.1.3   Risk is assessed using the following matrix. Risk assessment matrix:

Consequence			Likelihood				
			1	2	3	4	5
			Rare	Unlikely	Possible	Likely	Certain
5	Catastrophic		5	10	15	20	25
4	Major		4	8	12	16	20
3	Moderate		3	6	9	12	15

2	Minor	2	4	6	8	10
1	Insignificant	1	2	3	4	5

High /15-25/	● Take risk mitigation responses ● Defendant must continue to monitor without completing the risk assessment
Medium /8-12/	● Continue appropriate monitoring or take corrective action to reduce risk
Low /1-6/	● Take corrective action where necessary ● The risk is acceptable

Note:

*Certain – repeated regularly during the period

*Likely - 2-3 times during the period

*Possible - 1-2 times during the period

*Unlikely - once in a while

*Rare - rare once in a while

    6.1.4   Plan and implement to prevent risks and opportunities, plan and implement changes in relevant processes. Actions include:

1. Eliminating the risk source
2. Approve the risk
3. Avoiding and substitute the risk
4. Sharing the risk
5. Transfer to others
6. Retaining risk by informed decision
7. Take risks to look for opportunities

    6.1.5   Register risks and opportunities and create a fund

    6.1.6   Evaluate the effectiveness of the measures taken.

RELATED DOCUMENT

● Methodology for internal audit and risk assessment of agencies and organizations under the jurisdiction of the MECSS

6.2 Educational organization objectives and planning to achieve them

The quality objectives of the MUST and the plan to achieve them will be evaluated and improved every two years and approved by the order of the Director of the MUST. The quality objectives shall meet the following requirements. These include:

   6.2.1   Be consistent with the MUST's strategy plan;

    6.2.2   Be consistent with the MUST's quality policy;

6.2.3 Be measurable;

6.2.4 Take into account applicable requirements;

6.2.5 Be relevant to conformity of products and services and to the enhancement of learner, staff and other beneficiary satisfaction;

6.2.6 Be continually monitored;

6.2.7 Be performances;

6.2.8 Be communicated;

6.2.9 Be updated as appropriate.

Since the quality objectives are aimed at continuously implementing the university's quality policy, the measurable and achievable objectives for improvement at the management and operational level will be identified in January of each year and approved by the responsible management according to the following form. These include:

№	What	How	Who	When	Result	Performance
1	2	3	4	5	6	7

Coherence of quality objectives:
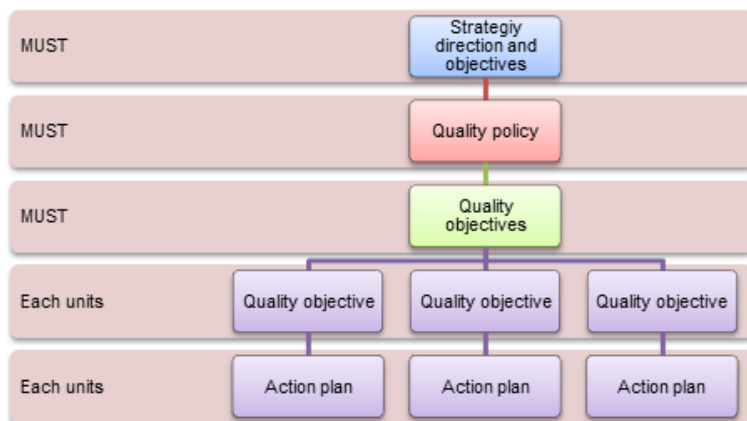
RELATED DOCUMENTS

● MUST-2030 strategy plan

● MUST's quality policy and objectives

● Annual quality objectives of the departments and land offices (plan approved by the director in charge of the unit)

6.3 Planning of changes

When the MUST determines the need for changes to the QMS, the changes shall be carried out in a planned manner. These include:

    6.3.1   The purpose of the changes and their potential consequences;

    6.3.2   The integrity of the QMS;

    6.3.3   Impact on the quality of educational products and services

    6.3.4   The availability of resources

    6.3.5   The allocation or reallocation of responsibilities and authorities..

Change process:
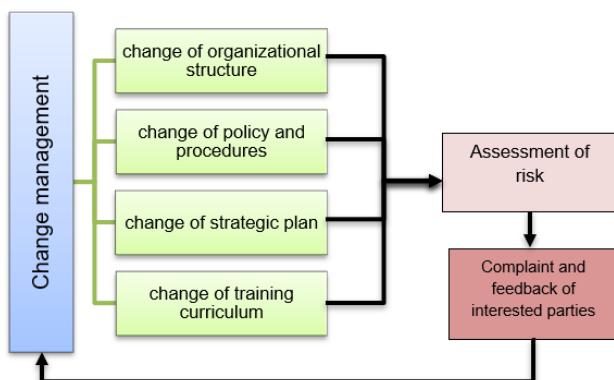
RELATED DOCUMENTS

- MUST-DI-PL01 Rule of the MUST
- MUST-DI-PR01 Procedure of document processing, registration and control

