REPORT
on the results of international independent assessment of the basic professional educational program

09.03.01 "Informatics and Computer Science"

Moscow Region State Educational Institution for Higher Professional Education
"Dubna International University for Nature, Society and Man"

Developed by:
Project manager:
_____/Drondin A.L./

AKKORK experts:

_____/Pozdneev B.M./

_____/Pustovoytov N.Yu./

_____ /Kabler A./

_____ /Zaytsev S.S./

Moscow – 2015

Contents

I. GENERAL INFORMATION ABOUT HEI

Founder of the Dubna University is the Ministry of Education of Moscow Region Government. Dubna University was founded in 1994 on the basis of the Volga Higher Military Construction CommandingAcademy of Ministry of Medium Machine-Building Industry of the USSR. University has several branch campuses throughout the region, situated in Dmitrov, Dzerzhinsky, Kotelniky and Protvino.

Dubna University consists of four faculties, 26 departments in charge and five departments of general education. About four thousand students study here full-time in 35 specialties and areas on a yearly basis. At the leading university, there are 2729 full-time students and 775 students of part-time education enrolled in 35 specialties and areas. The number of students, enrolled in full-time and with the full recovery education cost is 232 people. In addition, the University provides with training of postgraduate students in 13 specialties. Every year in 120 -130 people are studying at postgraduate training program.

The educational process at the University is organized in five academic buildings, sports hall, sports complex "Ruslan" (total area of teaching and laboratory buildings is 45 576,4m^2). In general, there are five sports halls, lecture halls and dance halls. The size of a land plot is 13, 3436 hectares. 29 lecture halls, 99 classrooms for practicums and seminars, 25 computer classes, library with reading rooms, an indoor sports complex, administrative and office space are used as a part of the premise. During the educationprocess, 710 personal computers are used.The university network has Internet access, to which 667 personal computers are connected. In order to store and give access to the education information, University uses 16 servers.

Strategic partners of the University are Joint Institute for Nuclear Research (JINR), Research Institute "Atoll", Federal State Unitary Enterprise "Engineering Design Bureau "Raduga" named after Bereznyak A.Ya.", "Special Economic Zone of technical innovation type "Dubna" JSC, State Research Center "The Institute for High Energy Physics" (IHEP),Federal State Unitary Enterprise "Research Institute of Applied Acoustics", "Dubna Machine-Building Plant named after Fedorov N.P."JSC, Company "Progresstekh-Dubna", "Experimental design bureau "Aerospace systems" CJSC.

For selected strategic lines of the roadmap timeline Dubna University includesthe development as:

• A classical university, providing with fundamental education on a wide range of areas and specialties (from natural sciences to the humanities);

• A research university, in which the integration of educational and scientific activities takes place with the help of the strategic partnership with scientific organizations and enterprises of high-tech sectors of the economy;

• An innovative university, which has a network of small businesses nearby to commercialize the developed products and help graduates to develop their own companies;

• International University - the university, integrated into the international educational space and the university, which has a significant proportion of students from CIS and foreign countries.

University also set a goal to increase the number of specialties at the University in accordance with the needs of organizations-residents of the special economic zone [From the perspective plan of development of technology-innovative special economic zone in the city of Dubna (Moscow Region)].

As of April 1st, 2014, according to the Russian Science Citation Index among the universities of the Russian Federation (http://elibrary.ru), Dubna University occupies a leading position in the ranking of universities in the vast majority of indicators (from 1st to 10thplace various indicators).

According to the nationwide monitoring of the effectiveness of universities in the September 2013,Dubna University is the best university in Moscow region in a number of key

indicators. According to the results of monitoring of the effectiveness of educational institutions of Higher Education,Dubna University and all its branches areaccredited to be effective. Leading university in Dubna and branch named "Protvino", showed the best results among the universities of regional subordination: threshold values over all the indicators used in assessing of the effectiveness of educational organizations were crossed.

Information on indicators of monitoring of the activity

Positions of the HEI in the main indicators of Monitoring in comparison to threshold values of indicators
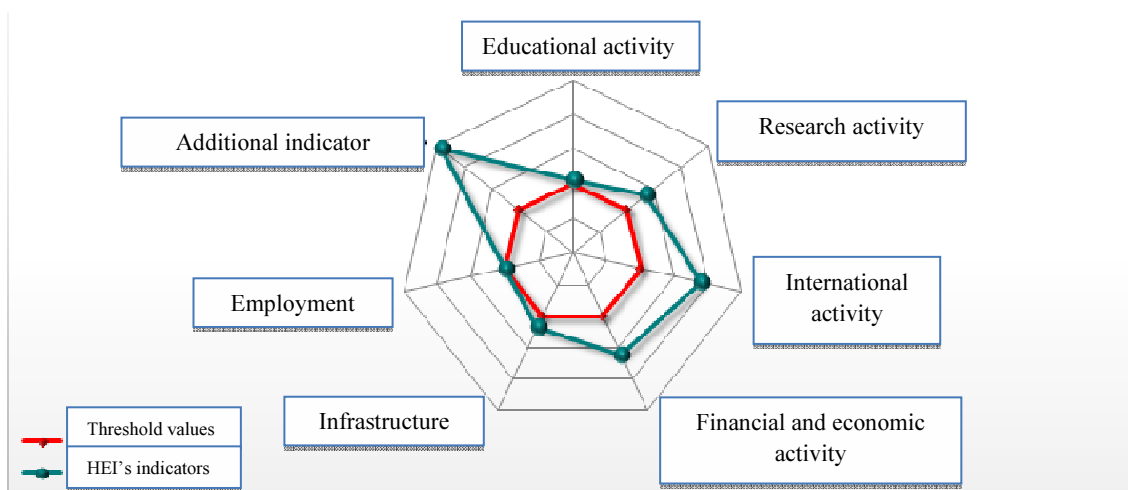
№	Name of the indicator	HEI's indicators	Threshold value
E.1	Educational activity	63,13	60
E.2	Research activity	69,4	51,28
E.3	International activity	1,9	1
E.4	Financial and economic activity	2160,52	1327,57
E.5	Infrastructure	16,4	13,92
E.6	Employment	98,553	98,516
E.8	Additional indicator	6,75	2,78

* Calculation procedure of indicators of effectiveness monitoring of educational institutions of Higher Education
http://miccedu.ru/monitoring/materials/inst_110302.htm

II. REPORT ON THE RESULTS OF INTERNATIONAL INDEPENDENT ASSESSMENT OF THE BASIC PROFESSIONAL EDUCATION PROGRAM

Main educational program 230100 "Informatics and Computer Science" is implemented within the direction of training 230000 "Informatics and Computer Science" by the Department of System Analysis & Management of the System Analysis & Management University and gives the Bachelor qualification. The program is administrated by the Head of the Department of System Analysis and Management, PhD. in Engineering Sciences, Professor, and academic member of the Russian Academy of Natural Sciences - Cheremisina E.N.

Number of students

Program	Enrolled students (full-time)	Budget	Special-purpose funding	Extra budget
230100 "Informatics and Computer Science"	162	158	-	4

Independent external evaluation of the educational program was conducted by experts of AKKORK in the period from 15.01.2015 to 28.02.2015.

1 CURRENT STATUS AND DEVELOPMENT TRENDS OF THE REGIONAL MARKET OF EDUCATIONAL SERVICES IN THIS AREA

1.1. Analysis of the role and place of the program

The Analytical Center "Education and Career", which previously was converted from the department of "Analysis of the labor market and career planning", created in 2001,is monitoring the demand for graduates.

University created the conditions for maximum approximation of programs of ongoing monitoring of progress and midterm assessment of students in terms of their future careers,except forthe teachers of a particular discipline, as external experts,the employers and teachers, reading related subjects, are actively involved in the work.

The relevant conditions for interaction of employers and university are created.

In the Moscow region, there are 16 universities that are also carrying out this direction of study.

As a result of the analysis of the role and place of the program and the characteristics of the formation of the regional educational market, as well as according to the data provided by the educational institution, the expert provides a chart illustrating the percentage of graduates of this program on the regional labor market.

The role of HEI in formation of labour market

- percentage of graduates of the HEI under basic educational program
- percentage of graduates of all other HEIs under basic educational program
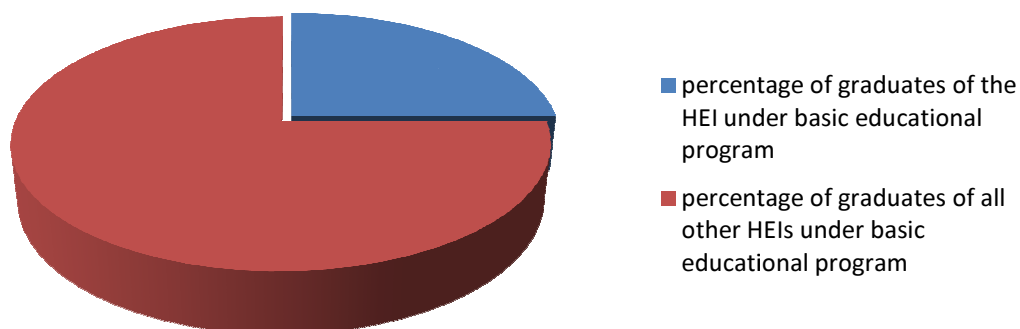
1.2. Analysis of the information indicators provided by the university

98% of graduates of bachelor's degree program continue their study in master's degree programs, 2% are called in the Armed Forces. 28% of students of these programs combine their study in the university withtheir work on the profile.

According to conducted studies, the percentage of the labor market demand for graduates of the direction of Information Computer Science from Dubna University is 100%. 100% of graduates of this region are employed in accordance with their profile. The demand of the cluster "Dubna" is 70 people.

Every year in June and July the university receives the feedback on the graduation qualification works from various organizations, reviews of the conducted practicum.

Employment of graduates of the last year graduation

	Full name	Place of employment	Position
1.			

