REPORT

on the results of the external expert commission's assessment
of the compliance of educational programmes
with the requirements of the standards for international accreditation
(based on ESG)

02.03.02 Fundamental Computer Science and Information Technology
(Bachelor's degree)

NATIONAL RESEARCH LOBACHEVSKY STATE UNIVERSITY OF
NIZHNY NOVGOROD

21 - 23 November 2023

INDEPENDENT AGENCY FOR ACCREDITATION AND RATING

External Expert Commission

To IAAR
Accreditation Council

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CONTENTS

(I) LIST OF NOTATIONS AND ABBREVIATIONS

ECTS - European Credit Transfer System
FSES HE - Federal State Educational Standard of Higher Education
SEC - State Examination Commission
EHEA - European Higher Education Area
ILC - Information and Library Complex
ICT - Information and Communication Technologies
IITMM - Institute of Information Technology, Mathematics and Mechanics
EP - Educational Programme
QMS - Quality Management System
LMS - Learning Management System
ECF - European Competence Framework
ESG - European Standards and Guidelines
EEC - External Expert Commission
IAAR - Independent Agency for Accreditation and Rating
UNN - Federal State Autonomous Educational Institution of Higher Education
"National Research Lobachevsky State University of Nizhny Novgorod"
ELS - electronic library system

(II) <u>INTRODUCTION</u>

In accordance with the order No. 158-23-OD dated 02.10.2023 of the Independent Accreditation and Rating Agency, an external expert commission from 21 to 23 November 2023 assessed the compliance of the educational programme 02.03.02 Fundamental Computer Science and Information Technology (Bachelor's degree) of the National Research Lobachevsky State University of Nizhny Novgorod with the IAAR standards for international accreditation (approved under No. 68-18/1-OD dated 25.05.2018).

The report of the External Expert Commission (EEC) contains the assessment of the educational programme presented according to the IAAR criteria, recommendations of the EEC on further improvement of the educational programme and assessment parameters.

External Expert Commission members:
1) ***Chairperson of IAAR Commission*** - Raushan Sultanovna Dosmagambetova, Doctor of Medical Sciences, Professor, Medical University of Karaganda (Republic of Kazakhstan)
2) ***IAAR Expert*** - Irina Nikolaevna Moroz, Doctor of Medical Sciences, Professor, Belarusian State Medical University (Republic of Belarus)
3) ***IAAR Expert*** - Elena Alexandrovna Kiseleva, Doctor of Medical Sciences, Professor, Head of the Department of General Practice Dentistry, Medical Institute of the Federal State Budgetary Educational Institution of Higher Education "Kemerovo State University", Ministry of Education and Science of the Russian Federation, (Russian Federation)
4) ***IAAR Expert*** - Marina Alexandrovna Skiba, Candidate of Pedagogical Sciences, Associate Professor, Chairperson of the IAAR Expert Council, 1st category expert (Astana, Kazakhstan)
5) ***IAAR Expert, employer*** - Polina Vladimirovna Shits, Medicine Plus LLC, Russian Federation (Russian Federation)
6) ***IAAR Expert, student*** - Maria Alexeevna Starshenkova, 4th year student of Information Systems and Technologies programme, Ulyanovsk State Technical University (Russian Federation)
7) ***IAAR Expert, student*** - Oksana Mikhailovna Anisimova, 5th year student of the Institute of Clinical Medicine, Samara State Medical University (Russian Federation)
8) ***IAAR Coordinator*** - Malika Akhyadovna Saydulaeva, Project Manager, Independent Agency for Accreditation and Rating (Republic of Kazakhstan)

(III) <u>PRESENTATION OF THE EDUCATIONAL INSTITUTION</u>

The University of Nizhny Novgorod was founded on 30 January (17 January old style) 1916. It became one of the three People's Universities in Russia and the first higher education institution in Nizhny Novgorod. In 1918, the university received the status of a state university (the first Soviet university). In 1956, the University was named after the great Russian mathematician Nikolai Lobachevsky. In 1976, the University was awarded the Order of the Red Banner of Labour.

UNN is one of Russia's leading universities and according to the QS World University Rankings is among the world's top 800 universities. Today Lobachevsky University has 18 institutes and faculties, 4 large research institutes. UNN comprises a supercomputer centre (the Lobachevsky supercomputer is the 24th most powerful university supercomputer in the world), a biomedical cluster, a nanotechnology centre, an innovation and technology centre with a business incubator core, a typhloinformation centre providing computer training for visually impaired persons, Internet centres, a fundamental library, a museum

complex, a publishing house and a printing house.

The University has about 30 thousand students from 97 countries, including about 900 postgraduate and doctoral students. Every year UNN teams win All-Russian and international student competitions in various disciplines. More than 330 doctors of science, including 19 full members and corresponding members of the Russian Academy of Sciences, and about 1000 candidates of science are engaged in research and teaching at the University. Among them are 48 Honoured Scientists of Russia and Honoured Workers of Higher Education, 46 winners of State Prizes, Government Prizes and Presidential Prizes of the Russian Federation. Harald zur Hausen, Nobel laureate in medicine and physiology of 2008, is an Honorary Doctor of Lobachevsky University, UNN is the base university of the Nizhny Novgorod Science Centre of the Russian Academy of Sciences.

The Institute of Information Technology, Mathematics and Mechanics (IITMM) was established in 2015 (Order No. 60-OD dated 11.02.2015. "On the establishment of the Institute of Information Technology, Mathematics and Mechanics" by reorganising the leading structural units of UNN - the Faculty of Computational Mathematics and Cybernetics, the Faculty of Mechanics and Mathematics and the Research Institute of Applied Mathematics and Cybernetics.

Over the past years, research teams and scientific schools widely recognised in Russia and internationally have been formed and are currently functioning. Thousands of professionals in the field of mechanics, computational mathematics, mathematical modelling and information technology have been trained within these departments. The Institute has been actively continuing the traditions of its predecessors and has made a significant contribution to the recognition of Lobachevsky University as one of the leading centres of research and education.

IITMM is the core unit of the Digital Departments project. The project is implemented by Lobachevsky University, a participant of the strategic academic leadership programme "Priority-2030", within the framework of the federal project "Development of human resources potential of the IT industry" under the national programme "Digital Economy of the Russian Federation".

The educational programme (Bachelor's degree) in the area of study 02.03.02 "Fundamental Computer Science and Information Technology" with specialisation in "Software Engineering" is implemented at the Institute of Information Technology, Mathematics and Mechanics under the leadership of its Director N.Yu. Zolotykh, Doctor of Physical and Mathematical Sciences, Associate Professor. The following departments are actively involved in the programme implementation: Department of High-Performance Computing and System Programming (I.B. Meyerov, Candidate of Engineering Sciences, Associate Professor), Department of Software and Supercomputing Technologies (K.A. Barkalov, Doctor of Engineering Sciences, Associate Professor), Department of Control Theory and System Dynamics (G.V. Osipov, Doctor of Engineering Sciences, Associate Professor), Department of Applied Mathematics (M.V. Ivanchenko, Doctor of Engineering Sciences, Associate Professor), Department of Differential Equations, Mathematical and Numerical Analysis (A.V. Kalinin, Doctor of Engineering Sciences, Associate Professor), Department of Algebra, Geometry and Discrete Mathematics (N.Yu. Zolotykh, Doctor of Physical and Mathematical Sciences, Associate Professor), Department of Probability Theory and Data Analysis (A.V. Zorin, Doctor of Physical and Mathematical Sciences, Associate Professor).

The workload of the programme being accredited is 240 credits, and it is taught only in Russian. Currently, there are 377 students enrolled in the programme, the number of students entering the programme increases every year.

(IV) DESCRIPTION OF THE PREVIOUS ACCREDITATION PROCEDURE

International accreditation according to IAAR standards of the educational programme 02.03.02 Fundamental Computer Science and Information Technology (Bachelor's degree) of the National Research Lobachevsky State University of Nizhny Novgorod is conducted for the first time.

(V) DESCRIPTION OF THE EEC VISIT

The EEC carried out its work according to the approved Programme of the expert commission visit for programme accreditation of the educational programme at UNN during the period from 21 to 23 November 2023.

To coordinate the work of the EEC, an introductory meeting was held on 17.11.2023, during which the responsibilities were distributed among the members of the commission, the schedule of the visit was updated, and agreement was reached on the choice of expert review methods.

To obtain objective information about the quality of the educational programme and the overall infrastructure of the university, to clarify the content of the self-assessment report, meetings were held with the Rector, Vice-Rectors of the university in charge of relevant activities, heads of structural units, directors of institutes, heads of departments, faculty members, students, graduates, and employers. A total of 121 representatives took part in the meetings (Table 1).

Table 1 - Information about target groups taking part in meetings with the IAAR EEC:

Category of participants	Number
Acting Rector	1
Vice-Rectors	10
Heads of structural units	10
Directors of institutes	2
Heads of departments and EP managers	15
Teaching staff members	32
Students	35
Graduates	8
Employers	8
Total	**121**

In the course of the visual inspection, the EEC members reviewed the state of the facilities and equipment of the EPs under accreditation.

During the meeting of the IAAR EEC with UNN target groups, the mechanisms of university policy implementation were clarified and some data presented in the university self-assessment report were detailed.

In accordance with the accreditation procedure, 15 faculty members and 121 students, including junior and senior students, completed a questionnaire survey.

In order to verify the information presented in the Self-Assessment Report, the external experts requested and analysed the working documentation of the Institute. At the same time, the experts studied the internet positioning of the Institute through the official website of the University http://www.unn.ru/.

As part of the planned programme, the EEC presented its recommendations for the improvement of the UNN educational programme under accreditation at a meeting with the management on 23.11.2023.