7. SUPPORT

7.1 Resources
7.1.1 General

The MUST will determine and approve the resources needed for the establishment, implementation, maintenance and continual improvement of the QMS. These include:

1. Implement strategic plan
2. Equitable and accessible delivery of educational products and services
3. Improving the satisfaction of learners, employers and employees by meeting the needs of interested parties

The organizations internal resource	External providers resource
● Experienced human resource	● Joint training curriculum

● Training facilities and infrastructure
   ○ Buildings and structures
   ○ Software and hardware
   ○ Vehicles
   ○ Information and communication tools
   ○ Laboratory and practice base
● Financial resource
● Utilities:
   ○ Library
   ○ Dormitory
   ○ Primary health care
   ○ Art and sports hall
   ○ Learner rest and independent work area
   ○ Circles and courses
   ○ Publishment service
	● Funding
	● External projects and contracts
	● Procurement of equipment and inventory
	● Senior and contract teacher
	● Guest professor
	● Learner internship services
	● Maintenance of buildings, facilities and equipment
	● Internet
	● Food service
	● Retail
	● Security service
	● Bus
	● Tuition scholarship

RELATED DOCUMENTS

● MUST-FP-PR01 Procedure for financial activities
● MUST-FP-PR02 Procedure for organizing and implementing procurement of goods, works and services at MUST

7.1.2 Human resources

The MUST organize the determine, provide and selection of competitive human resources required to implement its vision, mission and strategic directions. The main function of human resources is to focus the competencies of staff on job satisfaction and continuous improvement of the organization. Human resource development activities shall meet the following requirements. These include:

1. Determine and provide the human resources necessary for the effective implementation of its QMS and for the operation and control of its processes;
2. determine, implement and publish selection criteria, which shall be available to relevant interested parties;
3. Maintain documented information on the process used for recruitment or selection, and retain documented information on the result of the recruitment.

RELATED DOCUMENTS

- University organizational structure and functions
- Job descriptions
- MUST-HR-PR01 Internal labor regulations
- MUST-TS-PR08 Procedure for regulating the activities of professional branches and departments

7.1.3 Facilities

The MUST will provide adequate facilities for occupational safety and health by providing training and research activities, self-learning, implementing knowledge, meals, rest and recreations.

Facilities includes the following:
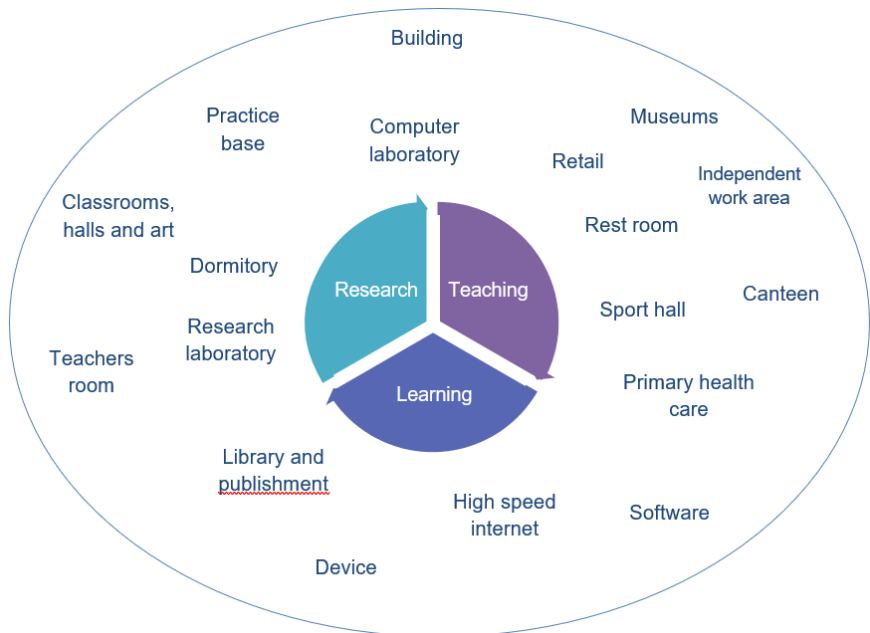
RELATED DOCUMENTS

- MUST-EH-PR01 Procedure for Health and Sports Center operation
- MUST-EH-PR02 Procedure for canteen operation
- MUST-LS-PR01 Procedure for MUST dormitory
- MUST-LI-PR01 Procedure for library

- MUST-LI-PR02 Procedure for publishment

7.1.4 **Environment for the operation of educational process**

The MUST will determine, provide and maintain a suitable environment for teaching, learning, working and research.