According to the results of self-assessment held by the educational institution, there is data on the distribution of graduates. The data, presented by HEI, was confirmed in the study of relevant documents. 98% of graduates of bachelor's degree program continue their study in master's degree programs, 2% are called in the Armed Forces

Distribution of the program graduates (labor market)

- ■ percentage of the graduates working on their preparation profile inside the region
- ■ percentage of the graduates working on their preparation profile outside the region
- ■ unemployed
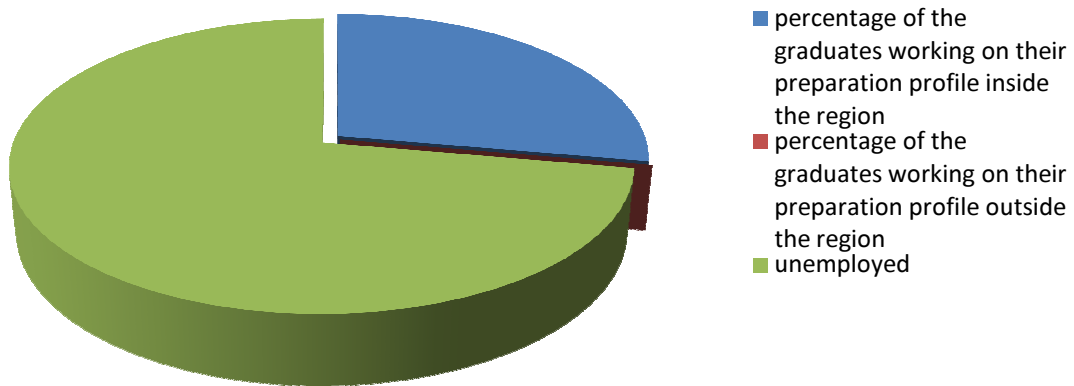
Distribution of unemployed graduates

- ■ Percentage of graduates who continued the education under the programs of Higher Professional Education, Further Professional Eduction (full-time)
- ■ Percentage of graduates who could not find the job on their profile
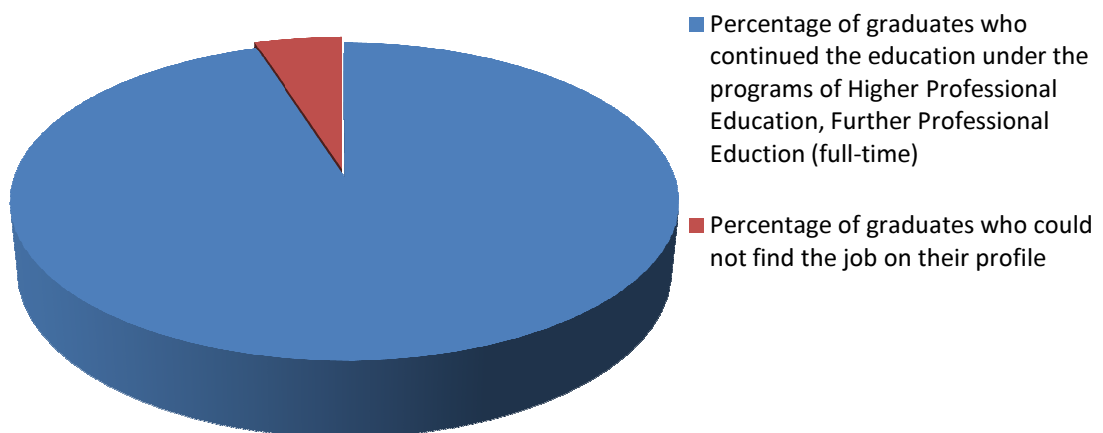
2. PROGRAM DESCRIPTION

2.1. Conclusions and recommendations of experts on the program under analysis

Strong points of the program:

1. It is necessary to note the systematic development and implementation of educational programs based on the harmonious interaction of departments, included in the Institute of System Analysis and Management ofDubna University, the high scientific and educational potential of the teaching staff, a large number of developed educational resources, the availability of modern information and communication environment and computer

equipment. Active work of the teaching staff in the implementation of a large-scale R&D and cooperation with leading research institutions and IT companiesis the most important part of the work thatensures the scientific and practical orientation programs.

2. The strongest point of the university is the consistency in the development and implementation of the strategy, objectives and management programs on the university and leading departments' level. The control scheme at the Institute-Department level seems to be very effective and it allowsthe university to control the resources and introduce innovative elements in the educational process more dynamically. The active participation of a large part of teaching staff in projects and scientific work in the real IT sector contributes to the updating of the content and practice-oriented programs. General management of educational program is implemented with the use of a quality management system that allows you to control the quality of the processes of educational activities and learning outcomes.

3. One of the strongest points of the structure and the contents of the program is the combination of the fundamental part of the disciplines and applied practice-oriented tasks, realized within the laboratory work and practicums.

4. Another strongest point of the program is the participation of at least two representatives of employers, which are included in the teaching commission,on the profile of the main educational program under development on the stage of design of main educational program of Higher Education. 100% of the educational programs of disciplines (modules) and practicums are submitted to the key partners of the labor market. The university developed and established a teaching materials'standard regulating its contents and structure, the contents of separate parts, the didactic requirements, the procedureof development and organization of the teaching material's expertise. In the Department there are also teaching recommendation regarding the organization of the independent work of the students, teaching instructions connected with the executing of the course works (projects) represented in the educational programs.

5. Almost all the teaching staff of the departments of Institution of System Analysis and Management works intentionally on creation of the e-learning resources and electronic teaching materials on different disciplines, and that creates a good basis for creation of the main educational program in general on the basis of the e-learning program and remote learning technologies.

6. High scientific and pedagogical potential of the teaching staff, active participation in the fundamental research and applied projects, development of bilateral relations with the employers, constant monitoring of the key indicators of the activity and good motivation of the teaching staff to advance training and promotion of the carrier.

7. Institution of System Analysis and Management has a developed laboratory base equipped with modern logistical facilities to implement the educational program with modern equipment, computer hardware and software.The employers provide more than 50% of the laboratory facilities.

8. A wide use of information and communication technologies is also one of the strongest points of the State University of Dubna. Electronic base of teaching materials contains more than 250 courses for the students of higher full-time and part-time education, created by the teachers of the university. Three lecture rooms of Dubna University is equipped by the additional multimedia equipment to improve the quality of educational process and the opportunity to hold web-seminars with unlimited quantity of connections.

9. In general, the integration and close cooperation with the employers are the best from all of 20 accreditations inside and outside Europe, so we congratulate the university team with such success. It is obvious that there is anenthusiasm to do much more than ever, everything is possible and desirable, but such a close cooperation achieved at the moment is delightful.

10. There are the system development of the student services on the level of the educational program and the whole university, the account of the individual peculiarities and students' inclinations, great opportunities for quality recreation and sports. Informational-communication sphere for organization of the education and leisure time is developed. It is necessary to note the regularity and high quality of the organization of the cultural public and sports events for students, also the availability of the sport complex "Olymp", whichisone of the best sports facilities not only in Dubna, but also in the entire Moscow region.

11. Every year the agreements on the intentional learning with administration of the cities and regions, enterprises and companies and also on the direction of the Ministry of Social Protection for the Public of the Moscow region are conducted. In 2014 there were concluded 25 agreements on the intentional learning with different organizations and 67 students were enrolled in the intentional learning program on the 1 course.

Recommendations:

1. To expand the use of e-learning programs, remote learning technologies and the development of network forms of education in interaction with other leading universities in order to increase the competitiveness of the educational program in general and its attractiveness to the students. To clarify the content of the educational program towards the harmonization of competencies according to the educational standards and job functions with the new professional standards.

2. In accordance with the development of new professional IT standards it is recommended to clarify the content of the educational program towards the harmonization of competencies according to the educational standards and job functions with the new professional standards.

3. To reflect the profile of the program more specifically and take into account the prevailing professional standards. It is necessary to reflect the specific of implementation approaches in the field of e-learning and principles of the electronic portfolio.

4. To develop e-learning system in accordance with the requirements of fundamental international (ISO/IEC) and national (Russian National Standard) standards that will regulate the creation and use of electronic educational resources, the process of knowledge testing, presentation of the electronic portfolio of the student, etc.

5. To allow some flexibility in the amount of group work, always get some independent representation of students in order to ensure the participation of all members of the group.

6. To strengthen the efforts to attract young personnel under the age of 30 years to teaching, by extending the financial and moral aspect of their motivation to the provotion of their career in teaching.

7. The development of the requirements profiles to the unified information system of the University on the basis of international and national standards in IT field is rational in order to increase its interoperability.

8. It is advisable to expand research through the implementation of major projects under government programs and international grants. It is necessary to increase the value of R & D per