(VI) COMPLIANCE WITH INTERNATIONAL ACCREDITATION STANDARDS

6.1 Standard 1. POLICY FOR QUALITY ASSURANCE

Standard:
The educational institution should have a policy for quality assurance that is made public and forms part of its strategic management. Internal stakeholders should develop and implement this policy through appropriate structures and processes, while involving external stakeholders.

Guidelines:
The policy and mechanisms to implement it are the basis for a logically structured and coherent quality assurance system for the educational institution. The system forms a cycle for continuous improvement and contributes to the accountability of the educational institution. It supports the development of quality culture in which all internal stakeholders assume responsibility for quality and engage in quality assurance at all levels of the institution. In order to facilitate this, the policy and mechanisms to implement it have a formal status and are publicly available.

The quality assurance policy is most effective when it reflects the relationship between research and learning & teaching and takes account of both the national context in which the institution operates, the institutional context and its strategic approach. Such a policy supports:
* *the organisation of the quality assurance system;*
* *departments, schools, faculties and other organisational units as well as those of institutional leadership, individual staff members and students to take on their responsibilities in quality assurance;*
* *academic integrity and freedom and is vigilant against academic fraud;*
* *guarding against intolerance of any kind or discrimination against the students or staff;*
* *the involvement of external stakeholders in quality assurance.*

The policy translates into practice through a variety of internal quality assurance processes and procedures that allow participation of all units across the educational institution. How the policy is implemented, monitored and revised is the institution's decision.
The quality assurance policy also covers any elements of activities that are subcontracted by the institution to other parties or are carried out by the institution's partners.

Evidence-based part

UNN was one of the first universities in the Russian Federation to introduce the practice of strategic management within the framework of the Tempus programme project.

The UNN Development Strategy (approved by the UNN Academic Council on 16 June 2021) sets out as its goal "sustainable effective development of the university as a classical research university, providing, inter alia, in cooperation with scientific organisations, personnel training for priority areas of scientific and technological development of the Russian Federation, economic and social sectors, development and implementation of breakthrough research and development, new creative and socio-humanitarian projects, as well as implementing high technologies in the economy and the social sphere". All the University's strategy documents are aimed at achieving national development goals: population conservation, human health and well-being, comfortable and safe environment, digital transformation, opportunities for self-realisation and talent development, in particular, securing a place among the world's top ten countries in terms of research and

development, and creating an effective system of higher education. In addition to the University's Development Strategy, there are various Development Programmes in place, including those under the Priority 2030 programme.

The University sees its mission in preserving and strengthening its role as one of the leading institutions in Russian higher education, through the prism of all types of activities - education, research and impact on the region. For each of the activities, the objectives have been formulated, which outline the ways and means to achieve the goal.

UNN is the leader in terms of the number of megagrant programme projects: 11 mega-labs have already evolved from growth points to new areas of UNN's research leadership, including those in the field of IT: neuroscience, big data analysis and artificial intelligence. One of the pioneers of neuroinformatics, A.N. Gorban, is among the leading scientists who head the laboratories.

The quality assurance policy is based on the basic principles of ESG, the link between research, teaching and learning, interaction with the region. The methods of achieving the goals for educational programmes have been developed and approved in the "UNN Mission", "Policy of Lobachevsky University in the field of education quality", "Development Programme of the National Research Lobachevsky State University of Nizhny Novgorod for 2021-2030" (as part of the Priority 2030 Strategic Academic Leadership Programme), "Development Strategy of the National Research Lobachevsky State University of Nizhny Novgorod until 2030", "Regulations on the ongoing monitoring of academic performance and interim certification of students in the implementation of educational programmes of higher education at UNN" and other documents.

The achievement of the strategic goals is supported by the university budget, and the declared activities receive funding.

Every year, the University analyses the level of satisfaction with the educational programme and notes its sufficiency. Questionnaire surveys in the Institute are conducted annually, besides, students, teachers and other stakeholders take part in discussing the quality of the educational programme and the activities of structural units during the re-election of managing staff. Based on the questionnaire survey and interviews during the EEC visit, it was also revealed that the teaching staff and students are sufficiently satisfied with the educational programme.

The management of the University and of the EP includes management within the positions of top managers and administrative and managerial staff, including the top management of the University, as well as the management of the Institute and heads of departments. The collegiality of decision-making is ensured by the activities of collegial bodies both at the level of the University and at the level of the Institute and departments. The brief content of the issues considered is reflected in the minutes.

The management of the University and the Institute organises classical process management, with attention to the integration of research into education and close attention to the needs of the region.

Faculty members from other departments are not accountable to the head of the department, he/she cannot distribute the workload to them, or even attend a class without prior approval of the other head of department.

The University holds events that promote the growth of professional competence, responsibility, ability to self-organisation and self-development of the individual: international conferences, professional development seminars with the involvement of national and international experts.

External stakeholders representing the labour market take an active part in the Institute's activities, contributing not only to the development of the programme content, but also to its implementation and discussion of its impact assessment, which is reflected in the minutes of collegial bodies.

Analytical part

The EEC notes that the quality assurance policy is implemented at all levels of the university, involving both the development strategy, annual action plans and internal local regulations.

The existence of both Development Strategy and Development Programmes at the University level at the same time makes it necessary to develop a single document at the level of the Institute, which would cascade and systematise all the strategic goals and objectives stated in various documents at the University level. Cascading down to the level of each employee will allow faculty members and researchers to more clearly recognise their personal contribution to the implementation of strategic documents and avoid duplication. A distinction should also be made between the different personal tasks carried out as part of job descriptions for full-time employees and as part of their research grants.

The EEC notes that the absence of a person who performs direct management of the educational programme within the framework of his/her work functions poses a risk of reducing the appropriate level of education quality, as the actions of different players participating in the educational process (in the context of game theory) may negatively affect the outcome of the game. Thus, there is a lack of a holistic approach to the involvement of faculty members across the entire EP, founding of content, transfer of teaching and assessment methods, which may have a negative impact on the quality of education and achievement of the educational objectives.

The experts also note the cumbersome description of the mission and development goals, which cannot be reproduced confidently by students and teachers. The mission text has not been discussed and updated recently, which does not provide conditions for its dissemination. The appointment of a new rector and the renewal of top managers has necessitated the clarification of the mission and the cascading of strategic goals to all levels of the university. It was repeatedly emphasised during the interviews that this activity is expected to be implemented in the near future.

It should be noted that there is a set of local documents that fully cover all the processes implemented at the University, reflecting the specifics and providing for various options for the development of events. For each area of activity. there is a distribution of responsibility, the performers are identified and documented through activity plans, decisions recorded in the minutes of collegiate bodies and in individual work plans. However, students are not members of the Academic Council either at the level of the University or at the level of the Institute, nor are they members of the Curriculum Commission and other collegial bodies that ensure the interaction of different groups of stakeholders. Thus, students do not have the opportunity to participate in decision-making for EP improvement, in discussions about EP content, teaching and assessment methods, and there are no reliable and accepted sources of information about events, activities and processes taking place in the context of EP management.

A questionnaire survey of faculty members has revealed that only about 80% of them noted the positive attitude of the management to criticism.

The minutes of the meetings of collegial bodies contain a brief description of the issues discussed that does not fully reflect the situation.

In general, the results of the Institute's activities demonstrate that there is a quality assurance policy and that it is implemented to achieve the goals.

The EEC emphasises that during the visit to the University not only the existence of the quality assessment procedure of the EP, but also its observance was confirmed. For the purpose of further improvement, the frequency, forms and methods of the quality assessment of the EP should be defined in the EP development plans.

Strengths/best practices:
No strengths have been identified for this standard.

EEC Recommendations:
1) Clarify the formulation of the mission and vision, taking into account modern approaches, in order to ensure that it is clearly and unambiguously understood and communicated by all participants of the educational process. Deadline: 1 October 2024.

2) Ensure at the level of the Institute and departments the integration of all strategic documents of the University into a single document that unites and systematises all the goals and objectives of the structural unit for the coming period. Deadline: 1 July 2024. Thereafter, to be carried out annually.

3) Provide for cascading of strategic goals and objectives to the personal level, within the framework of the work functions performed, including the goals of the forthcoming personal and professional development, recording the results of cascading in the new format of individual work plans of faculty members and researchers, as well as in the work plans of structural units and development plans of educational programmes. Deadline: 1 September 2024. Thereafter, to be carried out annually.

4) Consider the appointment of a programme manager or assignment of these functions within the teaching load, which will enable consistent coordination of the EP. Deadline: 1 September 2025.

5) Include students in collegial bodies, including the Academic Council. Deadline: 1 September 2025.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)
Satisfactory position.

6.2 Standard 2. DESIGN AND APPROVAL OF THE PROGRAMME

Standard:
The educational institution should have processes for the design and approval of its programmes. The programmes should be designed so that they meet the objectives set for them, including the intended learning outcomes. The qualification resulting from a programme should be clearly specified and communicated, and refer to the correct level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area.

Guidelines:
Study programmes are at the core of the higher education institutions' teaching mission. They provide students with both academic knowledge and skills including those that are transferable, which may influence their personal development and may be applied in their future careers.

Programmes developed by educational institutions:
- *are designed with overall programme objectives that are in line with the institutional strategy and have explicit intended learning outcomes;*
- *are designed by involving students and other stakeholders in the work;*
- *benefit from external expertise and reference points;*
- *reflect the four purposes of higher education of the Council of Europe (cf. Scope and Concepts);*
- *are designed so that they enable smooth student progression;*
- *define the expected student workload, e.g. in ECTS;*
- *include well-structured placement opportunities where appropriate;*
- *are subject to a formal institutional approval process.*

Evidence-based part

The University has demonstrated the current educational programmes, continuity in the change of the content of the EP being accredited in the context of changing digital technologies, expanding role of AI and big data analytics. The University has demonstrated sufficient experience, having started the implementation of the programme being accredited about 15 years ago, while maintaining its relevance through annual review of the curriculum and approval of the relevant content and workload. In the academic year 2022/2023, UNN continued working on the development and implementation of its own educational standards by levels of higher education, in particular for the Bachelor's degree programme "Fundamental Computer Science and Information Technology".