A suitable environment is:

1. **Psychosocial factors:** It's can include work demands, influence at work possibilities for development, meaning or work, commitment to the workplace, predictability, rewards, role clarity, quality of leadership, social support from supervisors, satisfaction with work, work family conflict/balance, values in the workplace, stress, burnout, offensive behaviour (e.g bullying).

2. **Physical factors:** It's can include temperature, heat, humidity, light, airflow, hygiene and noise, as well as the ergonomics of equipment and furniture

7.1.5 **Monitoring and measuring resources**

Identify and provide resources to provide accurate control and measurement results to ensure that the measuring instruments of the training and research laboratories that affect the quality of the MUST's operations meet the requirements. Basic steps for measuring instrumentation:
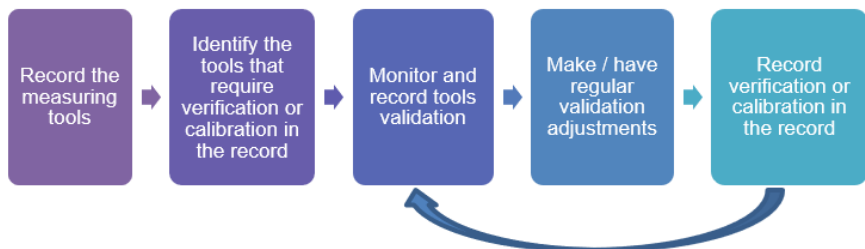
- MUST-R-PR01 Procedure for research centers and institutes of MUST
- Mongolian laboratory accreditation requirements
- MNS ISO/IEC 17025:2018 General requirements for testing and calibration laboratory capacity standards

7.1.6 **Organization of knowledge**

Knowledge in an organization is a specific knowledge that belongs to the MUST. It is the knowledge gained through experience and the information used and shared to meet the goals of the organization. The MUST will implement the process and identify and apply the knowledge required to ensure the adequacy of educational products and services. It examines the organization's knowledge by considering the needs and trends of change over time, and determines how to acquire or acquire any additional knowledge and innovations required.

Internal resource
- MUST documented information
- Training curriculum
- Training program
- Lessons material, and tools
- Laboratory instructions
- Books, Work book and text book
- Examination materials
- Graduation thesis
- Research work, contract work, projects and programs
- Research articles
- Intellectual property
- Patent and utility model
- Copyright
- Human resource knowledge and experience
- Organizational achievements
- Nonconformities and errors
- The result of any improvement

External resource
- International standard
- Cooperation agreement
- Internal scientific conferences and seminars
- International scientific conferences and seminars
- Meetings and trainings held abroad
- Joint program with foreign countries
- Joint projects and programs

- MUST-DI-PR02 Procedure for Record keeping and archiving
- ISO 15836 or ISO/IEC 19788 стандарт

7.2 Competence

MUST will focus on attracting talent, selecting qualified teachers and specialists, and ensuring their sustainability. We will work to continuously develop human resource competence in line with the rapidly changing education sector goals and new needs. The main stages of human resource competence monitoring:
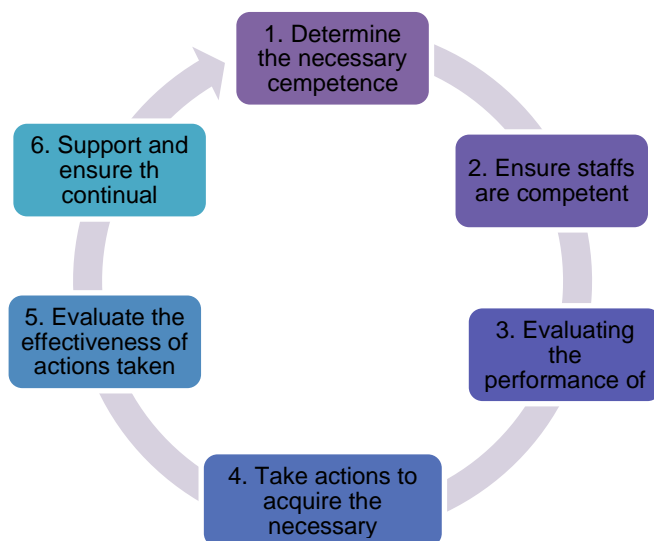
Applicable actions can include: the provision of training to, the mentoring of, or the reassignment of currently employed persons; or the hiring or contracting of competent persons

The professional and personal competencies of the MUST are defined as follows:

№	Competence group	Type
1		Introduce advanced methodologies and technologies in training activities
2	1. Teaching competence	Development and availability of training documents
3		Teaching methods and upbringing
4		Support and guide learners
5		Identify priorities for basic and applied research
6	2. Researching competence	Apply research methodology
7		Possession and use of intellectual property
8		Highly professional in your field