one teacher, as this figure stands at 57 thousand. rubles. (Minimum standard - 50 thousand. Rub.).
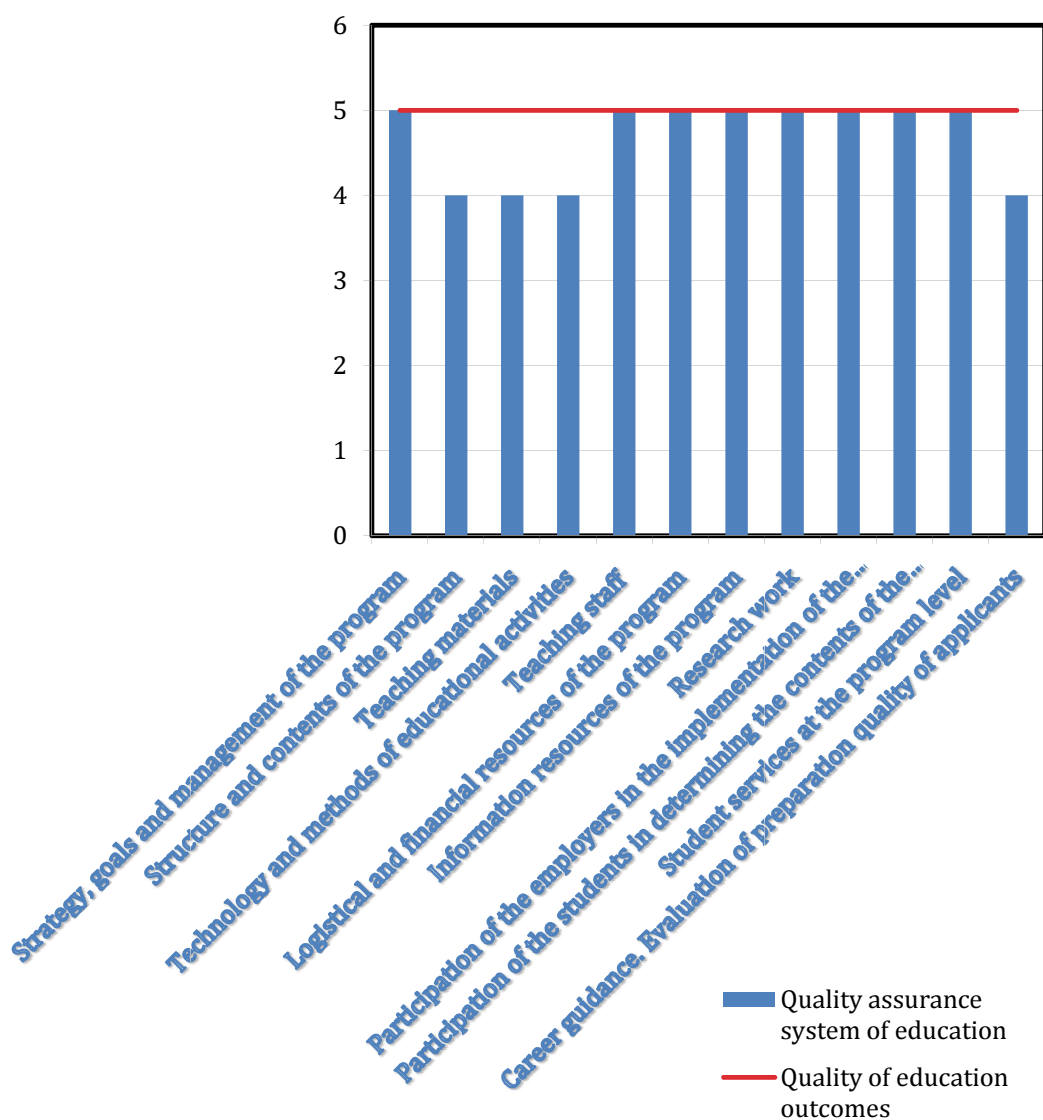
9. The desire of employers to the students on understanding of the concepts and attributes of software quality (reliability, safety, ergonomics) (PK-4) seems to be an appropriate and necessary in terms of improvementof practice-oriented education program. In addition, the study of quality software should be based on the study of the fundamental requirements of international standards ISO/IEC 25000, as well as evaluation of maturity processes of software design in accordance with the models CMM and CMMI.

10. The surveys of students are conducted, though it is not clear how the feedback regarding the accepted measures with students is conducted. It is important to connect the feedback with students and to inform them on the measures taken in respond to their suggestions.

2.2. Assessments profile of learning outcomes and quality assurance of education

№		Criteria	Evaluation
I		*Quality of education outcomes*	5
II		*Quality assurance system of education:*	
	1.	Strategy, goals and management of the program	5
	2.	Structure and contents of the program	4
	3.	Teaching materials	4
	4.	Technology and methods of educational activities	4
	5.	Teaching staff	5
	6.	Logistical and financial resources of the program	5
	7.	Information resources of the program	5
	8.	Research work	5
	9.	Participation of the employers in the implementation of the program	5
	10.	Participation of the students in determining the contents of the program	5
	11.	Student services at the program level	5
	12.	Career guidance. Evaluation of preparation quality of applicants	4

Assessments profile of learning outcomes and quality assurance of education

6

5

4

3

2

1

0

- Strategy, goals and management of the program
- Structure and contents of the program
- Teaching materials
- Technology and methods of educational activities
- Teaching staff
- Logistical and financial resources of the program
- Information resources of the program
- Research work
- Participation of the employers in the implementation the contents of the...
- Participation of the students in determining the contents of the...
- Student services at the program level
- Career guidance. Evaluation of preparation quality of applicants

■ Quality assurance system of education

— Quality of education outcomes

3. QUALITY OF EDUCATION OUTCOMES

3.1. Direct evaluation of competencies by the experts

In the course of visit, the direct evaluation of graduates' competencies was carried out. Students of the 4thyear took part in the direct assessment, in the amount of 12 people that is 25% of all graduates.

During the procedure of direct assessment, measurement and control materialsprepared and acknowledged by the expert valid were used.

For analysis of competencies formation, the experts chose the following:

- skills to make up business plans and specifications to equip departments, laboratories, offices with PC and network equipment (PK-1);
- skills to elaborate model components of informationsystems including models of databases (PK-4)$
- skills to prove one's project design, to prepare and carry out experiments to check their accuracy and effectiveness (PK-6);
- skills to make up showcases, research and technology reports on conducted activities, to process research results into articles and reports for scientific and technical conferences (PK-7);
- skills to conduct pre-project research of automation objects, development and feasibility evaluation of projects automation projects (PAC-1);
- skills to prove the choice and appliance of standard design solutions to automation (PAC-2)
- skills to make up dataware, software and orgware by using standard design solutions (PC-4);
- skills to develop engineering documentation of a technical object ASIPM (automation system of information processing and management) (PC-5).

Implementing the procedures of direct assessment of competences, the experts used tests as measurement and control materials.

According to the results of the direct assessment of competence, the experts found that about 70% of students showed an adequate level of competence, only 8% of students solved less than half of tasks.

Level Percentage of students	Adequate (completed 80% of the proposed tasks)	Acceptable (completed from 50 to 79% of the tasks)	Low (completed less or equal to 49% of the tasks)
68 %	+		
24 %		+	
8%			+

When assessing education quality the experts reviewed 16 graduation theses which make 24% of all graduate qualification works of the previous year at this training course. It was concluded that the examined graduation theses conform to the below mentioned requirements

GRADUATE QUALIFICATION WORKS

No	Objects of assessment	Expert comments
1.	Subjects of graduate qualification works correspond to the direction of training and to the modern level of science development, technique and (or) technology in the area of training.	All graduate qualification works under the study correspond to the direction of training and to the modern level of Informatics and Computer Science.
2.	Tasks and content of graduate qualification works are aimed at the reflection of competencies formation of the graduate.	Tasks and content of graduate qualification works under the study reflect the requirements of educational standards to the general culture and professional competencies.
3.	Degree of usage of graduate qualification works' materials, when carrying out independent research, collected and received as a result of pre-graduation practical training or course projects.	Most of graduate qualification works includes independent research topics related to the implementation of real-world problems, arising from the direction of work, performed during the pre-graduation practical training and course projects.
4.	Subjects of graduate qualification works are determined by the requests of organizations and enterprises, which are aimed at the program's graduates.	Subjects of most graduate qualification works determine the real requests of enterprises in which graduates were holding the practicum.
5.	The percentage of graduate qualification works (Master's thesis), which were applied at enterprises and organizations / of them - graduate qualification works, which were applied in small and medium-sized businesses.	More than 70% of the results contained in the graduate qualification works, have found application in enterprises and organizations, approximately 50% of them have found application in enterprises and organizations of small and medium-sized businesses.
6.	The percentage of use of independent research parts, results of students' research works of the department, the faculty and third-party research and production and / or research organizations.	More than a half ofgraduate qualification works under review include the results of students' research works of the department in charge and Institute of System Analysis and Management, as the heads of graduate qualification works conduct regular research work and cooperate with science and manufacturing enterprises of the city and the region

3.2. Conclusions and recommendations of experts

3.2.1. Evaluation criteria:

3.2.2. Strong points of the program:

The following points shall be distinguished: consistency in the development and implementation of the educational program based on the consistent work of the departments of the Institute of System Analysis and Management of Dubna University, high scientific and teaching potential of the teaching staff, a great number of the developed educational resources, modern communication environment and computer aids.Vigorous activity of the teaching staff in implementation of great R&D projects and cooperation with head research organizations and IT-companies provides academic and research orientation of programs.

3.2.3. Areas of improvement:

To increase the competitiveness of the educational program in general and its attractiveness to the students to expand the use of e-learning programs, remote learning technologies and the development of network forms of education in interaction with other leading universities. In the long term there is a need in compliance of the requirements of Federal state educational standards with job functions of the respective professional standards.

The need in graduates of Bachelor's program on federal and regional labor markets cannot be evaluated as 98% of Bachelor's program graduates enroll at the Master's program. The majority continue education in Master's program of Dubna University. Lately it has been noticed that a number of graduates of Bachelor's program enroll at Master's degree of the leading higher education institutions of Moscow.

The content of teaching programs and teaching and training materials allows to declare quite a significant level of final general cultural and professional competences of graduates.

The results of questionnaire surveys and private communication with students and graduates of the training programs show the high level of satisfaction with training results.

According to the results of questioning of students of educational institutions there was presented data that has been confirmed by the experts during the on-site visit. The data presented by the educational institution enables experts to make a conclusion about rather high assessment of quality of education by students in general.

Education quality evaluation of the students in general (according to the results of educational institution)

- Excellent
- Good
- Satisfactory
- Unsatisfactory
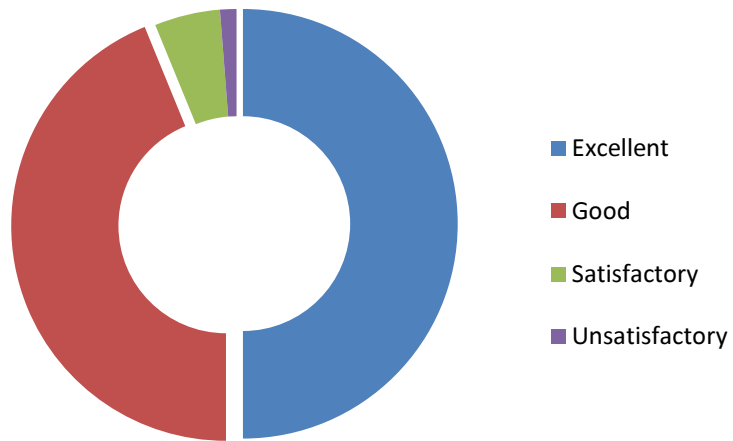
4. QUALITY ASSURANCE SYSTEM OF EDUCATION

4.1. Strategy, goals and management of the program

4.1.1. Evaluation criteria:

4.1.2. Strong points of the program:

The main strong point is the consistency in development and implementation of strategies, goals and management programs at university level and main department. The concept of management Institute-Department is considered highly effective; it allows managing necessary resources and applying innovative elements in the education process. Active involvement of the teaching staff into research projects and work in true life IT-sector contribute to renew the content and practical orientation of the programs. General management of the educational program is embodied by using quality management system which allows to control the process quality of educationalactivity and training results.