In the academic year 2011/2012, the educational standard for the study area "Fundamental Computer Science and Information Technology" was first developed, and in 2015 the educational standard was revised in accordance with the FSES 3+. In 2021, the educational standard was introduced in a new edition in accordance with the FSES 3++, in 2022 it was updated (http://www.unn.ru/sveden/eduStandarts.php) based on the amendments to the regulatory documents and in accordance with the decisions of the UNN Academic Council of 30.11.2022 (Minutes No. 13), and of 28.12.2022 (Minutes No. 14).

The University has a regulated procedure for updating the EP and communicating information to students, all information is posted on the University website and communicated to each student through individual letters. The EP comprises a compulsory and a variable part. Students have the opportunity to independently choose disciplines from the variable part of the EP.

The documents regulating the EP development and the EP itself are posted on the university website (http://www.unn.ru/sveden/education/edu-op.php), where the resource support of educational programmes, methods of achieving and adjusting the goals and objectives of educational programmes, competencies to be developed as a result of mastering the EP, assessment tools for the ongoing monitoring of academic performance, interim certification, etc. are also specified.

In general, the University has documented procedures that define the rules of educational programme development and its revision. The activities on the EP development are coordinated by the Vice-Rector for Academic Affairs. The actual development is carried out under the general guidance of the Director of the Institute. Approval of local acts regulating the educational process takes place at the meetings of the University Academic Council, which is recorded in the minutes of the meetings. The educational programmes are consecutively considered using the "bottom-up" principle at the level of the department, institute, and then at the meeting of the Academic Council.

According to the results of interviews with focus groups, the IAAR EEC experts have confirmed that faculty members, potential employers, practitioners, heads of practical training bases and students are involved in the development of educational programmes. The departments conduct various activities aimed at promoting interaction with employers, which include involving their representatives in the educational process, discussing the relevance and content of academic disciplines and assessment methods.

Employers' participation in the development of EPs and amendments to the existing EPs is achieved by making proposals for the development of new fundamental and practice-oriented disciplines; changes in the content of academic disciplines, collaborative development of topics for term papers and graduation theses related to the problems of information technology, recommendations for teaching guidelines and lecture courses in order to demonstrate innovation in teaching methods and organisation of the educational process; development of practice-oriented theses and their preparation by students at the

request of employers; participation of employers-practitioners in the teaching of individual courses and disciplines.

Analytical part

The EEC notes that the Institute, within the framework of the educational programme under accreditation, has defined the graduate model, and the learning outcomes included in this model are posted on the Institute's website and presented in the report. There is also evidence of verification of the EP content and involvement of employers in the process of EP development. Thus, it has been confirmed that the updating of the working programmes of disciplines and instructional materials takes place annually, and they are posted in the University LMS.

The experts confirm that the learning outcomes of the EP are consistent with the professional European Competence Framework (ECF) in the field of ICT.

The analysis of the self-assessment report and additional materials submitted by the University, as well as the results of meetings with students, faculty members, employers and graduates confirmed that the educational programmes and priorities of the EP development are in line with both the national policy in the field of education and international trends. However, it is necessary to clarify the format of the description of the EP development plans and their adjustment in the context of the UNN Strategy and Development Programmes.

The EEC notes that the development of the EP under accreditation is carried out in accordance with the national state standard. It should also be noted that the level of academic independence is sufficient, as the University has the right to independently develop educational standards.

The EEC experts note that the content of educational programmes is generally harmonised with similar educational programmes, which is also indirectly confirmed by the students' victories in international competitions.

The University management has provided evidence of the participation of teaching staff and employer representatives in the development of the EP. Interviews and questionnaire surveys have confirmed their involvement in the development of the EP. At the same time, there is no confirmed information about students' participation in the discussion of the EP content, teaching and assessment methods.

In the course of the interview, final year students and graduates noted the satisfactory work of the EP management in providing practical training bases, as well as their high level of mastering professional and personal competencies that are in demand in the labour market of the Nizhny Novgorod region. In particular, the EP provides for the learning of mathematical models, algorithms, technologies, environments and tools for developing complex software for high-performance computing, system programming, parallel computing, image processing and synthesis, machine learning. The following disciplines have been added to the EP: Parallel Programming for Cluster Systems, Parallel Programming for Shared Memory Systems, Information Neurodynamics, Distributed Systems, Graphics Processor Programming, Machine Learning and Data Analysis, Program Performance Optimisation. At the time of the visit, students had access to 32 elective courses, 3 optional courses and additional retraining programmes. The optional courses are taught by practitioners. For example, the optional course "Efficient Algorithms and Data Structures" is taught by Alexey Shmelev, a leading Huawei engineer, current coach in Olympiad programming, ICPC-2011 silver medallist.

As a rule, the region's key employers in the IT sector and the digital laboratories of the University where basic research is carried out are used as practical training bases.

During the visit, the IAAR experts visited the practical training bases, where they received confirmation about the close links between the University and the practical training bases,

collaborative search of existing digitalisation problems and participation of practitioners and contributors of breakthrough basic research both in the development of the EP and in teaching.

Following the questionnaire survey of students about their awareness of the procedures for the development and approval of educational programmes, which was conducted during the visit of the IAAR EEC, the following results were obtained: 57.1% of students rated the quality of educational programmes as excellent and 33.1% as good.

Strengths/best practices:
No strengths have been identified for this standard.

EEC Recommendations:
Ensure the involvement of students in the processes of developing educational programmes and define their roles. Deadline: 31 December 2024.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)
Satisfactory position.

6.3. Standard 3. STUDENT-CENTRED LEARNING, TEACHING AND ASSESSMENT

Standard:
The educational institution should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach.

Guidelines:
Student-centred learning and teaching plays an important role in stimulating students' motivation, self-reflection and engagement in the learning process. This means careful consideration of the design and delivery of study programmes and the assessment of outcomes. The implementation of student-centred learning and teaching

- *respects and attends to the diversity of students and their needs, enabling flexible learning paths;*
- *considers and uses different modes of delivery, where appropriate;*
- *flexibly uses a variety of pedagogical methods;*
- *regularly evaluates and adjusts the modes of delivery and pedagogical methods;*
- *encourages a sense of autonomy in the learner, while ensuring adequate guidance and support from the teacher;*
- *promotes mutual respect within the learner-teacher relationship;*
- *has appropriate procedures for dealing with students' complaints.*

Considering the importance of assessment for the students' progression and their future careers, quality assurance processes for assessment take into account the following:

- *Assessors are familiar with existing testing and examination methods and receive support in developing their own skills in this field;*
- *The criteria for and method of assessment as well as criteria for marking are published in advance;*
- *The assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary, is linked to advice on the learning process; - Where possible, assessment is carried out by more than one examiner;*
- *The regulations for assessment take into account mitigating circumstances;*
- *Assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures;*
- *A formal procedure for student appeals is in place.*

Evidence-based part

The principles of student-centred learning and teaching are reflected in a set of local documents that define the University's quality assurance system. The University systematically holds meetings with students in order to establish a productive dialogue. The opinions of students are regularly collected through questionnaire surveys and analysed for consideration and decision-making. The management of the educational programme is accessible to students, there are reception hours at the Institute. In addition, there is an opportunity to discuss issues with the Directorate of the Institute and with the heads of departments. This possibility was confirmed by the students during the interviews.

Students take an active part in collegial management bodies, such as the s Students' Trade Union organisation and the UNN Student Council. IITMM also has a Student Council, where the most active and creative students develop their projects and organise events. An example of students' activity in collegiate management bodies is the IITMM Scholarship Commission. Some members of the Student Council and the Students' Trade Union took part in the interviews. It should be noted that though students are not members of the Academic Council, they can take part in its meetings.

The EP curricula include 32 elective disciplines in the variable component. Besides, students have access to 3 optional courses, as well as to professional retraining programmes. In the academic year 2022/2023, 87 students of the EP "Fundamental Computer Science and Information Technology" at IITMM completed the professional retraining programme "Technologies of digital transformation: virtual and augmented reality", "3d-modelling", "distributed registry systems". According to the plan for the academic year 2023-2024, 117 students of the EP "Fundamental Computer Science and Information Technology" are attending professional retraining programmes of the UNN Digital Department: "Developer of virtual and augmented reality", "Modern technologies of data acquisition and analysis in the Smart City", "Development on the 1C: Enterprise platform".

The interviewing of students has confirmed the possibility of choosing educational paths, which are educational programmes as a whole in this university, and in particular the possibility of choosing disciplines.

Students' individual educational paths are reflected in individual study plans, which are formed within the framework of the local document "Regulations on the procedure for studying according to the individual study plan at UNN", which is applied to students enrolled for study by transfer or reinstatement, or to those who are transferred within UNN.

Individual peculiarities are taken into account in the implementation of the educational programme ("Regulations on the organisation of inclusive education for persons with disabilities and special needs").

Students have confirmed the possibility of academic mobility, but expressed no interest in mobility within the country. In addition, they also confirmed the accessibility of the management, and the consideration of their opinions and wishes.

Each student of the programme is assigned to an academic supervisor who advises him/her on the choice of disciplines and involves him/her in the process of basic research. The heads of the relevant departments provide counselling, which includes professional and academic guidance in the choice of disciplines, as well as counselling in the choice of practical training sites and in the choice of topics for the qualification paper.