9		Compute and publish
10	3. Ability to use information	Scientific and innovative
11		Use of information and communication technology
12		Use of media and data collection
13		Knowledge of foreign languages
14	4. Soft skill	Information Exchange
15		Self-expression
16		Teamwork and community
17		Leadership and Influence
18		Positive attitudes and communication culture
19		Time planning and adherence
20		Transfer knowledge and experience
21	5. Individual base	Competence Honesty and Morality
22		Professional ethics
23		Accountability
24		Creative and innovative

7.2.1 **Additional requirements for special needs education**

MUST will support the provision of educational services that meet the needs of learners. Appropriate professional training will be provided to learners with special needs, such as teachers and staff working with people with mental and physical disabilities and people with learning disabilities. The main competencies are:

1. Meeting the learning needs of learners who have different requirements;
2. Differentiated instruction and assessment;
3. Instructional scaffolding;

RELATED DOCUMENTS

- Job description
- MUST-TS-PR05 Procedure for calculating and evaluating the performance of professors on credit
- MUST-HR-PL01 Code of ethics for staff
- MUST-LS-PL01 Code of ethics for learner

7.3 Awareness

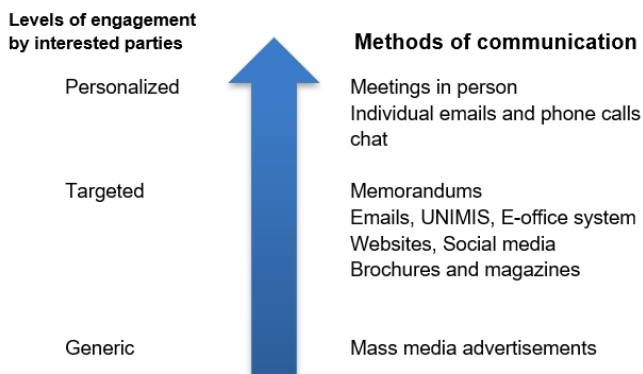MUST informs and explains the following to all employees. These include:

      7.3.1 MUST's vision, mission and values

      7.3.2 Quality policy

      7.3.3 Relevant QMS objectives

      7.3.4 Organizational policy and procedures

      7.3.5 Their contribution to the effectiveness of the QMS, including the benefits of improved university performance

      7.3.6 The implications of not conforming with the QMS requirement

7.4 Communication

MUST defines and implements open and accessible communication on basic education products and services, forms and learning objectives, specializations, new ideas, scientific results, methods and approaches.

Different approaches will be developed depending on the stakeholders in the communication. These include:

- **Generic communication:** the communications are directed at all interested parties and/or the general public.

- **Targeted communications:** the communications are directed at specific groups of interested parties;

- **Personalized communications:** communication happens as a two-way between the organization and specific interested parties;

Levels of engagement by interested parties	Methods of communication
Personalized	Meetings in person Individual emails and phone calls chat
Targeted	Memorandums Emails, UNIMIS, E-office system Websites, Social media Brochures and magazines
Generic	Mass media advertisements

7.5 Documented information

The MUST will create, update, monitor and store the documented information required by this international standard and the documented information required to ensure the effectiveness of the university's QMS.

QMS documentation pyramid:
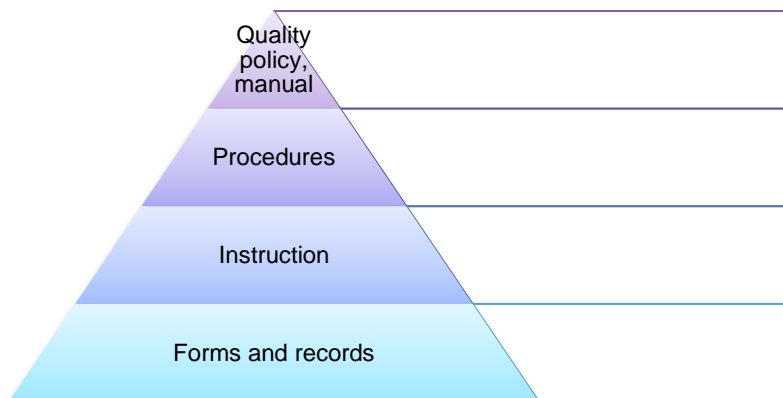
RELATED DOCUMENT

● MUST-DI-PR01 Procedure of document processing, registration and control

8. OPERATION

8.1 Operational planning and control

The main task of the MUST is to provide long-term and short-term degree programs, conduct research in the field of science and technology, and create new knowledge. All of these training, research, and learners services will be carefully planned for each academic year and approved by the Board of Directors. The unified calendar will be published on the website of the MUST (https://www.must.edu.mn/mn/page/209).

The unified training calendar details the process from enrollment, enrollment, course selection, study, testing, and graduation to high school, college, and bachelor's, master's, and doctoral programs.