4.1.3. Areas of improvement:

Due to development of new professional IT-standards it is rational to suggest that the content of the educational program should be updated as follows the competences shall be in compliance with the Federal state educational standards of higher education (FSES HE) and job functions with the professional standards.

Currently, the educational program includes a large number ofe-learning resources, however to use them more effectively it is required to ensure the development of aunified information environment of the university with regard to the national (ГОСТР) and international (ISO/IEC) standards of IT-technologies in education and training. It will allow not only to upgrade the quality of IT-education at inter-university level but to produce facilities for development corporate e-learning together with other leading higher education institutions of the region and the country. More active steps are needed in development of network education.

All in all, it could be concluded that the strategy of development of the educational program is directly and clearly defined and incorporates predominant sector tendencies. Monitoring of the program implementation is regularly held.

External macro factors positively influence the development of the program, as the information profile is of top priority tendency of development regional and national economy. University reputation defines its competitive ability toward other regional higher education institutions. The program, in general, complies with the employers' needs. There is a tendency noticed that more graduates of the educational program are needed in Dubna and the Moscow region.
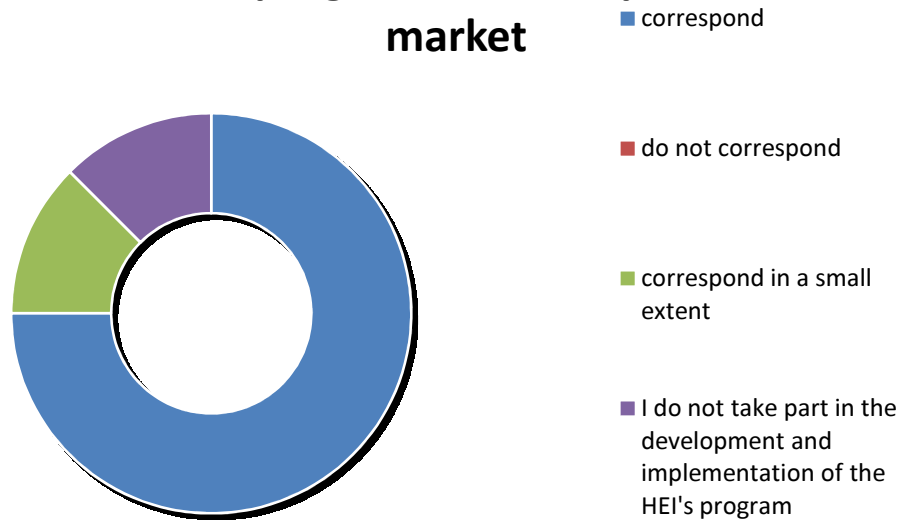
The system ofprogram management is carried out within the framework of the quality management system of education (QMSE) and its characteristic is the structural order of the departments of the Institute of System Analysis & Management, general corporate documentations and good information support of the management processes. The relevant requirements of employers and leading IT-companies: the Center of competences IBM, VNIIgeosystem, SEZ "Dubna", business-incubator and center of technologies transfer created jointly with the university are reflected in some courses.

The university has its internal system of management and expert review of education quality, aimed at permanent improvement of education process quality and content of educational programs.

In the course of on-site visit the surveys (interviewing) of employers were conducted, the results of which compiled the diagram.
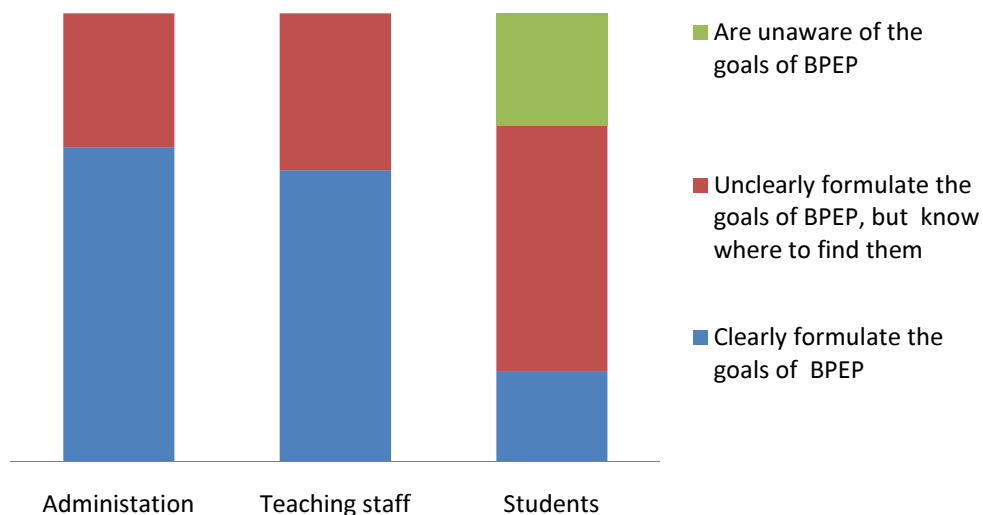
The data presented in the diagram, allows the experts to conclude that there is a high degree of correspondence of the goals of the main educational program to the requests of labor market.

Correspondence of the goals of the basic educational program to the requests of labor market

- correspond
- do not correspond
- correspond in a small extent
- I do not take part in the development and implementation of the HEI's program

In the course of on-site visit the experts conductedquestionnaire survey (interviewing) of students, teaching staff, andofficers and received the results which show that the teaching staff and officers are aware of the goals of basic professional education program, however, one third of students are unaware of the goals of basic professional education program.

Characteristics of awareness about the goals of basic professional educational program

- Are unaware of the goals of BPEP
- Unclearly formulate the goals of BPEP, but know where to find them
- Clearly formulate the goals of BPEP

Administration   Teaching staff   Students

In the process of self-assessment the educational institution provided the data on satisfaction of the teaching staff by the personnel policy and motivation system. This data shows

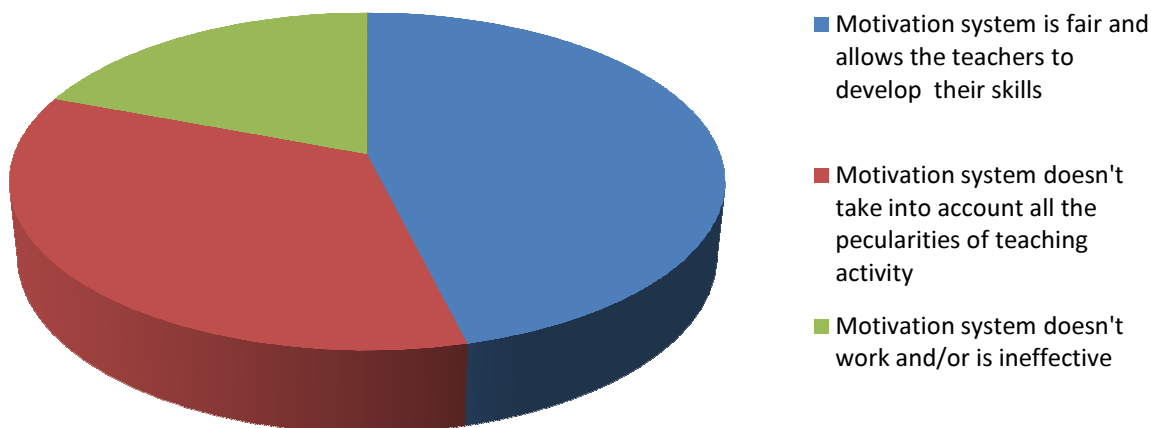that the majority of the teaching staff of the Institution of System Analysis and Management is satisfied with the personnel policy and the policy of motivation system.

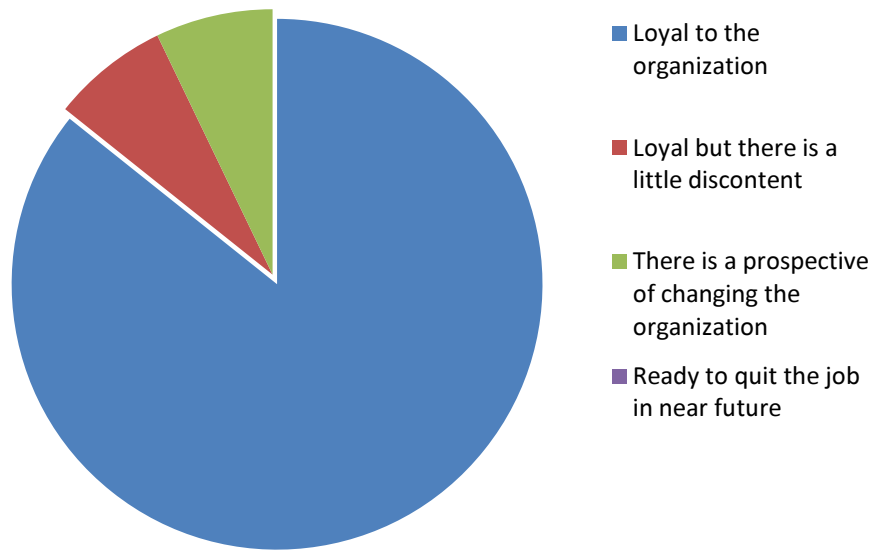## Satisfaction by the personnel policy

- Quite satisfied with the personnel policy
- Agrees with the personnel policy but it needs to be improved
- Considers the personnel policy inappropriate
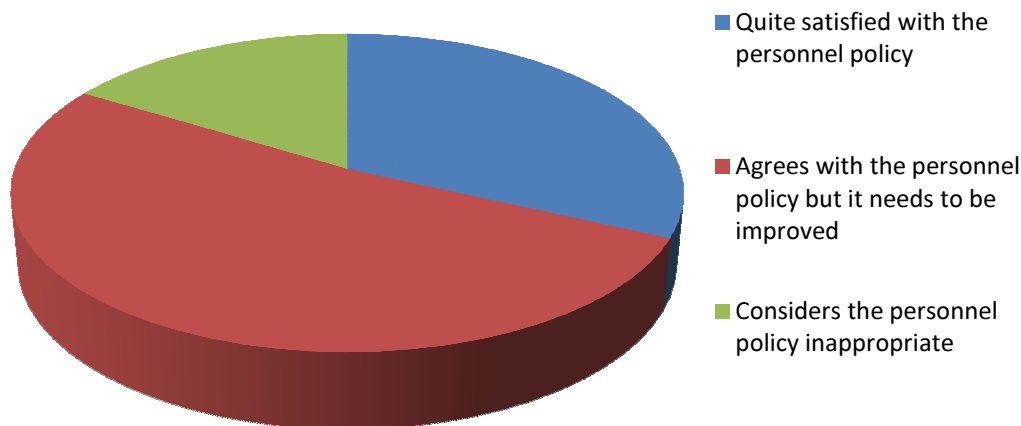
Satisfaction with motivation system

- Motivation system is fair and allows the teachers to develop their skills
- Motivation system doesn't take into account all the pecularities of teaching activity
- Motivation system doesn't work and/or is ineffective

In the course of on-site visit the surveys (interviewing) of teaching staff, which take part in the program implementation, were conducted. The results of the study are presented in the diagram "The level of employees' loyalty".