Among the research projects in which students took part one can mention the MEGA-grant, a major research project under the leadership of A.N.Gorban (2020-2022), the contract with Huawei "Anomaly detection" (2020-2021), the contract with "GARDA - technologies" (2023-2024), R&D project "High-tech sugar production at JSC "Sergach Sugar Refinery" (2021-2023), State Assignment N-016-9 "Artificial intelligence and processing of large data sets in neuroscience and cardiology", contracted by the Ministry of Education and Science of Russia, project N-494-99 "Development of hardware-software complex for on-line monitoring, diagnostics and forecasting of cardiovascular diseases", contracted by the

Ministry of Education and Science of the Russian Federation (Strategic Academic Leadership Programme Priority 2030), Russian Science Foundation project N-220-2 "Dynamic mechanisms of chaos and extreme events in neural networks", project N-005-92 of the Mathematics Research and Education Centre "Mathematics of Future Technologies".

The analysis of the working programmes of disciplines, visits to classes and interviews with faculty members and students have confirmed the faculty members' command of active learning methods and their appropriate application in a variety of learning situations. The University holds conferences summarising the practice of using active learning methods in IT. The last such conference "Teaching IT in the Russian Federation" was held on 18-19 May 2023 (https://it-education.ru/conf2023/).

The general principle of learning outcomes assessment is set out in the UNN standard and local regulatory documents: "Regulations on ongoing monitoring of academic performance and interim certification of students", UNN Order No. 06.49-04-0332/23 dated 04.07.2023 "On enacting amendments to the Regulations on ongoing monitoring of academic performance and interim certification of students in the implementation of educational programmes of higher education at UNN".

The specific content of the requirements for grading in each subject is defined in the programme of the respective discipline. The results of tests are graded as "pass" or "fail". The examination results are graded as "oustanding", "excellent", "very good", "good", "satisfactory", "unsatisfactory", "poor". The grades "fail", "unsatisfactory", "poor" are considered unsatisfactory. The assessment criteria are stated in the regulatory documents. However, not all working programmes of disciplines contain a detailed explanation in relation to a particular academic discipline, and how these criteria should be applied for assessment within that particular discipline. Also, alternative ways of achieving the expected learning outcomes of academic disciplines are not provided.

Within the framework of the EP, the University's common regulations are used for conducting an appeal - the "Regulations on ongoing monitoring of academic performance and interim certification of students". Appeals and complaints regarding the violation of the procedure of interim certification can be filed by the student within one working day from the day of the relevant certification test.

Analytical part

The experts emphasise that there is a system of counselling and support for students through the active involvement of supervisors and the use of the principle of learning through research. Almost all students of the programme are involved to a greater or lesser extent in the implementation of basic research projects, mega-grants, and other research activities, which is reflected in the quality of the topics of students' final qualification papers.

Based on visits to classes, analyses of documents pertaining to the teaching process, the experts confirm that the faculty members possess a sufficient range of teaching methods and use them appropriately and in a timely manner.

The EEC notes that the University has created conditions for students with disabilities, working students, and gifted students. Different groups of inclusive students have the opportunity to build their educational pathway and choose places for their practical training.

The EEC notes that the system of student assessment within academic disciplines relies on different assessment methods reflecting the specifics of the subject. However, the possibilities to perform alternative assignments within the academic discipline are insufficient.

Strengths/best practices:

No strengths have been identified for this standard.

EEC Recommendations:
1) Continue building a comprehensive system of professional development of faculty members in teaching methods and technologies, ensuring confident command of various interactive teaching methods, critical thinking technologies and the theory of invention problem solving (TRIZ). Deadline: 1 September 2025.

2) Provide for a variety of ways to disseminate the successful experience of university teachers (including visits to classes, open lectures, mentoring, writing articles, etc.) in order to regularly use active learning methods, with due regard to the specifics of the programme and academic disciplines. Deadline: 1 September 2025.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)
Satisfactory position.

6.4 Standard 4. STUDENT ADMISSION, PROGRESSION, RECOGNITION AND CERTIFICATION

Standard:
The educational institution should consistently apply pre-defined and published regulations covering all phases of the student "life cycle", e.g. student admission, progression, recognition and certification.

Guidelines:
Providing conditions and support that are necessary for students to make progress in their academic career is in the best interest of the individual students, programmes, institutions and systems.
It is vital to have fit-for-purpose admission, recognition and completion procedures, particularly when students are mobile within and across higher education systems.
It is important that access policies, admission processes and criteria are implemented consistently and in a transparent manner. Induction to the educational institution and the programme is provided.
The educational Institution needs to put in place both processes and tools to collect, monitor and act on information on student progression.
Fair recognition of higher education qualifications, periods of study and prior learning, including the recognition of non-formal and informal learning, are essential components for ensuring the students' progress in their studies, while promoting mobility.

Appropriate recognition procedures rely on
- *institutional practice for recognition being in line with the principles of the Lisbon Recognition Convention;*
- *cooperation with other institutions, quality assurance agencies and the national ENIC/NARIC centre with a view to ensuring coherent recognition across the country.*

Graduation represents the culmination of the students' period of study. Students need to receive documentation explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed.

Evidence-based part

Students can enrol in the programme 02.03.02 "Fundamental Computer Science and Information Technology" in accordance with the admission rules and other regulatory documents in force in the Russian Federation. To study in the programme, it is necessary to have the appropriate educational background confirmed by a document. Admissions are made for the first year of study. The admission rules are available to the general public and are posted on the university website.

Every year, the number of students within the EP grows, which reflects the demand for the educational programme. The graduation rate corresponds to the complexity of the educational programme and is about 80%. Thus, in 2019 the number of admitted students was 90 persons, and 71 of them graduated in 2023 (79% of the admission).

The total number of students is currently 377 persons.

The policy regarding the formation of the student population is reflected in a series of local regulations, which are freely available on the university website and are accessible to all interested parties. Thus, the university website publishes rules regulating all periods of education, starting from admission to the university. All documents concerning the regulation of the educational process are aimed at the consistent development of a student's academic career, his/her progression along the educational path, involvement in the educational process, taking into account individual needs and opportunities for personal development. The documents also contain a description of the dismissal procedure and the criteria for applying this procedure. Students have the right to be reinstated and to retake courses on a fee-paying basis. For successful students, there is an option to transfer to free tuition to places that have been vacated.

During the visit and inspection, the experts studied the current LMS, which is used to record students' progress and support the learning process. Learning takes place on the basis of a group approach. An order is issued annually on progression from one year of study to the next. Recognition of the results of previous training is not performed, as it is not provided for by the national legislation. Credit transfer is possible only in case of studying in programmes of the same level. In case of academic mobility, there are no obstacles for credit transfer.

Practical training usually takes place at the university within the framework of applied and basic research conducted by the Institute's scientists. A significant part of research is carried out at the intersection of sciences. The experts were shown a number of students' theses and term papers carried out at the intersection of information technology and medicine.

A University-wide Career Centre has been established to monitor the employment of graduates, analyse the average salary level and the time of job search.

The experts also analysed the results of the defence of final qualification papers. It should be noted that student research is carried out within the framework of projects conducted in the research institutes of the Russian Academy of Sciences, industry research institutes, performed at the request of IT companies and aimed at further use of the results. The SEC minutes contain the Chairpersons' opinion that the quality of the majority of final qualification papers is high, the topics of final qualification papers are relevant, and students use modern research methods.

Analytical part

The EEC highlights both the existence of the procedures to form the student population and their observance. However, practical training solely within the Institute may negatively affect the competitiveness of students in the regional market.

The experts note that all local regulations are written in a formalised language intended for university employees rather than students.

Strengths/best practices:
No strengths have been identified for this standard.

EEC Recommendations:

1) Take measures to diversify the places of practical training for students in order to enhance their competitiveness and to meet the region's needs.

2) Develop guides/manuals for students that explain the algorithms of actions using a language style that is understandable and accessible to students.

EEC conclusions on the standard:(strong/satisfactory/needs improvement/unsatisfactory)
Satisfactory position.

6.5. Standard 5. TEACHING STAFF

Standard:
The educational institution should apply fair and transparent processes for the recruitment and professional development of its staff to assure itself of its teachers' competence.

Guidelines:
The teacher's role is essential in creating a high quality student experience and enabling the acquisition of knowledge, competences and skills. The diversifying student population and stronger focus on learning outcomes require student-centred learning and teaching and the role of the teacher is, therefore, also changing (cf. Standard 1.3).

Higher education institutions have primary responsibility for the quality of their staff and for providing them with a supportive environment that allows them to carry out their work effectively. Therefore, education institutions should:
- *set up and follow clear, transparent and fair processes for staff recruitment and conditions of employment that recognise the importance of teaching;*
- *offers opportunitie for and promote the professional development of teaching staff;*
- *encourage scholarly activity to strengthen the link between education and research;*
- *encourage innovation in teaching methods and the use of new technologies.*

Evidence-based part

The human resources policy of Lobachevsky University is aimed at attracting and supporting qualified teachers who meet the qualification requirements established by law and educational standards. The University uses standard qualification requirements and job descriptions adopted at the national level and placed in the public domain. No adaptation of the standard qualification requirements and job descriptions, supporting the expressed specific features of the Institute and the EP has been performed.

The HR policy is accessible, decisions within the framework of its implementation are made transparently. All information about current faculty members is available on the website. Teachers wishing to participate in the competitive selection process should familiarise themselves with the qualification requirements and step-by-step instructions on how to pass the competitive selection process. In order to stimulate professional and personal development of its faculty members, UNN has developed and enacted the Regulations on the point-rating assessment of the performance of faculty members belonging to the UNN teaching staff, subject to which the performance of the teaching staff was assessed.

Qualification requirements for UNN faculty members are set out in the standard job descriptions for each position. The University's website provides a list of documents to be submitted by applicants when applying for faculty positions: for full-time employees, internal and external part-time employees.

The HR potential of the teaching staff engaged in the Bachelor's programme 02.03.02 "Fundamental Computer Science and Information Technology" is consistent with the University's development strategy and the specifics of the educational programme, which is confirmed by the presence of publications and participation in conferences of various levels. Thus, the data given in the self-assessment report, as well as the information about the programme teaching staff posted on the university website, provides complete details about the HR potential and leads to the conclusion about its sufficiency.