RELATED DOCUMENTS
● General entrance examination schedule
● Unified training calendar
● Integrated research calendar

8.2 Requirements for the educational products and services

8.2.1 Determining the requirements

Requirements for the training activities of the MUST shall meet the following:

1. Statutory and regulatory requirements
2. Strategic planning requirements
3. Result from needs analysis that is performed to determine requirements of (current and potential future) learners and other beneficiaries, in particular those with special needs
4. Result from international demands and developments;
5. Result from the labour market;
6. Result from research
7. Applicable health and safety requirements
8. Requirements for special education

In order to prepare a specialist who meets the above requirements, a list of knowledge and skills to be acquired in the curriculum and a link between the training goals and objectives of the program and a link between the knowledge and skills to be acquired in each subject will be provided. However, if the requirements change, the admission procedure and curriculum will be changed and reported.

Prior to the delivery of educational products and services, the MUST will provide the following information to learners and other beneficiaries. These include:
1. Introduction to the school
2. Study agreement
3. Handbook
   o Training plan
   o Training evaluation
4. Information for each subject
5. Scholarships, programs and grants provided by the school
6. Tuition fees
7. Dormitory fee information

8.2.2 Requirements for research and innovation services

Within the framework of the goal of becoming a research-based university, the results of the research work will be in line with social expectations and industrial requirements through the effective organization of new knowledge and creative activities of teachers, researchers and learners. Define requirements for research and innovation activities.

RELATED DOCUMENTS

- "Mongolia's long-term sustainable development concept / 2016-2030 /"

- "State Policy on Science and Technology (2014-2025)"

- "State Innovation Policy (2018-2025)"

- "National Research-Based University Development Program (2019-2023)"

- Annex to Government Resolution No.301 of 2014 "Procedure for Implementing Science and Technology Projects"

- MNS 2492 2004 Research report. Structure and requirements /standard /

- MUST-DI-PL03 Rule of the MUST academic council

- MUST-RS-PR01 General regulations of the Research Center of the MUST

- MUST-RS-PR06 Procedure for Technology transfer

- MUST-RS-PR07 Procedure for establishing and operating a start-up company

8.3 Design and development of the educational products and services

MUST will develop, validate, and continuously improve its curriculum in accordance with the general requirements of higher education, including comprehensive planning and coordination documents to meet the needs of learners and other beneficiaries.

The degree program shall be internally reviewed and approved by an authorized third party based on an independent assessment, quality assurance and evaluation by an authorized third party to ensure that the curriculum meets the criteria, requirements / standards set by the MNCEA.

Requirements for curriculum development:
1. National and international educational trends
2. Interested parties needs and expectations
3. Information about similar programs that have been done before
4. Relevant rules, regulations and standards
5. Risks and consequences of the program
6. Identify the goals and objectives of the program and the resources needed to support successful learning.

8.3.1 Curriculum assessment

There are self-assessments and external assessment of the quality of the curriculum and learners' learnings.The MUST follows the rules for assessing learners' knowledge and skills and makes changes as needed. Curriculum results are evaluated and analyzed by professors, learners, alumni, employers, and third parties. The program self-assessment is performed as follows:

1. Professors and teachers of the field should conduct their own evaluation of the training curriculum, evaluate it by rubrics and present it to the sub-committee;
2. The curriculum subcommittee should re-evaluate and present to the Department of academic policy and coordination;
3. Department of academic policy and coordination analyzes the subcommittee of the curriculum assessments and summarizes the results and presents them to the General committee of the curriculum and the Board of Directors;
4. Discuss the evaluation of the General committee of the curriculum and submit proposals to the Training and Methodology Council for improvement and modification;
5. Communicate the decision of the Training and Methodology council to the MUST academic council;
6. The MUST academic council shall make decisions related to changing and improving the curriculum;
7. Present the MUST academic council decision to the affiliated schools;

External evaluation of the program will be conducted in different areas. These include:

1. Pre-accreditation of the MNCEA to open a new curriculum;
2. After the implementation and graduation of the first entrants, accreditation of progress should be done internally or by the MNCEA;
3. To be accredited by a foreign international organization upon completion of the first enrollment;

RELATED DOCUMENTS

- MUST-DI-PL03 Rule of the MUST academic council
- MNCEA pre-accreditation criteria (http://accmon.mn/)
- MNCEA Accreditation Criteria for Progress
- Criteria for international accreditation bodies

8.4 Control of externally provided processes, products and services

We evaluate and monitor the compliance of externally provided processes, products and services that conform to requirements.
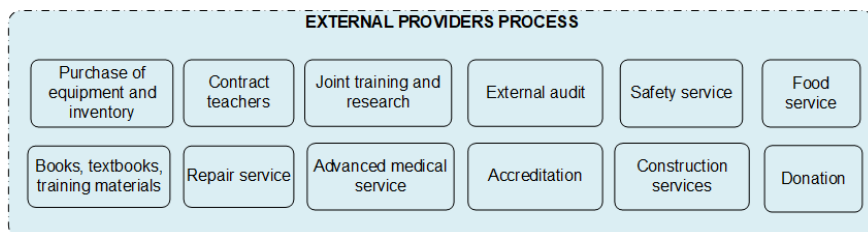
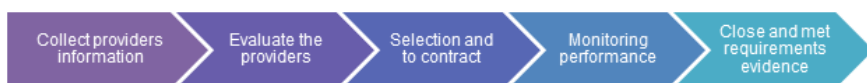The main process of working with external providers is carried out in stages.