The data presented in the diagram allows the experts to conclude that a great number of the teaching staff of ISAM is satisfied with or accept the personnel policy (more than 90%) and quite satisfied with or accept current motivation system (more than 80%). As a result the level of teachingstaff loyalty is high.

The level of employee's loyalty

- Loyal to the organization
- Loyal but there is a little discontent
- There is a prospective of changing the organization
- Ready to quit the job in near future

4.2. Structure and contents of the program

4.2.1. Evaluation criteria: good.

4.2.2. Strong points of the program:

The strong point of the program structure and content is the combination of the fundamental component of the courses and applied practice–oriented tasks implemented at laboratory researches and practical classes. In the working programs of specialty courses modern platforms and software and hardware tools, manuals and electronic means are widely represented.

4.2.3. Areas of improvement:

To reflect more clearly the program profile including predominant professional standards. The specific character of appliance of approaches in e-learning and establishing electronic profile shall be reflected.

Generally, it could be stated that the main characteristics of the criteria "Structure and content of the program" are carried out on a high level. Competence-based model of a graduate of Dubna University is original and is developed in accordance with the priority needs of nuclear physics research and nanotechnology clusters of Dubna city. There is a respective normative base to implement the competency-based approach in education programs, and the methodology to conduct assessment of public evaluation of competence of graduates.

Competences included into the education program reflect the requirements of FSES and are interconnected with job functions out of the relevant professional standards 'Programmer', 'Database administrator', 'System architect', 'System administrator'. The declared education program mainly considers regional peculiarities. The developers of the education program regularly cooperate with the employers and consider their requests to develop additional competencies that form in the course of the study subjects.

The matrix of competencies formation is rational and is used as a basis for the development of academic process calendar and during the coordination of working programsof disciplines. Final results of education as appears from enclosed courses programs are tightly connected with the set competences.

To control the progress education program has a wide range of rating means (competence-oriented texts, computer stimulation, standardized questionnaires, etc.) that allow to monitor competence development in students. Final state examination does not provide that the state exam must be held but mostly focused on a graduate qualification work, at the same time more than 35% of graduate qualification works are completed under the personal supervision of employers and take into account specific expenses of regional companies. Such approach is widely examined within the frameworks of practice programs implemented by regional companies. Employers eagerly participate in developing work programs of courses (45% of the total number of courses) that is sufficient to satisfy their needs.

During the on-site visit the experts met with the students of the evaluated program. One of the issues under discussion was the correspondence of the structure and contents of the program to the expectations of the program consumers, i.e. students. Data collected following the results of questioning and interviewing is shown in the diagram and allows the experts to make conclusions that mostly all students of the 3-4 year confirm the correspondence of the structure to the content of the main educational program to their expectations. In most cases their opinion was formed as a result of personal work for IT-companies, traineeship, discussion of the matter with relatives and elder mates. The feedback and comments to program improvement were rare that does not allow consider them the basis for restructuring the main education program.

Correspondence of the structure and the contents of main educational program to the students' expectations

- Corresponds
- I don't know what it is about
- Does not correspond
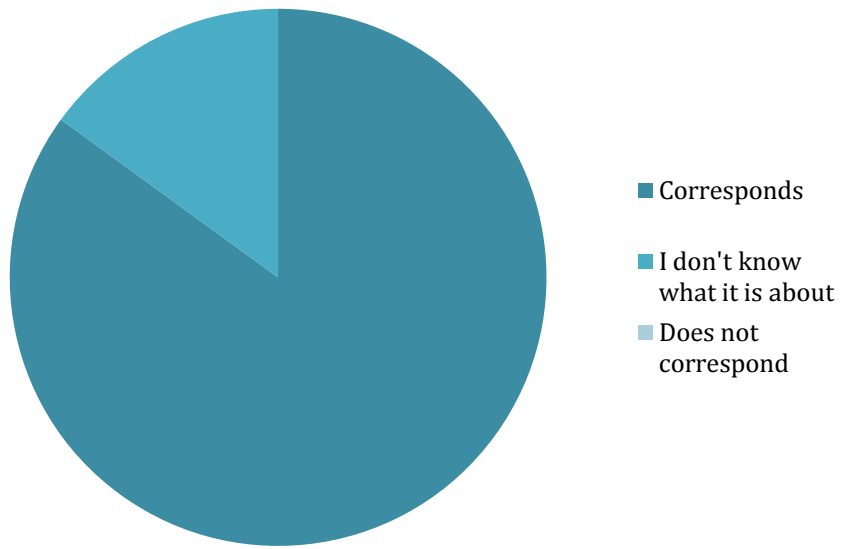
4.3. Teaching materials

4.3.1. Evaluation criteria: good.

4.3.2. Strong points of the program:

The strong point is participation in technical commissions of not less than 2 representatives of an employer who are close to the profile of the developed main educational program at its draft stage. 100% of the course educational programs (modules) and practices are coordinated with key-partners of the labor market. The standard of teaching and learning materials (TLM) of a course is developed and approved by the University that sets its structure content of separate parts, didactical materials, order of development of TLM. The department also has methodological guidelines for students to organize independent work, methodological instructions to practical training and lab practicals and instructions to complete term papers (projects) out of educational programs.

4.3.3. Areas of improvement:

Within the existing quality management system, it is rational to develop a common process model of the university and quality management processes of educational activities in accordance with the fundamental standards of quality management (ISO 9000 series) and international and national standards of information technology regarding education and training, education and training(ISO/IEC 19796). Special attention shall be drawn to forwarding demands to the developed electronic TLM in accordance with the sample quality standards and ergonomic requirements.

Key figures of the standard "Teaching and learning materials" (TLM) have high results. In the invariant figures shall be noted the existence of a complete instruction on development of TLM for main educational program, which provides the order of development and evaluation of TLM as well as employers participation in the process. The mentioned regulatory system is the basis for joint cooperation of the departments of the Institute of System Analysis and Management (ISAM) and the relevantuniversity subdivisions while developing and updating TLM.

100% of educational programs including TLM are agreed with external representatives of academic community:

- Joint Institute for Nuclear Research -53%
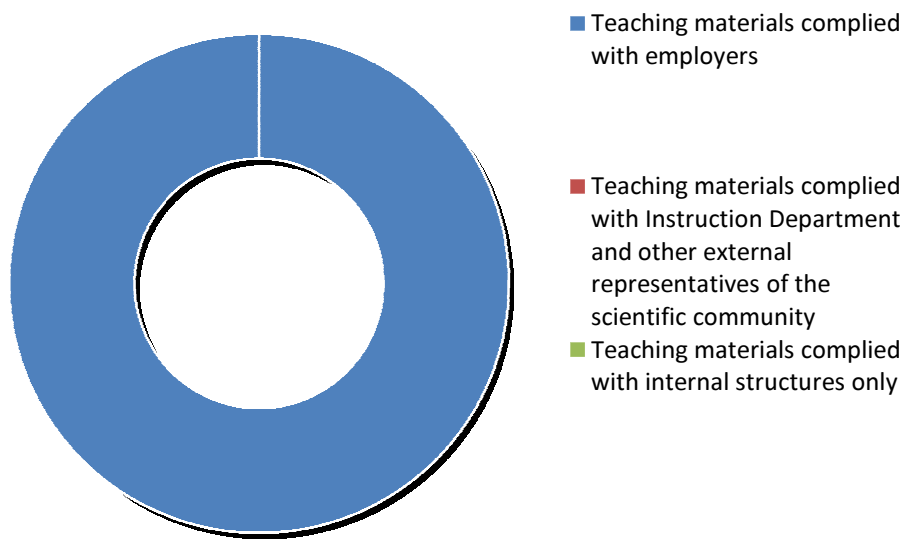- VNIIgeosystem – 43%
- LLC 'Institute IT' – 4%

Tasks for practical training are interconnected with competences provided in the educational program and are monitored at the practice credit level. More than 70% of tasks for externship are compiled in accordance with graduate qualification work.

As a varietive rate a decent range of documents (hard copies and e-documents) of all main educational programs, including internships and final state examination should be mentioned. All necessary documents are available for the students, teaching staff and other stakeholders.

During the on-sitevisit the expertsexaminedthe developed educational teaching materials. According to the results of a study of more than 20 teaching materials, the following diagram is made up.
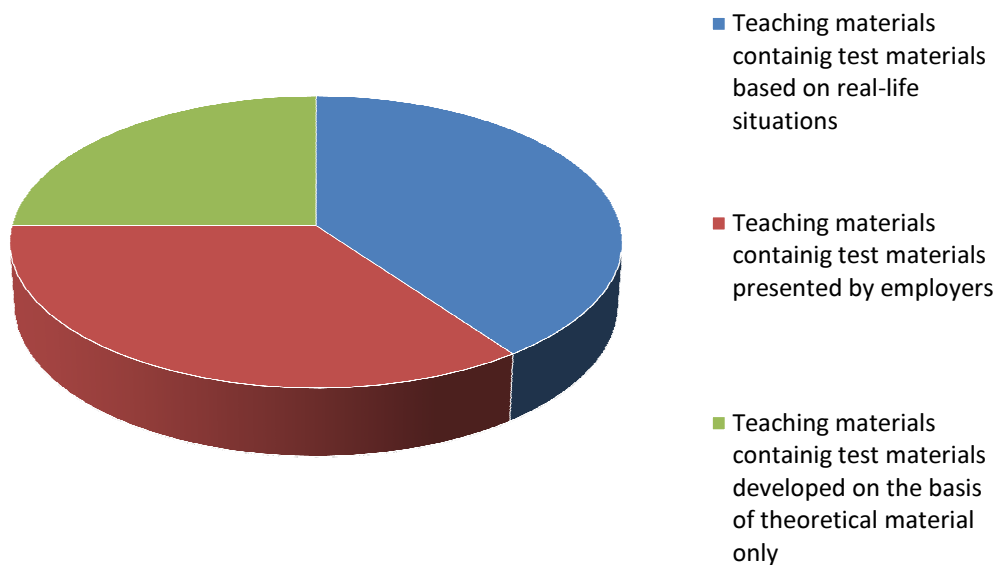
These data allows experts to conclude that there is a high level of consistency of TLM with employers (of around 100%). 100% of TLM are agreed with the internal university structures, and more than 40% of the most significant TLM (manuals, study guides) are agreed with the instruction department or another external representatives of academic community.