Furthermore, the involvement of leading national researchers and IT practitioners, as well as the involvement of world-class researchers within the framework of mega-grants (A. Gorban and others) should be noted as a strength of the programme. The teaching staff of the EP are currently involved in the implementation of 39 large-scale research projects funded at the national level.

74% of the disciplines are taught by faculty members with higher academic degrees, while the national norm is 60%. Full-time teachers are 80.08% of the teaching staff. In total, 73 faculty members are involved in the implementation of the EP, including 9 teachers from the IT sector of the economy; 12 persons are doctors of sciences, 40 persons are candidates of sciences. Thus, the proportion of higher academic degrees holders is 71.2%.

The teaching workload in the study area 02.03.02 "Fundamental Computer Science and Information Technology" is regulated and planned according to the Rector's orders, which are issued in accordance with the decision of the UNN Academic Council at the end of each academic year. The teaching workload is reflected in individual work plans. However, for some teachers of the programme, individual work plans contain some types of work (research, writing articles), which are performed within the framework of research grants funded from other sources, and, therefore, are not part of the teaching load performed as part of the teacher's job description.

The University supports and develops research activities of its faculty members. The university has established research laboratories, holds scientific conferences and seminars, and organises participation of its employees in research projects and programme competitions. Moreover, the University actively cooperates with leading research centres in Russia and worldwide to exchange experience and transfer the latest knowledge and technologies.

The University provides its teaching staff with opportunities for career development and professional development. The university holds regular professional development events and provides opportunities to participate in research projects and programme competitions. The University also supports its teachers in obtaining additional education, including professional retraining, as well as internships in leading educational and research centres in Russia and around the world.

Teaching staff of the EP, as well as of the University as a whole, have access to social guarantees, including labour remuneration in accordance with qualification requirements, the possibility of receiving additional social benefits and health insurance. The University also provides its teachers with modern equipment and software for teaching and research.

The EP teaching staff are closely involved in the development of scientific and pedagogical basis for teaching IT disciplines at the university and in the design of new educational resources. In particular, they carrying out state-funded research projects, such as "Research and Development: Providing by 2024 at least 20 per cent of students of higher education programmes with the opportunity to study individual courses, disciplines (modules), including those in the format of online courses, using the resources of other organisations engaged in educational activities, including universities, ensuring compliance of the quality of students' training with the world level within the framework of individual activities of the federal project "Young Professionals (Increasing the Competitiveness of Professional Education) of the national project "Education" (R&D project carried out under

the assignment of the Ministry of Education and Science of the Russian Federation). Project No.: 021/P.". Project manager: O.V. Petrova.

Faculty members of the EP take part in offline and online academic mobility. During the autumn semester 2019, Prof. V.P. Gergel gave lectures on programming at the MSU-Beijing Polytechnic University in Shenzhen (China). In July 2022 and April 2023, Prof. D.V. Balandin gave lectures and practical classes in the discipline "Numerical Methods of Nonlinear and Convex Optimisation" for students of the robotics school at the Sirius University of Science and Technology. During the academic year 2023-24, Associate Professor I.B. Meyerov, Associate Professor A.V. Sysoev, and Associate Professor E.A. Kozinov read a course on parallel programming at the Russian-Armenian (Slavonic) University. The staff of IITMM take part annually in more than 100 scientific conferences of different levels; many of them are members of the program and organisational committees.

Analytical part

The EEC notes that the teaching staff involved in teaching within the framework of the EP under accreditation is represented by a sufficient number of specialists in all fields of knowledge covered by the educational programme. The study of the staff reference attached to the self-assessment report, timetable, teachers' individual plans and visits to the departments, as well as the results of interviews and questionnaire surveys allow us to conclude that there is a sufficient number of faculty members and that they meet the standard qualification requirements.

The EEC notes the teachers' strong potential and their large-scale involvement in basic and applied research.

While understanding and supporting active participation of teachers in research, the EEC notes the need to separate the planning of teaching load from the workload carried out within the framework of additionally funded research.

The interviewing of teaching staff has shown that not all teachers realise their contribution to the implementation of the Strategy and other strategic documents. The EEC emphasises the need to cascade strategic goals and objectives to the personal level of employees.

Strengths/best practices:
Strong research potential of faculty members involved in the educational process.

EEC Recommendations:

1) Revise the format for planning the teaching load, taking into account the participation in the implementation of strategic goals and objectives. Deadline: 1 May 2024.

2) Develop job descriptions and qualification requirements taking into account the specifics of the EP and of the Institute on the basis of standard job descriptions and qualification requirements by 1 September 2024.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)
Strong position.

6.6. Standard 6. LEARNING RESOURCES AND STUDENT SUPPORT

Standard:

The educational institution should have appropriate funding for learning and teaching activities and ensure that adequate and readily accessible learning resources and student support are provided.

Guidelines:
For a good higher education experience, the educational institution should provide a range of resources to assist student learning. These vary from physical resources such as libraries, study facilities and IT infrastructure to human support in the form of tutors, counsellors and other advisers. The role of support services is of particular importance in facilitating the mobility of students within and across higher education systems.
The needs of a diverse student population (such as mature, part-time, employed and international students as well as students with disabilities), and the shift towards student-centred learning and flexible modes of learning and teaching, are taken into account when allocating, planning and providing the learning resources and student support.
Support activities and facilities may be organised in a variety of ways depending on the institutional context. However, the internal quality assurance ensures that all resources are fit for purpose, accessible, and that students are informed about the services available to them.
In delivering support services the role of support and administrative staff is crucial and therefore they need to be qualified and have opportunities to develop their competences.

Evidence-based part

The University's physical facilities comply with the goals and objectives of the mission, meet the requirements of sanitary and fire safety regulations and relevant general education standards. The University implements new forms and methods of providing educational services based on modern information technology. The needs of the educational programme are fulfilled both within the framework of funds from the state budget and extra-budgetary revenues, as well as through the purchase of equipment and software as part of the financing of research projects. Specialised and laboratory equipment is used for the educational process and research within the framework of the EP, including: equipment of the Laboratory of Electrophysiology and Modelling of Living Systems, the Internet of Things Laboratory, supercomputer "Lobachevsky", etc.

The University infrastructure provides a comfortable and safe learning environment, which is an essential part of the educational, research and innovation potential of the University. The territory and premises of the Institute are accessible for students with disabilities. In addition, the University takes care of maintaining the territory, buildings and communications.

The University is constantly optimising and improving the LMS, its website and the University portal. The functioning of the electronic educational environment is defined in a number of local regulatory documents, including "Regulations on the UNN Electronic Educational Environment", "Policy on the Processing of Personal Data Handled at UNN", "Procedure for Handling Personal Data in the Federal State Autonomous Educational Institution of Higher Education", as well as a number of documents regulating academic integrity and the conduct of plagiarism checks. The plagiarism check is performed for final qualification papers with the help of the system (https://unn.antiplagiat.ru/) "Anti-Plagiarism". The procedure for conducting the check is defined in the "Regulations on the Procedure for the State Final Certification of Higher Education Programmes - Bachelor's, Specialist and Master's Degree Programmes - at UNN".

The main opportunities provided by the educational portal of Lobachevsky University include recording the progress of the educational process and the results of interim certification, access to curricula and working programmes of disciplines, access to electronic educational resources and electronic library systems, maintaining one's own portfolio, uploading term papers and reports on practical training, communication and interaction

with other participants of the educational process and viewing the schedule of classes, as well as receiving consultations in reply to one's questions, including an appointment for counselling with psychologists.

Measures of social support for different groups of students include academic and social scholarships and financial assistance to certain categories of students. In the course of interviews with the students of the programme, the information about the availability of academic support was confirmed. According to the students' words, tutors play a special role in this process. They are the ones to whom students turn for help or with questions, next come the employees of the Institute Directorate, then heads of departments and teachers, and then the Student Council and the Student Trade Union.

Library resources can be used both on the website of the library, including through subscription in the libraries of partner universities, and offline in the building of the Fundamental Library, where in addition to the loan department and reading rooms there is also a co-working area. The website of the Fundamental Library provides the following categories of information resources: analytical services, scientific citation databases, databases of structural data, materials, research protocols, foreign periodicals, foreign electronic resources, books in foreign languages, open access resources, abstract and bibliographic databases, Russian periodicals, Russian books and dissertations, Russian electronic resources, the University's collection of educational electronic resources, electronic library systems.

Analytical part

The EEC notes that the infrastructure of the University provides the necessary conditions for the educational process, research and development. The University has established research laboratories, holds scientific conferences and seminars. The University's physical facilities provide for a variety of academic events as well as for scientific research.

The EEC experts note that the University has all the necessary conditions to meet the social, personal and everyday needs of students, including special categories, through the functioning of structural units that assist students in the learning process and solving social issues.

The EEC experts note that the updating of the EP and the inclusion of new academic disciplines in the programme requires timely updating of the educational literature stock.

Strengths/best practices:
No strengths have been identified for this standard.

EEC Recommendations:
Continue the work on updating the stock of educational literature, including the analysis of book supply, survey of student and faculty satisfaction with the availability and quality of publications, and also provide for the possibility of publishing educational literature for the programme of study under accreditation by UNN faculty authors and/or authors' collaborations with partner universities.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)
Satisfactory position.

6.7. Standard 7. INFORMATION MANAGEMENT

Standard:
The educational institution should ensure that it collects, analyses and uses relevant information for the

effective management of its programmes and other activities.

Guidelines:
Reliable data is crucial for informed decision-making and for knowing what is working well and what needs attention. Effective processes to collect and analyse information about study programmes and other activities feed into the internal quality assurance system.