RELATED DOCUMENTS

● MUST-FP-PR01 Procedure for financial activities
● MUST-FP-PR02 Procedure for organizing and implementing procurement of goods, works and services at MUST

8.5 Delivery of educational products and services

The teaching activities of the MUST will be managed and organized by the Vice-president for Academic and student affairs, the Department of Academic Policy and Coordination, the Deputy director for affiliated schools, and the Training units.

The training activities will be divided into two main seasons, autumn and spring, and winter and summer training and external training will be organized. The duration of the fall and spring semesters is 16 weeks each, and the duration of the semester exam is 2 weeks. The duration of winter and summer training is 4 weeks.

8.5.1 Admission of learners

Admission of students to the MUST will be organized according to the Admission Procedure and Admission website (https://elselt.edu.mn/). The main stages of the admission process include:
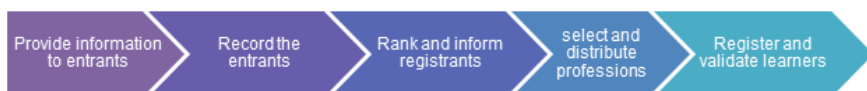
8.5.2 Teaching (identification and traceability)

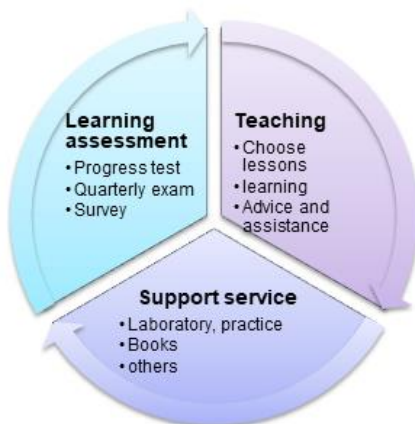New entrants and other learners should be provided with a professional purpose, description, knowledge, skills, practices, list of subjects to be studied, their set hours, and previous course connections in accordance with the requirements of the educational service. The training activities of the MUST will continue in the following cycles. These include:

RELATED DOCUMENTS

- "Student Admission Procedure" approved by the order of the MECSS
- "On setting thresholds" approved by the order of the MECSS
- MUST-TS-PR11 Admission procedure of MUST
- MUST-TS-PR01 Procedure for regulating high school education activities
- MUST-TS-PR02 Procedure for regulating Koosen College of Technology activities
- MUST-TS-PR03 Procedure for regulating bachelor's degree activities

8.5.3 Execution of projects

Through the project and program, expand research-training-production ties, develop research and innovation cooperation, study and localize the experience of foreign universities, research institutes and researchers, increase the capacity of researchers, acquire methods for protection of intellectual property rights, organize events to discuss, evaluate, publicize and promote.

In addition to funding projects and programs from its Science and Technology Foundation of the MUST will receive and implement funding from other funding

agencies, such as the Science and Technology Foundation of the MECSS, government and foreign projects, projects and contracts.

8.6 Release of educational products and services

8.6.1 Graduation

Graduation from the MUST will take place in the fall and spring of the academic year. The school's education department will register a student who has completed the credits specified in the curriculum and meets the GPA. Depending on the specifics of the profession and the requirements for the trainee, some professions do not require graduation exams, but can only be defended with a diploma project or work.

RELATED DOCUMENTS

● MUST-TS-PR06 Procedure for taking final exams, awarding professional degrees and titles from graduates of vocational and technical education institutions of the MUST

● Diploma writing instructions

8.6.2 Research result

The results of the university research will be introduced into production and services through the conclusion of a license agreement, technology transfer and the establishment of a start-up company, and the university-industry cooperation will be developed.

RELATED DOCUMENTS

● MUST-RS-PR06 Procedure for technology transfer

● MUST-RS-PR07 Procedure for establishing and operating a start-up company

8.7 Control of the educational nonconforming outputs

The MUST will document and monitor nonconformity outputs to prevent accidental use and delivery to interested parties.