Teaching materials

- Teaching materials complied with employers
- Teaching materials complied with Instruction Department and other external representatives of the scientific community
- Teaching materials complied with internal structures only

During the on-site visit, the experts analyzed measurement and control materials that are used by the educational institution for monitoring progress. Data for the analysis of test materials is shown in the following diagram. This data allows the experts to make a conclusion on the correct formation of the measurement and control materials.

Measurement and control materials

- Teaching materials containig test materials based on real-life situations
- Teaching materials containig test materials presented by employers
- Teaching materials containig test materials developed on the basis of theoretical material only

According to the results of the questionnaire survey submitted by the educational institution, the results of which were confirmed during the on-site visit, the majority of the students consider their opinion is borne in view while teaching materials are developed or updated.

Taking into account students' opinion when developing and updating teaching materials

■ yes

■ not

■ no answer
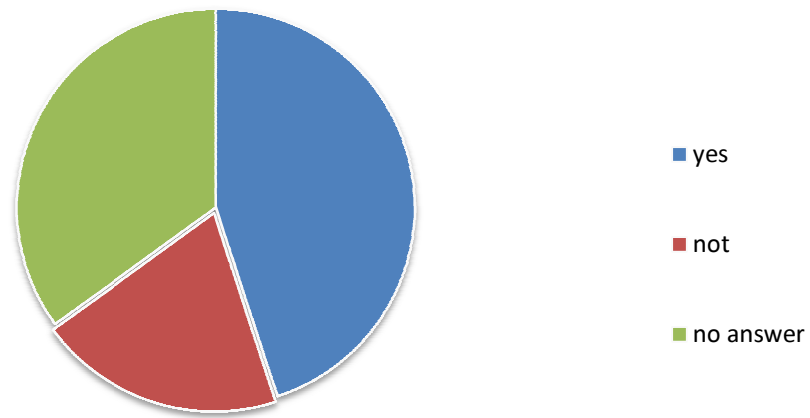
4.4. Technology and methods of educational activities

4.4.1. Evaluation criteria: good.

4.4.2. Strong points of the program:

Almost all the teaching staff of Institute of System Analysis and Management (ISAM) is purposefully working to create electronic educational resources and electronic teaching materials of the discipline that creates a good basis for the whole main educational program based on e-learning and distance learning technologies.

4.4.3. Areas of improvement:

1. It is reasonable to carry out further development of e-learning systems on the basis of the international and national standard requirements, unifying the process of creating electronic educational resources, knowledge testing process, providing electronic student portfolio etc.

2. Allow some flexibility in the amount of group work, always getting some independent representation of students in order to ensure the participation of all members of the group.

Active and interactive forms of activities are widely used in the educational process, including various forms of collaborative (joint) training. Among the most effective technologies it stands to mention:
- "Brainstorm";
- case method;
- working in group projects;
- trainings and etc.

These methods and approaches are relevant to the teaching materials and represented in electronic forms almost in full versions. Using of new techniques in a number of cases is initiated by employers who are particularly interested in the systematic reflection of their needs through improved training technologies (business games, online conferences and etc.).

All the traditional methods of studies are used by the implementation of the main educational programs, except lectures with two speakers at the same time and lectures with preplanned errors.

The percent of training courses (on special disciplines) implemented with the use of platforms and e-learning materials is about 90%. It is guaranteed by the availability of specialized structural unit - distance and external learning center in Institute of System Analysis and Management (ISAM).

During the on-site visit, the experts visited the lecture that analysis is presented below.

Name of lecturer: Vasily A. Andreev
Group / specialty: 4013 / Computer Science and Engineering
1. Discipline / module: "Real-Time Systems"
2. Type of lesson: seminar
3. Topic: "Development of the project "Streams"
4. Goals: Development of Application.NET, using streams - objects of Thread class
5. Objectives:
- development of two applications: Console Application and Windows Forms;
- creating streams, data transfer, prioritization, background, waiting to exit, shutdown and restart of the stream;
- organizing stream access to the outside created objects (Invoke).
6. Logistical support: special computer class with Internet connection and local network software with installed Microsoft Visual C # Express.
7. Specify:

| No.	Knowledge and skills planned to be generated at the lecture and competences formed by the effect of these knowledge and skills (should be announced to the class by teacher)	Forms, methods and techniques that will be used in class to create the competences
1.	Know the structure and architecture of the real-time system (PAC-2)	Colloquium in the form of dialog, oral questioning
2.	Be able to prove the decisions, implementandexecutethestatementexperimentstoverifytheircorrectnessandefficiency (PC-6)	Discussion, "brainstorming", a collective analysis of specific situations
3.	Apply skills of development and software implementation of some basic algorithms based on object-oriented programming techniques (PC-3, PAC-4, PAC-5)	Analysis of specific situations, discussion.

PROFESSOR ASSESMENT

№	Analysis criteria	Structure criteria	Mark/(0,1, 2)
1.	Compliance with lecture plan	Well-timed beginning and ending of the lecture, balanced subject split.	2
2.	Formal procedure	Greeting. Announcing the topic, aims (linking aims with further competencies)	2
3.	Call to action	Indicating the relevance of the professional and / or social and personal competences to be created	2
4.	Classroom climate	Having positive emotional interaction between teacher and students; mutual goodwill and involvement of the audience	2
5.	Presentation quality	Structured material; clarity in setting current tasks; consistency and easy-to-understand presentation; adaptation to the specific audience; using examples and up-to-date facts.	2
6.	Compliance with the content of the course program	Compare with the working program of the discipline (teaching materials)	2
7.	Use of visual materials	Textbook, tutorial, handouts, schemes, charts, etc	2

8.	Public speaking skills	Audibility, clarity, good tone of speech; facial expressions, gestures, pantomime; emotional intension of the lecture	2
9.	Feeling the audience	The ability to react on time to the changes in the perception of the audience	2
10.	Respect to the students		2
11.	Techniques to attract the attention and control students behavior	Increasing interest from the audience (the original examples, humor, rhetorical questions and etc.); involving students in a dialogue, in the process of performing tasks and etc. But except: an open call to the attention of the audience; demonstration of disapproval; psychological pressure, blackmail	2
12.	Maintaining a "feedback" with the audience during the lecture	Control of understanding the lecture material	2
13.	Summarizing the lecture (organization of reflection)	Organizing the feedback when students are actively discussing the results	2
14.	Reputation	Compliance with corporate style, good-looking, charismatic	2
15.	Final evaluation mark		2
16.	Comments and suggestions of the experts: the positive emotional interaction between teacher and students should be noted, as well as involvement of the audience, clarity in setting current tasks, consistency and easy-to-understand presentation, the rational use of visual materials.		

With cameral analysis of self-assessment report, the analysis of the curriculum and class schedules, experts have determined that the percent of interactive lectures in the whole program is not less than 20% of all classroom activities. During the on-site visit the teaching materials of five disciplines were studied. Statistics of these interactive lectures in the context of the studied teaching materials are presented below. Based on these data experts have concluded that interactive forms of lectures are widely used in the training course "Computer Science and Engineering."

Percentage of interactive lectures
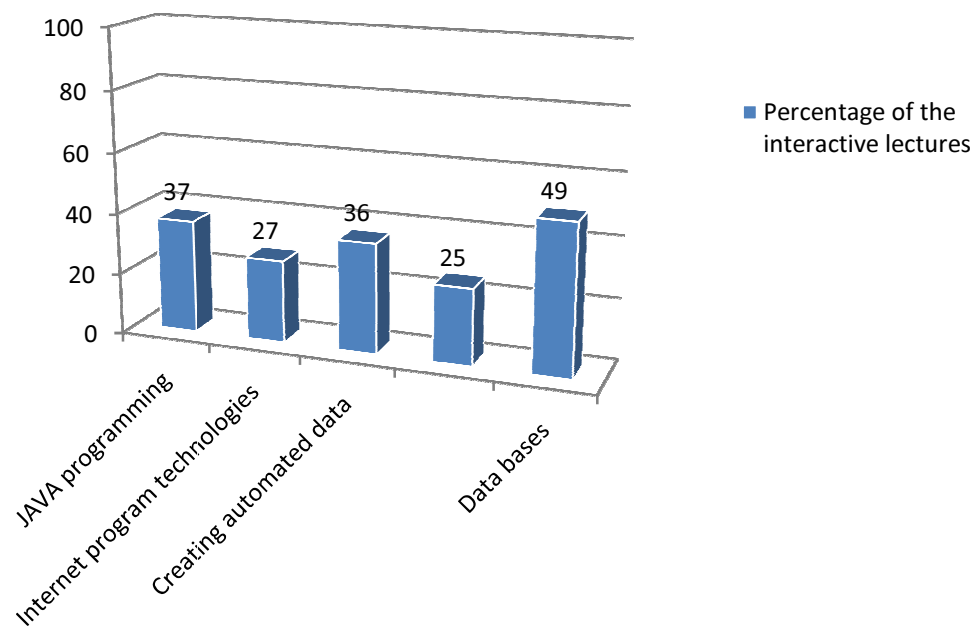
4.5. Teaching staff

4.5.1. Evaluation criteria: excellent.

4.5.2. Strong points of the program:

High scientific and pedagogical potential of teaching staff, active participation in the implementation of basic research and applied studies, the development of mutual relations with employers, permanent monitoring of key performance indicators and a good motivation of teaching staff for advanced training courses and career development.