The information gathered depends, to some extent, on the type and mission of the institution. The following types of information should be of interest for the educational institution:
- *key performance indicators;*
- *profile of the student population;*
- *student progression, success and drop-out rates;*
- *students' satisfaction with their programmes;*
- *learning resources and student support available;*
- *career paths of graduates.*

Various methods of collecting information may be used. It is important that students and staff are involved in providing and analysing information and planning follow-up activities

Evidence-based part

Information management is accomplished through a combination of traditional and electronic document flows, including the issuance of orders, approval of local regulations, memos, plans and reports, as well as through participation in the work of collegial bodies and familiarisation with the minutes of meetings. Besides, information is conveyed by means of communication between university employees and students, including via telephone. Traditional communication has been supplemented by communication in the portal chat room, through corporate email and social media communication and cloud-based video-conferencing platforms.

The transition to electronic document management has resulted in less attention to the texts and decisions of the Institute's collegial bodies, which has led to keeping them in a formal manner and incomplete reflection of discussions during meetings, as well as to the absence of decisions that define further actions aimed at continuous quality improvement.

Minutes of collegial bodies' meetings are of schematic informational nature, decisions do not contain implementation timelines, and no persons responsible for implementing decisions are identified. The fulfilment of previously adopted decisions is not considered in the minutes. Issues related to the cascading of strategic documents to the level of the Institute, departments and employees were not discussed during the current academic year. The issues related to summarising the results of the EP activities were not presented separately, they were considered only in the context of the faculty competition and were not of a systemic nature.

The following information systems are used for information management at Lobachevsky University: "Galaktika. University Management", "Class Schedule", University Portal, e-learning.unn.ru electronic learning system, information systems for admission of applicants, a system for integrating tuition fees with 1C financial and accounting systems. An information system for recording and storing documents on educational programmes (https://opop2.unn.ru/) run at UNN has been developed and implemented.

In the current situation of sanctions imposed by foreign countries against the Russian Federation, work was carried out for import substitution of software systems used at UNN. In particular, to replace the Zoom system, access to domestic systems Webinar.ru and Contour.Talk was provided and configured. Domestic operating systems and office packages are being purchased to organise the process of import substitution of workplaces. In the changing geopolitical environment, much attention was paid to information security. In

particular, a new system of additional backup of the most critical information systems was put in place.

A new electronic document management system Directum was implemented at UNN, electronic document management integration with UNN information systems was carried out, new document flow routes were set up.

Also, the online service nir.unn.ru was designed and implemented to keep track of research projects implemented at UNN, with an automated system for the formation of research teams, which is integrated with UNN information bases. The system makes it possible to prepare all the necessary documents for keeping records of research projects, as well as for providing research teams with financial information and personnel records.

Analytical part

The external expert commission confirms that the University has taken systematic actions to ensure the requirements of this standard at Lobachevsky University. The analysis of the portal and official social networks of the University has shown that it follows the principles of openness and accessibility for interested parties. The University posts on its portal complete and reliable information for students and teachers, local regulations, news, information about the admission rules for applicants, educational programmes, terms and forms of study, international programmes and each structural unit.

The experts note that the information published on the portal is accurate, objective and up-to-date. The Commission highly appreciated the systematic work on posting the information and access to the electronic learning environment, which ensures the transparency of the University's activities.

However, the EEC notes that the management of paper document flow, in particular, the minutes of the department meetings and the meetings of collegial bodies considering the reports on the implementation of educational programmes requires reloading. The minutes of meetings of the Institute's departments do not contain sufficient information to get an idea of what is going on. Decisions are of general nature and do not contain execution timelines, persons responsible and specific measures. Issues concerning the functioning of the EP are considered only in the context of the activities of heads of departments when they participate in the competition for a position.

Strengths/best practices:
No strengths have been identified for this standard.

EEC Recommendations:

1) The Institute Directorate, heads of departments, secretaries and chairpersons of the Institute's collegial bodies should undergo training on the processes of documenting and keeping minutes. Deadline: 6 March 2024.

2) The Vice-Rector in charge of continuous improvement and implementation of strategic initiatives at the University level should organise inspection and analysis of the minutes of collegial bodies of the University and the Institute, including the minutes of departmental meetings, in order to include the issues of implementation of strategic goals and objectives, implementation of the kpi (cascaded to the structural unit level), as well as the implementation of educational programme development plans, completeness and systemic reports on the implementation of the EP and the fulfilment of decisions taken. Deadline: 1 March 2024.

3) Consider the issue of the transfer of keeping minutes of collegial bodies' meetings to electronic document management in order to ensure transparency and completeness of decisions adopted, as well as to ensure timely control. Deadline: 1 September 2025.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)
Satisfactory position.

6.8. Standard 8. PUBLIC INFORMATION

Standard:
The educational institution should publish information about its activities, including programmes, which is clear, accurate, objective, up-to date and readily accessible.

Guidelines:
Information on the institution's activities is useful for prospective and current students as well as for graduates, other stakeholders and the public.
Therefore, the educational institution should provide information about its activities, including the programmes offered and the selection criteria for them, the intended learning outcomes of these programmes, the qualifications they award, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to the students as well as graduate employment information

Evidence-based part

Information for the general public is published in mass media, social networks, university publications, as well as on the website. In addition, regional media, bloggers and partners of the university post information about the programme and its affiliated personalities on their digital platforms and in traditional media publications.

Public relations functions are performed by respective structural subdivisions of the university and the university's top management, including the rector, vice-rectors, and institute directors.

Representatives of the University and the programme take part in regional, Russian and foreign exhibitions for applicants, during which information about the University as a whole and the programme under accreditation is disseminated. The University organises Olympiads and competitions for applicants and school students.

Lobachevsky University publishes full and reliable information about its activities, admission rules, educational programmes, terms and forms of study, international programmes and teachers on its website in Russian and English. In its information activities, the University relies on the principles of relevance, transparency, accessibility and openness. Public information addresses not only the activities and image of the EP and the University, but also issues of state policy in the field of education, as well as issues of digitalisation, artificial intelligence potential and information security.

The University website contains information for all interested parties, reflecting all areas of the University's activities. The navigation menu by target audience groups is static and consists of the items "Information for: school students, applicants, students, staff, alumni, partners". The main modules of the home page are: "Admissions Office", "About the University", "Faculties and Institutes", "Science and Innovation", "Special Education and Science Centre", "Faculty and Staff", "Contacts", "International Activities", "Information about the Educational Organisation". IITMM, as well as all its departments involved in the delivery of the educational programme under accreditation, have their own pages on the University website.

Analytical part

The EEC confirms that the University uses a variety of ways to disseminate information for informing the general public and stakeholders. Information is available on the official website, official social networks, information stands, videos and booklets about the University, its departments and other aspects of its activities. In general, the expert commission has highly appreciated the University's work to ensure openness and accessibility of information to the public.

Strengths/best practices:
No strengths have been identified for this standard.

EEC Recommendations:

Capitalising on the public's increased interest in artificial intelligence and information technology, consider creating a number of channels hosted by renowned scientists and students.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)
Satisfactory position.

6.9. Standard 9. ONGOING MONITORING AND PERIODIC REVIEW OF PROGRAMMES

Standard:

The educational institution should monitor and periodically review its programmes to ensure that they achieve the objectives set for them and respond to the needs of students and society. These reviews should lead to continuous improvement of the programme. Any action planned or taken as a result should be communicated to all those concerned.

Guidelines:

Regular monitoring, review and revision of study programmes aim to ensure that the provision remains appropriate and to create a supportive and effective learning environment for students. They include the evaluation of:

- *the content of the programme in the light of the latest research in the given discipline thus ensuring that the programme is up to date;*
- *the changing needs of society;*
- *the students' workload, progression and completion;*
- *the effectiveness of procedures for assessment of students;*
- *the student expectations, needs and satisfaction in relation to the programme;*
- *the learning environment and support services and their fitness for purpose for the programme.*

Programmes are reviewed and revised regularly involving students and other stakeholders. The information collected is analysed and the programme is adapted to ensure that it is up-to-date. Revised programme specifications are published.

Evidence-based part

Having analysed local regulations and after conducting interviews, the EEC notes a sufficient level of change management. The procedure for making changes to the EP is covered by local regulations, the educational standard, the EP development plan and other regulatory documents. All changes to the educational programme and local regulations are approved in accordance with the established procedure by the Rector's orders.

The EEC notes that various types of monitoring of academic performance have been carried out, along with questionnaire surveys. However, the EEC was not provided with materials confirming the comprehensive multifactor analysis of the educational programme, which would give an idea of the mutual influence of factors.

Employers are actively involved in discussing and implementing the EP, which was confirmed in the course of interviews. During the visit, the monitoring and evaluation elements of the educational programme were confirmed, which include questionnaire surveys of educational process participants, feedback from practical training supervisors, and visits to classes. In the course of the interview, employers confirmed their participation in the discussion of the educational programme content, during which suggestions for its improvement were made.

The Institute has an IT Council, which includes representatives of the Nizhny Novgorod region's IT community. At its meetings, issues of changing the content of curricula and educational programmes are discussed taking into account changes in the labour market, employers' requirements and social demands of society.

The presence of feedback from students and stakeholders was also confirmed. The EEC confirms that the monitoring of the achievement of objectives in the framework of the EP is also conducted by means of questionnaire surveys of the educational process participants and analyses of students' performance. However, the monitoring of the EP is not yet of a comprehensive and systemic nature, which can be implemented, in particular, with the use of big data analysis.

Within the framework of the EEC visit, the facts were confirmed that interim monitoring results were considered in the context of other issues or in a fragmented manner. Separate consideration of the EP monitoring results at the meetings of collegial bodies of different levels was not reported to the experts.

Analytical part

Having analysed the results of interviews and questionnaire surveys, the EEC notes that the involvement of stakeholders in the processes of monitoring the EP and making changes in the programme is sufficient. Representatives of employers, students, teachers and other stakeholders are involved in decision-making on changes through their discussion at extended meetings of the departments and Academic Councils of the Institute and the University. However, the minutes of the meetings of the Institute's departments do not reflect the issues related to the comprehensive discussion of the educational programme. In the minutes of collegial bodies, the EP is considered in the context of participation in the competition for administrative and pedagogical positions.