Disclosure, monitoring, correction and prevention of inconsistencies in educational services or training programs, enrollment, training and graduation processes shall be carried out continuously in the following cycles. These include:

Detect nonconformity

Record nonconformity

take corrective action

Record actions

Report and present

Review

Take preventive action
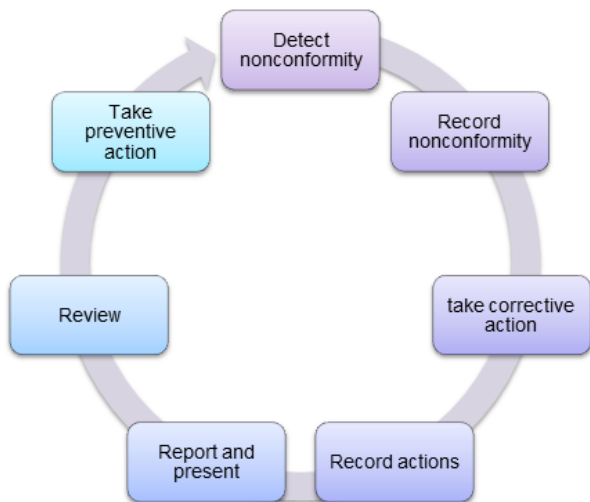
To correct the discrepancy, use the appropriate form from the following measures. These include:

1. Take correction
2. Segregation, containment, return or suspension of products and services;
3. Inform students and other beneficiaries;
4. Obtaining authorization for acceptance under concession.

RELATED DOCUMENT

● MUST-QC-PR01 Procedure for quality control and evaluation of MUST activities

9. PERFORMANCE EVALUATION

9.1 Monitoring, measuring, analysis and evaluation

9.1.1 During the implementation of the QMS, operational results and performance will be monitored and evaluated in terms of time and percentage of completion as specified in the planning.

9.1.2 The MUST conducts a survey to gather information on the extent to which educational products and services provided to stakeholders meet their needs, requirements, and expectations.

The following schedule will be used by the QIE to report to top management. These include:
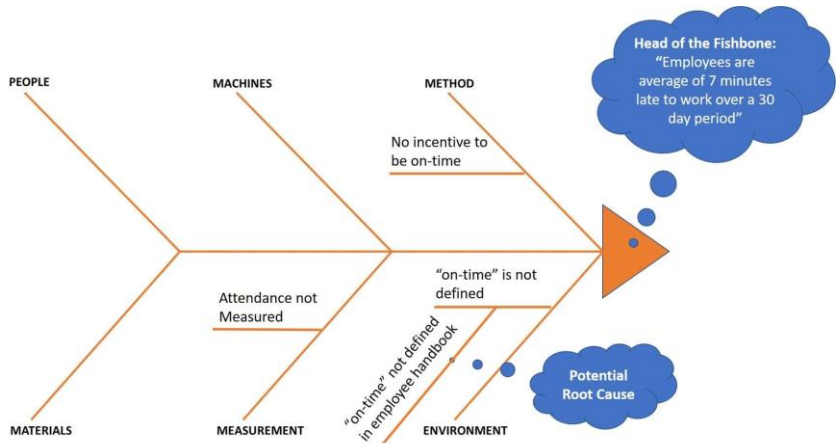
№	Interested parties	Purpose	Time	Sampling size	Tools	Respondent
1	Learners	Evaluate the results of the course	After each semester	60-80%	Student web	Curriculum responsible
2		Assess the teacher's teaching methods and skills				
3		Support service	Once at the end of the school year			School administration
4	Alumni	Career opportunities, programs, and determine employment	1 year after graduation	50-60%	Interview, Electronic Tools	Curriculum responsible
5			three to five years after graduation			Curriculum responsible
6	Staff	the culture and atmosphere in the organization	once every two years	55-70%	Interview, Electronic tools	School administration
7		Workplace Satisfaction	3-5 years			
8	Employer	Evaluate the quality of the training	Once every 2-3 years	70%	Interview, Electronic Tools	Curriculum responsible

9.1.3 In assessing satisfaction, both negative (appeals, gossip) and positive (praise) aspects should be considered. The process for resolving stakeholder complaints and appeals consists of the following key steps. These include:

1. Receiving complaints and appeals;

2. Tracking complaints and appeals;

3. Acknowledging complaints and appeals;

4. Performing initial assessment of complaints and appeals;

5. Investigating the complaint and appeals;

6. Responding to the complaint and appeals;

7. Closing complaint and appeals;

The organization shall ensure the confidentiality of the complainants and the authenticity of the detectors. In addition, the evidence received and the final decision will be kept as documented information.

9.1.4   Analyze and evaluate relevant data and information from monitoring and measurement results, draw a map of causes and consequences, and analyze. This is done as follows:

PEOPLE   MACHINES   METHOD

Head of the Fishbone: "Employees are average of 7 minutes late to work over a 30 day period"

No incentive to be on-time

"on-time" is not defined

Attendance not Measured

"on-time" not defined in employee handbook

Potential Root Cause

MATERIALS   MEASUREMENT   ENVIRONMENT

The test results are used for the following assessment. These include:

1. Conformity of educational products and services
2. Customer satisfaction level
3. Performance and effectiveness of QMS
4. Whether the planning was effective
5. Effectiveness of risk and opportunity measures
6. External provider performance
7. There is a need to improve the QMS

9.2 Internal audit

The MUST conducts a regular internal audit of the QMS every academic year to obtain the above information. Additional or unscheduled audits may be conducted based on feedback from interested parties.