4.5.3. Areas of improvement:

Increase the efforts to attract young specialists under 30 to teaching practice, extending financial and moral aspect of their motivation to develop a career in teaching.

Highly skilled scientific and pedagogical team with high capacity and ability to provide a quality educational program is formed in Dubna International University of Nature, Society and Man ISAU. It is important to note that the teaching staff includes representatives from a number of leading Moscow universities (MSU, MEPI, MIPT, MEI, MIREA etc.). A lot of attention is focused on the improvement of professional skills in the form of professional training courses and advanced training courses, self-study by individual programs.
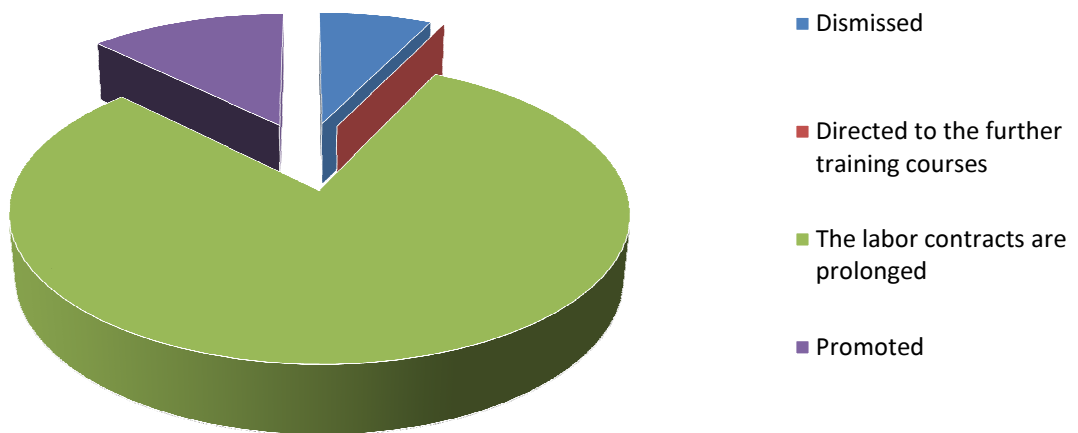
The system of financial and moral motivation of teaching staff is actively used; the contest "The Best Young Teacher" has been held, the criteria for individual achievements rating of teaching staff have been developed. Monitoring of the teaching staff activities has been made what is associated with the procedure of complex estimation of teaching staff. They have enough experience in attracting foreign specialists (e.g.Prof. S. Hassan from Assyutsk University, Egypt).

Management has established policies for the development of talented human resources, what is openly available to the entire university staff. This is facilitated by a system of key performance indicators of teaching staff containing the qualification requirements for all categories of teaching staff. Detailed procedures have been developed for conducting a survey of students and graduates in the evaluation of teaching staff. Leading professors and teachers are regularly invited to other universities to give lectures and master classes (HSE, Plekhanov University, Gumilev ENU (Astana) and others). A significant part of the teaching staff combines work at the University with their professional career in the IT companies, has extensive practical experience in the main course discipline. Engaging employers to implement an educational program is carried out in the form of conducting the graduate qualification work, heading master classes and workshops, participating in Final state examination procedure.
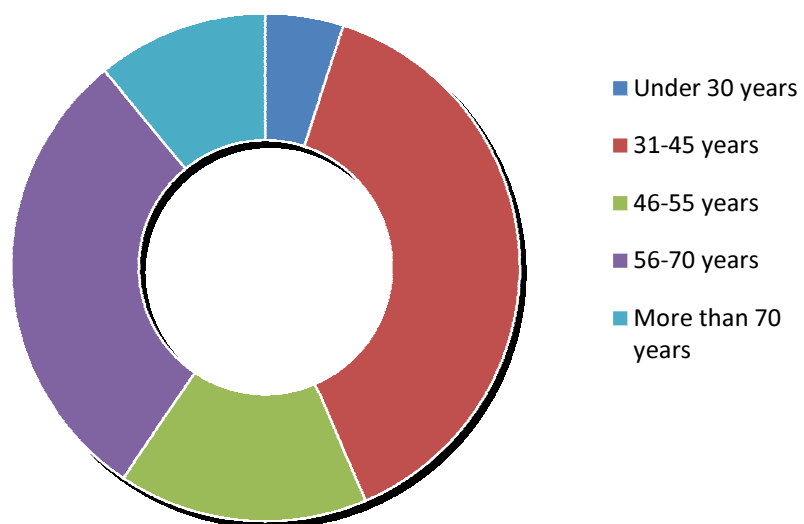
Analyzing the facts presented by the educational institution in the statement of self-assessment, we can conclude that all the data are relevant and reliable. The results of a comprehensive assessment of the teaching staff (at last year-end) and age structure of teachers participating in the program are shown in the following diagrams.

According to the analysis of the provided data we can conclude that scientific and educational potential of the teaching staff is high and we recommend program managers to pay more attention to the training of young and prospective teachers, as nowadays only 5% of teachers under 30 is presented in the teaching staff:

On the results of complex assessment of teaching staff of the basic educational program

- ■ Dismissed
- ■ Directed to the further training courses
- ■ The labor contracts are prolonged
- ■ Promoted

The age of the teaching staff

- ■ Under 30 years
- ■ 31-45 years
- ■ 46-55 years
- ■ 56-70 years
- ■ More than 70 years

30

4.6. Facilities and financial resources of the program

4.6.1. Evaluation Criteria: excellent.

4.6.2. Strong points of the program:

Institute of System Analysis and Management (ISAM) has developed laboratory facilities, equipped with modern material and technical resources for the implementation of educational programs using modern devices, equipment, computer hardware and software. More than 50% of the funds for laboratory equipment are provided by the employers.

4.6.3. Areas of improvement:

For the development of e-learning it is worthwhile to use certified and licensed tools more frequently and to buy license database of normative and technical documents.

University at large has a modern material and technical base and financial resources required to implement qualified educational program. All classrooms are equipped with modern software and hardware tools for teaching disciplines at the modern base. More than 90% of laboratories are equipped with modern instruments and equipment (laboratory management systems, the center of geolocation and space monitoring, Geographical information systems laboratory, competence center IBM and others). That allows conducting basic and applied research in the area of training "Computer Science and Engineering." Material and technical resources of the program allow implementing of e-learning in the educational process. Methodological and organizational support of e-learning center is made by extra-mural and distance learning center ISAM. Modern equipment and devices are widely used as part of the work practices. Development of laboratory facilities of the program is funded by 50% from the social partners, employers (Joint Institute for Nuclear Research, Russian Geosystem Research Institute, IBM, CFB and etc.). R&D spending per employee of teaching staff is 55,736 thousand RUB.

During the on-site visit the experts had conducted interviews with students and teachers participating in the program, regarding the satisfaction with the quality of classroom fund. The data are shown in the following chart and allow the experts to conclude that the quality of material and technical equipment of classrooms, laboratories, facilities departments, funds and library reading room is of high level.

Quality satisfaction of classrooms, laboratories, facilities departments, funds and library reading room
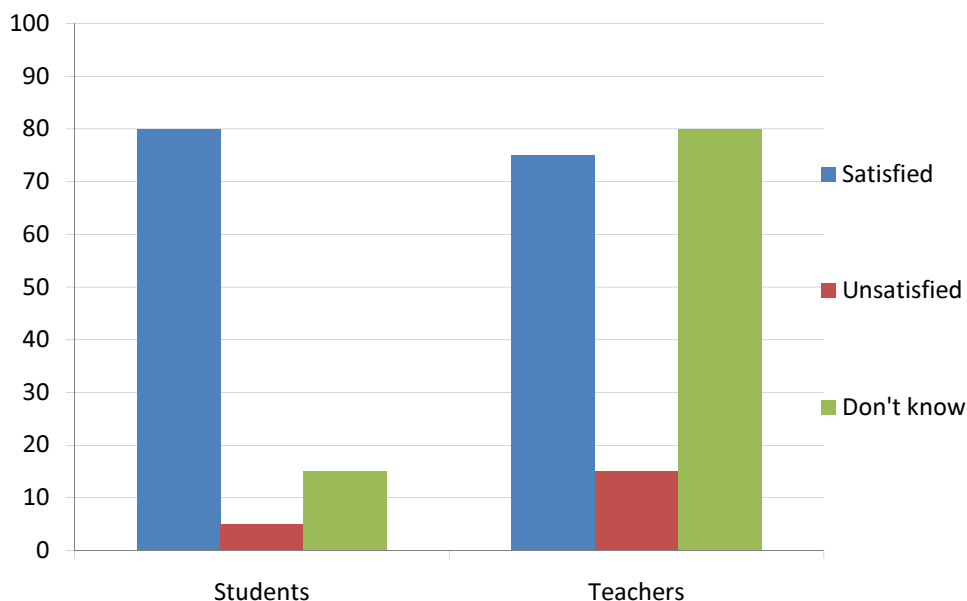
During the on-site visit to the educational institution, the expert team had inspected the material and technical base. All data about laboratory equipment are presented below. These data confirm a high level of interest and the financial participation of employers in the material and technical equipment of laboratories.

Laboratory equipment
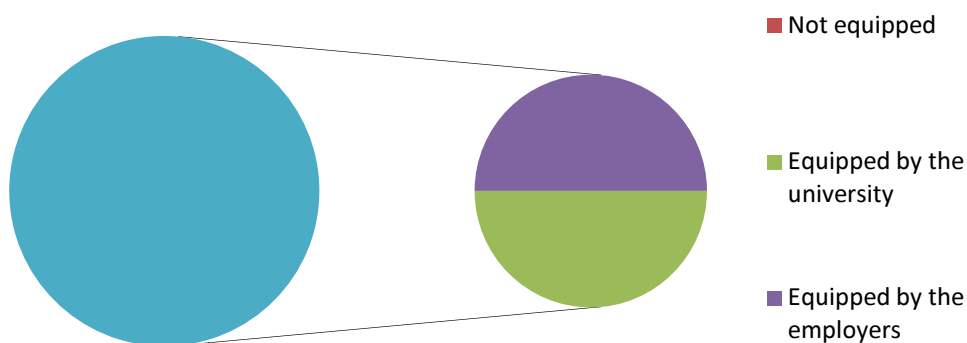
4.7. Information resources of the program

4.7.1. Evaluation criteria: excellent.

4.7.2. Strong points of the program:

The widespread use of information and communication technologies is one of the strengths of the State University "Dubna". The base of electronic educational materials contains more than 250 full-time courses for intramural and extra-mural education, developed by teachers of the university. Three classrooms of the Dubna University are equipped with additional multimedia tools to enhance the quality of the educational process and the possibility to conduct Web-seminars with an unlimited number of connections.