Strengths/best practices:

No strengths have been identified for this standard.

EEC Recommendations:

1) Revise the procedure for ongoing monitoring and periodic review of the educational programme using the capabilities of information technologies and big data analysis until 1 May 2024. Further, carry out periodic review of the educational programme annually, no later than 10 July of the current year with a discussion of the results at the meetings of the Academic Council of the Institute.

2) Revise the functions and procedures of the collegial bodies that coordinate and provide instructional guidance to include in their functions the review of monitoring and annual review of the periodic evaluation results. Deadline: 1 September 2024.

3) Consider the possibility of automatic collection and analysis of some data in the context of educational programmes, including the availability of teaching staff, their publication activity and the results of participation in research, students' academic performance and its dynamics, provision of educational literature, satisfaction of students, teachers and employers. Deadline: 1 September 2024.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)

Position needs improvement.

6.10. Standard 10. CYCLICAL EXTERNAL QUALITY ASSURANCE

Standard:
The educational institution should undergo external quality assurance in line with the ESG on a cyclical basis.

Guidelines:
External quality assurance in its various forms can verify the effectiveness of the educational institution's internal quality assurance, act as a catalyst for improvement and offer the institution new perspectives. It will also provide information to assure the institution and the public of the quality of the institution's activities.

Evidence-based part

The procedure of external evaluation in the format of international accreditation in accordance with the ESG requirements has not previously been carried out.

Lobachevsky University takes part in the procedure of professional and public accreditation of various educational programmes on a regular basis. Information about the period of validity of professional and public accreditation is provided on the University's website. The educational programme being accredited passed the procedure of professional and public accreditation in 2014, according to the standards of the Association for Engineering Education of Russia, which is a fully qualified member of the European Network for Accreditation of Engineering Education. The accreditation period is 5 years.

In 2018, UNN passed the procedure of state accreditation (Certificate No. 2847 dated 13 June 2018) by the Federal Service for Supervision of Education and Science. The accreditation is open-ended.

The University holds the position in the 751-800 range in the QS ranking.

Analytical part

The EEC confirms that the EP under accreditation is being reviewed for the first time for compliance with the requirements of the European Standards and Guidelines (ESG).

The information on the participation of the EP in the rankings has not been provided.

Strengths/best practices:
No strengths have been identified for this standard.

EEC Recommendations:
Ensure timely implementation of recommendations received during the accreditation of the educational programme. Deadline: according to the plan for implementing the recommendations.

EEC conclusions on the standard: (strong/satisfactory/needs improvement/unsatisfactory)
Satisfactory position.

(VII) OVERVIEW OF STRENGTHS/BEST PRACTICES

Standard 1. POLICY FOR QUALITY ASSURANCE
No strengths have been identified for this standard.

Standard 2. DESIGN AND APPROVAL OF THE PROGRAMME
No strengths have been identified for this standard.

Standard 3. STUDENT-CENTRED LEARNING, TEACHING AND ASSESSMENT
No strengths have been identified for this standard.

Standard 4. STUDENT ADMISSION, PROGRESSION, RECOGNITION
AND CERTIFICATION
No strengths have been identified for this standard.

Standard 5. TEACHING STAFF
Strong research potential of faculty members involved in the educational process.

Standard 6. LEARNING RESOURCES AND STUDENT SUPPORT
No strengths have been identified for this standard.

Standard 7. INFORMATION MANAGEMENT
No strengths have been identified for this standard.

Standard 8. PUBLIC INFORMATION
No strengths have been identified for this standard.

Standard 9. ONGOING MONITORING AND PERIODIC REVIEW OF PROGRAMMES
No strengths have been identified for this standard.

Standard 10. CYCLICAL EXTERNAL QUALITY ASSURANCE
No strengths have been identified for this standard.

(VIII) OVERVIEW OF RECOMMENDATIONS FOR QUALITY IMPROVEMENT FOR EACH STANDARD

Standard 1. POLICY FOR QUALITY ASSURANCE

1) Clarify the formulation of the mission and vision, taking into account modern approaches, in order to ensure that it is clearly and unambiguously understood and communicated by all participants of the educational process. Deadline: 1 October 2024.

2) Ensure at the level of the Institute and departments the integration of all strategic documents of the University into a single document that unites and systematises all the goals and objectives of the structural unit for the coming period. Deadline: 1 July 2024. Thereafter, to be carried out annually.

3) Provide for cascading of strategic goals and objectives to the personal level, within the framework of the work functions performed, including the goals of the forthcoming personal and professional development, recording the results of cascading in the new format of individual work plans of faculty members and researchers, as well as in the work plans of structural units and development plans of educational programmes. Deadline: 1 September 2024. Thereafter, to be carried out annually.

4) Consider the appointment of a programme manager or assignment of these functions within the teaching load, which will enable consistent coordination of the EP. Deadline: 1 September 2025.

5) Include students in collegial bodies, including the Academic Council. Deadline: 1 September 2025.

Standard 2. DESIGN AND APPROVAL OF THE PROGRAMME

Ensure the involvement of students in the processes of developing educational programmes and define their roles. Deadline: 31 December 2024.

Standard 3. STUDENT-CENTRED LEARNING, TEACHING AND ASSESSMENT

1) Continue building a comprehensive system of professional development of faculty members in teaching methods and technologies, ensuring confident command of various interactive teaching methods, critical thinking technologies and the theory of invention problem solving (TRIZ). Deadline: 1 September 2025.

2) Provide for a variety of ways to disseminate the successful experience of university teachers (including visits to classes, open lectures, mentoring, writing articles, etc.) in order to regularly use active learning methods, with due regard to the specifics of the programme and academic disciplines. Deadline: 1 September 2025.

Standard 4. STUDENT ADMISSION, PROGRESSION, RECOGNITION
AND CERTIFICATION

1) Take measures to diversify the places of practical training for students in order to enhance their competitiveness and to meet the region's needs.

2) Develop guides/manuals for students that explain the algorithms of actions using a language style that is understandable and accessible to students.

Standard 5. TEACHING STAFF

1) Revise the format for planning the teaching load, taking into account the participation in the implementation of strategic goals and objectives. Deadline: 1 May 2024.

2) Develop job descriptions and qualification requirements taking into account the specifics of the EP and of the Institute on the basis of standard job descriptions and qualification requirements by 1 September 2024.

Standard 6. LEARNING RESOURCES AND STUDENT SUPPORT

Continue the work on updating the stock of educational literature, including the analysis of book supply, survey of student and faculty satisfaction with the availability and quality of publications, and also provide for the possibility of publishing educational literature for the programme of study under accreditation by UNN faculty authors and / or authors' collaborations with partner universities.

Standard 7. INFORMATION MANAGEMENT

1) The Institute Directorate, heads of departments, secretaries and chairpersons of the Institute's collegial bodies should undergo training on the processes of documenting and keeping minutes. Deadline: 6 March 2024.

2) The Vice-Rector in charge of continuous improvement and implementation of strategic initiatives at the University level should organise inspection and analysis of the minutes of collegial bodies of the University and the Institute, including the minutes of departmental meetings, in order to include the issues of implementation of strategic goals and objectives, implementation of the kpi (cascaded to the unit level), as well as the implementation of educational programme development plans, completeness and systemic reports on the implementation of the EP and the fulfilment of decisions taken. Deadline: 1 March 2024.

3) Consider the issue of the transfer of keeping minutes of collegial bodies' meetings to electronic document management in order to ensure transparency and completeness of decisions adopted, as well as to ensure timely control. Deadline: 1 September 2025.

Standard 8. PUBLIC INFORMATION

Capitalising on the public's increased interest in artificial intelligence and information technology, consider creating a number of channels hosted by renowned scientists and students.

Standard 9. ONGOING MONITORING AND PERIODIC REVIEW OF PROGRAMMES

1) Revise the procedure for ongoing monitoring and periodic review of the educational programme using the capabilities of information technologies and big data analysis until 1 May 2024. Further, carry out periodic review of the educational programme annually, no later than 10 July of the current year with a discussion of the results at the meetings of the Academic Council of the Institute.

2) Revise the functions and procedures of the collegial bodies that coordinate and provide instructional guidance to include in their functions the review of monitoring and annual review of the periodic evaluation results. Deadline: 1 September 2024.

3) Consider the possibility of automatic collection and analysis of some data in the context of educational programmes, including the availability of teaching staff, their publication activity and the results of participation in research, students' academic performance and its dynamics, provision of educational literature, satisfaction of students, teachers and employers. Deadline: 1 September 2024.

Standard 10. CYCLICAL EXTERNAL QUALITY ASSURANCE

Ensure timely implementation of recommendations received during the accreditation of the educational programme. Deadline: according to the plan for implementing the recommendations.

(IX) OVERVIEW OF RECOMMENDATIONS FOR EDUCATIONAL INSTITUTION DEVELOPMENT

None.

(X) RECOMMENDATION TO THE ACCREDITATION COUNCIL

The members of the external expert commission have reached a unanimous opinion that the educational programme 02.03.02 Fundamental Computer Science and Information Technology (Bachelor's degree) implemented by the National Research Lobachevsky State University of Nizhny Novgorod can be accredited for a period of 5 years.