9.2.1 Internal audit shall follow the following principles:

1. Be honest
2. Be accurate
3. Treat professionally
4. Protection of confidential information
5. Be independent
6. Be evidence-based

9.2.2 The auditor or the unit to be audited shall have the following responsibilities. These include:

1. Familiarize yourself with the internal audit program and schedule and keep relevant staff available on site.

2. The necessary information and documents specified in the internal audit program shall be prepared in advance and submitted to the auditor (working group) from time to time.

3. Provide the internal auditor with the necessary conditions and prompt support.

Audit Process

Planning
Define audit objectives and methodology
1. Send audit notification letter
2. Gather background information
3. Identify risks
4. Create audit program

Entrance Meeting
1. Discuss planned audit
2. Solicit input
3. Explain timing and resources

Fieldwork
Gather evidence to accomplish audit objectives
1. Conduct interviews
2. Review documentation and processes
3. Test transactions and documentation

Exit Meeting
1. Discuss audit results
2. Resolve questions and concerns
3. Discuss corrective action plans

Reporting
Communicate audit results
1. Provide draft report for comments
2. Obtain corrective action plans
3. Distribute final report to appropriate and required individuals

Follow-up
Review corrective actions plan and results
1. Interview staff
2. Review new processes and documentation
3. Re-audit

9.3 Management review

Once a year, the top management of the MUST analyzes whether the QMS is in line with the university's strategic direction or effective and consistent.

9.3.1 Management review inputs:

№	Inputs
1	The status of actions from previous management review

| 2	Changes in external and internal issues that are relevant to the QMS
3	Learner and other beneficiary satisfaction and feedback related to their requirements
4	Stakeholder performance, requests, suggestions, complaints, and action taken
5	The extent to which quality objectives have been met
6	Process performance and conformity of products and services
7	Nonconformities and corrective actions
8	Quality control and monitoring result
9	Audit result
10	The performance of external providers
11	The adequacy of resources
12	The effectiveness of actions taken to address risks and opportunities
13	Opportunities for continual improvement
14	Staff feedback related to activities to enhance their competence

9.3.2 Management reviews output includes decisions and actions with the following issues. These include:

1. Continual improvement opportunities;
2. Any need for changes to the QMS
3. Resource needs.

10. IMPROVEMENT

10.1 General

This entails exploring and selecting opportunities for QM improvement; taking appropriate action to meet the needs of stakeholders; working to improve the satisfaction of stakeholders including learners and other education beneficiaries, staff, and external providers as sketched below.
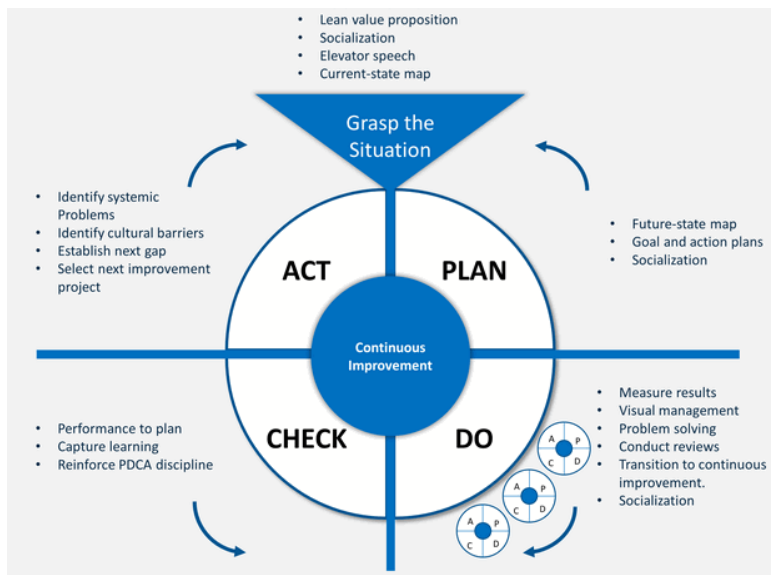
10.2 Nonconformity and corrective action

The MUST will identify and select the manifold opportunities to improve its operations; will take the necessary measures to meet customer needs and increase their satisfaction by:

1. Meeting the requirements for educational products and services
2. Taking measures to correct, prevent or reduce the effects of non-compliance
3. Improving the performance and effectiveness of QMS.

RELATED DOCUMENT

● MUST-QC-PR01 Procedure for quality control and evaluation of MUST activities