Annex 1: Evaluation table "Conclusion of the external expert commission"

№	IAAR International Standards ESG Part 1.	Position of the educational organisation			
		Strong	Satisfactory	Needs improvement	Unsatisfactory
Standard 1. POLICY FOR QUALITY ASSURANCE					
1	The educational institution should have a policy for quality assurance that is made public and forms part of its strategic management. Internal stakeholders should develop and implement this policy through appropriate structures and processes, while involving external stakeholders. **Guidelines:** The policy and mechanisms to implement it are the basis for a logically structured and coherent quality assurance system for the educational institution. The system forms a cycle for continuous improvement and contributes to the accountability of the educational institution. It supports the development of quality culture in which all internal stakeholders assume responsibility for quality and engage in quality assurance at all levels of the institution. In order to facilitate this, the policy and mechanisms to implement it have a formal status and are publicly available. The quality assurance policy is most effective when it reflects the relationship between research and learning & teaching and takes account of both the national context in which the institution operates, the institutional context and its strategic approach. Such a policy supports: • the organisation of the quality assurance system; • departments, schools, faculties and other organisational units as well as those of institutional leadership, individual staff members and students to take on their responsibilities in quality assurance; • academic integrity and freedom and is vigilant against academic fraud; • guarding against intolerance of any kind or discrimination against the students or staff; • the involvement of external stakeholders in quality assurance. The policy translates into practice through a variety of internal quality assurance processes and procedures that allow participation of all units across the educational institution. How the policy is implemented, monitored and revised is the institution's decision. The quality assurance policy also covers any elements of activities that are subcontracted by the institution to other parties or are carried out by the institution's partners.		+		
Standard 2. DESIGN AND APPROVAL OF THE PROGRAMME					
2	The educational institution should have processes for the design and approval of its programmes. The programmes should be designed so that they meet the objectives set for them, including the intended learning outcomes. The qualification resulting from a programme should be clearly specified and communicated, and refer to the correct level of the national qualifications framework for higher education and, consequently, to the Framework for Qualifications of the European Higher Education Area. **Guidelines:** Study programmes are at the core of the higher education institutions' teaching mission. They provide students with both academic knowledge and skills including those that are		+		

		+		
	transferable, which may influence their personal development and may be applied in their future careers. Programmes developed by educational institutions: • are designed with overall programme objectives that are in line with the institutional strategy and have explicit intended learning outcomes; • are designed by involving students and other stakeholders in the work; • benefit from external expertise and reference points; • reflect the four purposes of higher education of the Council of Europe (cf. Scope and Concepts); • are designed so that they enable smooth student progression; • define the expected student workload, e.g. in ECTS; • include well-structured placement opportunities where appropriate; • are subject to a formal institutional approval process.			
Standard 3. STUDENT-CENTRED LEARNING, TEACHING AND ASSESSMENT				
3	The educational institution should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach. **Guidelines:** Student-centred learning and teaching plays an important role in stimulating students' motivation, self-reflection and engagement in the learning process. This means careful consideration of the design and delivery of study programmes and the assessment of outcomes. The implementation of student-centred learning and teaching • respects and attends to the diversity of students and their needs, enabling flexible learning paths; • considers and uses different modes of delivery, where appropriate; • flexibly uses a variety of pedagogical methods; • regularly evaluates and adjusts the modes of delivery and pedagogical methods; • encourages a sense of autonomy in the learner, while ensuring adequate guidance and support from the teacher; • promotes mutual respect within the learner-teacher relationship; • has appropriate procedures for dealing with students' complaints. Considering the importance of assessment for the students' progression and their future careers, quality assurance processes for assessment take into account the following: • Assessors are familiar with existing testing and examination methods and receive support in developing their own skills in this field; • The criteria for and method of assessment as well as criteria for marking are published in advance; • The assessment allows students to demonstrate the extent to which the intended learning outcomes have been achieved. Students are given feedback, which, if necessary, is linked to advice on the learning process; • Where possible, assessment is carried out by more than one examiner; • The regulations for assessment take into account mitigating circumstances; • Assessment is consistent, fairly applied to all students and carried out in accordance with the stated procedures; • A formal procedure for student appeals is in place.	+		
Standard 4. STUDENT ADMISSION, PROGRESSION, RECOGNITION AND CERTIFICATION				
4	The educational institution should consistently apply pre-defined and published regulations covering all phases of the student "life cycle", e.g. student admission, progression, recognition and certification. **Guidelines:** Providing conditions and support that are necessary for students to make progress in their academic career is in the best interest of the individual students, programmes, institutions and systems. It is vital to have fit-for-purpose admission, recognition and completion procedures, particularly when students are mobile within and across higher education systems. It is important that access policies, admission processes and criteria are implemented consistently and in a transparent manner. Induction to the educational institution and the programme is provided. The educational Institution needs to put in place both processes and tools to collect, monitor and act on information on student progression.	+		

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	Fair recognition of higher education qualifications, periods of study and prior learning, including the recognition of non-formal and informal learning, are essential components for ensuring the students' progress in their studies, while promoting mobility. Appropriate recognition procedures rely on • institutional practice for recognition being in line with the principles of the Lisbon Recognition Convention; • cooperation with other institutions, quality assurance agencies and the national ENIC/NARIC centre with a view to ensuring coherent recognition across the country. Graduation represents the culmination of the students' period of study. Students need to receive documentation explaining the qualification gained, including achieved learning outcomes and the context, level, content and status of the studies that were pursued and successfully completed.				
Standard 5. TEACHING STAFF					
5	The educational institution should apply fair and transparent processes for the recruitment and professional development of its staff to assure itself of its teachers' competence. **Guidelines:** The teacher's role is essential in creating a high quality student experience and enabling the acquisition of knowledge, competences and skills. The diversifying student population and stronger focus on learning outcomes require student-centred learning and teaching and the role of the teacher is, therefore, also changing (cf. Standard 1.3). Higher education institutions have primary responsibility for the quality of their staff and for providing them with a supportive environment that allows them to carry out their work effectively. Therefore, education institutions should: • set up and follow clear, transparent and fair processes for staff recruitment and conditions of employment that recognise the importance of teaching; • offers opportunitie for and promote the professional development of teaching staff; • encourage scholarly activity to strengthen the link between education and research; • encourage innovation in teaching methods and the use of new technologies.	+			
Standard 6. LEARNING RESOURCES AND STUDENT SUPPORT					
6	The educational institution should have appropriate funding for learning and teaching activities and ensure that adequate and readily accessible learning resources and student support are provided. **Guidelines:** For a good higher education experience, the educational institution should provide a range of resources to assist student learning. These vary from physical resources such as libraries, study facilities and IT infrastructure to human support in the form of tutors, counsellors and other advisers. The role of support services is of particular importance in facilitating the mobility of students within and across higher education systems. The needs of a diverse student population (such as mature, part-time, employed and international students as well as students with disabilities), and the shift towards student-centred learning and flexible modes of learning and teaching, are taken into account when allocating, planning and providing the learning resources and student support. Support activities and facilities may be organised in a variety of ways depending on the institutional context. However, the internal quality assurance ensures that all resources are fit for purpose, accessible, and that students are informed about the services available to them. In delivering support services the role of support and administrative staff is crucial and therefore they need to be qualified and have opportunities to develop their competences.	+			
Standard 7. INFORMATION MANAGEMENT					
7	The educational institution should ensure that it collects, analyses and uses relevant information for the effective management of its programmes and other activities. **Guidelines:** Reliable data is crucial for informed decision-making and for knowing what is working well and what needs attention. Effective processes to collect and analyse information about study programmes and other activities feed into the internal quality assurance system.	+			

	The information gathered depends, to some extent, on the type and mission of the institution. The following types of information should be of interest for the educational institution: • key performance indicators; • profile of the student population; • student progression, success and drop-out rates; • students' satisfaction with their programmes; • learning resources and student support available; • career paths of graduates. Various methods of collecting information may be used. It is important that students and staff are involved in providing and analysing information and planning follow-up activities.				
Standard 8. PUBLIC INFORMATION					
8	The educational institution should publish information about its activities, including programmes, which is clear, accurate, objective, up-to date and readily accessible. **Guidelines:** Information on the institution's activities is useful for prospective and current students as well as for graduates, other stakeholders and the public. Therefore, the educational institution should provide information about its activities, including the programmes offered and the selection criteria for them, the intended learning outcomes of these programmes, the qualifications they award, the teaching, learning and assessment procedures used, the pass rates and the learning opportunities available to the students as well as graduate employment information		+		
Standard 9. ONGOING MONITORING AND PERIODIC REVIEW OF PROGRAMMES					
9	The educational institution should monitor and periodically review its programmes to ensure that they achieve the objectives set for them and respond to the needs of students and society. These reviews should lead to continuous improvement of the programme. Any action planned or taken as a result should be communicated to all those concerned. **Guidelines:** Regular monitoring, review and revision of study programmes aim to ensure that the provision remains appropriate and to create a supportive and effective learning environment for students. They include the evaluation of: • the content of the programme in the light of the latest research in the given discipline thus ensuring that the programme is up to date; • the changing needs of society; • the students' workload, progression and completion; • the effectiveness of procedures for assessment of students; • the student expectations, needs and satisfaction in relation to the programme; • the learning environment and support services and their fitness for purpose for the programme. Programmes are reviewed and revised regularly involving students and other stakeholders. The information collected is analysed and the programme is adapted to ensure that it is up-to-date. Revised programme specifications are published.			+	
Standard 10. CYCLICAL EXTERNAL QUALITY ASSURANCE					
10	The educational institution should undergo external quality assurance in line with the ESG on a cyclical basis. **Guidelines:** External quality assurance in its various forms can verify the effectiveness of the educational institution's internal quality assurance, act as a catalyst for improvement and offer the institution new perspectives. It will also provide information to assure the institution and the public of the quality of the institution's activities. Institutions participate in cyclical external quality assurance that takes account, where relevant, of the requirements of the legislative framework in which they operate. Therefore, depending on the framework, this external quality assurance may take different forms and focus at different organisational levels (such as programme, faculty or institution). Quality assurance is a continuous process that does not end with the external feedback or report or its follow-up process within the institution. Therefore, institutions ensure that the progress made since the last external quality assurance activity is taken into consideration when preparing for the next one.		+		
Total		1	8	1	0