4.7.3. Areas of improvement:

In order to improve interoperability of applied information systems at the University it seems reasonable to develop the profile of requirements for a unified information system of the University, based on fundamental international and national standards in the IT field.

The modern information and telecommunication infrastructure for creating, storing and accessing educational content of students, faculty and administration is presented in the university and ISAM. The center of cloud technologies based on high-performance computing cluster is established to support cloud services at the University. Access to numerous external information resources in the global Internet is widely used. Virtual offices are commonly used for teaching staff and administrative personnel.

Special software is operating as a part of the center of cloud technologies to support workflow and automation on the basis of software products "1C" ("1C: Document", "1C: University PROF", "1C Accounting" etc.). Each student has authorized access to the campus network and personal account, which contains information about the current academic progress, schedule, access to training materials, distance learning system with educational online courses, etc. In addition to that "Education and Career" resource is maintained for the adaptation of students and graduates to the job market.

Management information system and technical support e-learning process operates on a base of software product "1C: University PROF." Almost all the procedures of educational activities of the program are implemented in Information and Communication Technologies environment.

4.8.   Research work

4.8.1   Evaluation criteria: excellent.

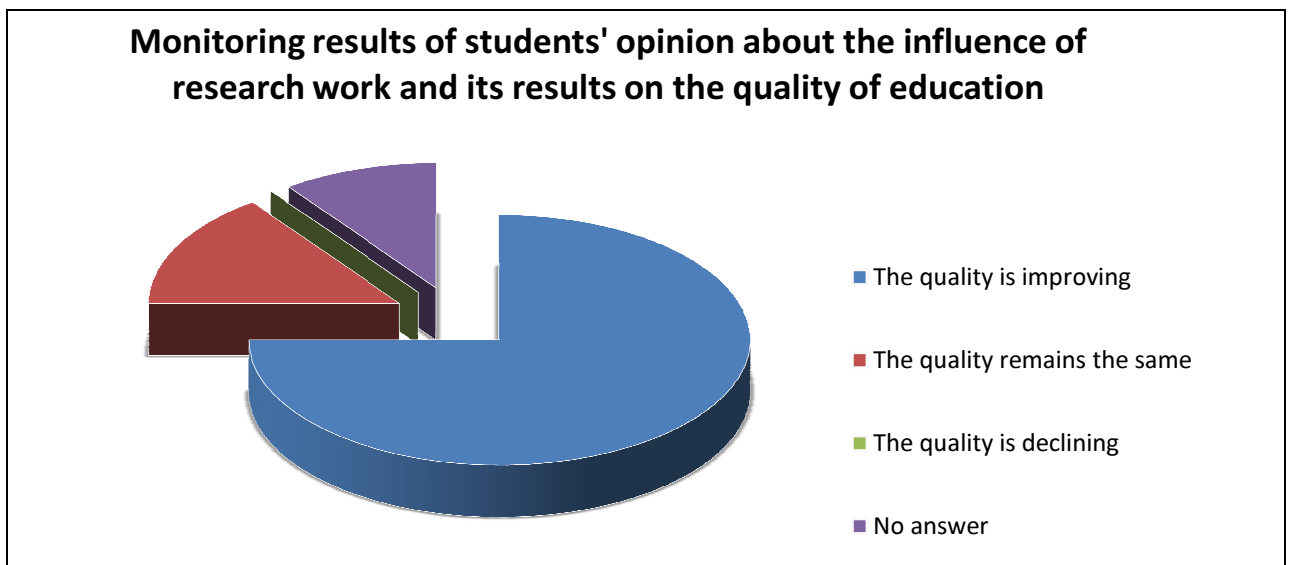### 4.8.2   Strong points of the program:

The teaching staff is actively working on scientific subjects, candidate and doctoral theses, the publication of scientific articles in the leading Russian and foreign journals (SCOPUS, WoS). A large number of scientific study groups for students

4.8.3   Areas of improvement:

It is reasonable to expand research area due to the implementation of major projects within government programs and international grants. It is necessary to increase the value of R & D per one teacher, as this figure stands at 57 thousand RUB (Minimum standard - 50 thousand RUB).

Research activities, which results are needed not only for employers but also for the university, are held in ISAM mainly by external funding. Majority of the contracts for R & D is performed in the amount of 1,000 thousand RUB. However, about 25% of the research results are used in the educational process and organization of management in the university. Attracting students to perform research activities is carried out within the scientific and student groups. More than 20% of the students are engaged in scientific study groups. 5% of the students are the winners of the research grants. According to the results of the research there is a large number of scientific publications in Russian and foreign periodicals included in the list SCOPUS and WoS. A large number of national and international scientific conferences in the area of discipline are held on the basis of the educational institution.

The results of monitoring students' opinion "The impact of the research work on the quality of education" are presented in the self-assessment documents of the institution. The following diagram illustrates the figures that were certified by experts during the on-site visit. This allows you to make conclusions about the high impact level of scientific researches and their results on the development of creative thinking of students and the quality of education in general.

Monitoring results of students' opinion about the influence of research work and its results on the quality of education

- The quality is improving
- The quality remains the same
- The quality is declining
- No answer

The participation of students in scientific study groups has been analyzed. More than 20% of the students of the program are actively involved in 7 scientific study groups (C# Programming, Robotics, "SMART Engineering", Geographical information systems in

environmental management, Academic Competence Center IBM, Academic Competence Center Oracle, Virtual Labs, GRID-IT) that are held by the teachers (head of the department).

Participation of students in scientific study groups

- do not participate
- Academic Competence Center IBM
- Virtual Labs, GRID-IT
- GIS in environment
- SMART Engineering
- Academic Competence Center Oracle
- Robotics
- C# Programming
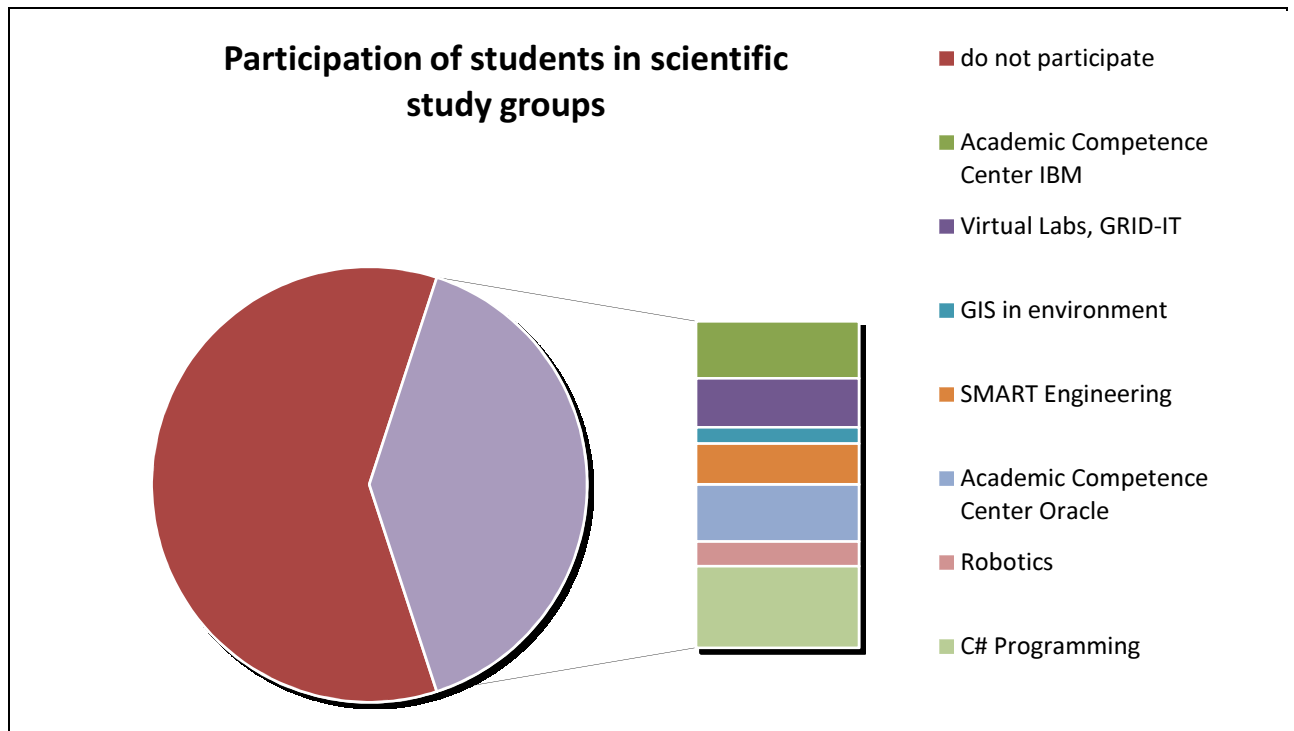
4.9. Participation of the employers in the implementation of the program

4.9.1 Evaluation Criteria: excellent.

4.9.2 Strong points of the program:

1. In general, integration and close work with employers is the best of other 20 accreditations within and outside Europe, so congratulations to the team of the University. It is obvious the availability of the enthusiasm to do more, and it is always possible and desirable, and such close cooperation achieved to date admires.

2. There is high amount of employers' representatives in the Academic council, Educational council, Scientific and Technical Council, Council on quality and other state bodies, public administration and local government. The number of employers in various councils counts 17 people. The social partners (JINR and VNIIgeosystem) have significant impact on the implementation of the programs having a high status in scientific and applied field.

4.9.3 Areas of improvement:

The employers' desire for students to understand the concepts and studying software quality attributes (reliability, safety, ergonomics) (PRK-4) seems appropriate and necessary in terms of improving practice-oriented education program. In addition, the training quality software should be based on the study of the fundamental requirements of international standards ISO / IEC 25000, as well as evaluation of maturity of software design process in accordance with the models CMM and CMMI.

Policy guidance on university participation of employers in the program designed to attract representatives of employers to teaching, their participation in the interim, final examination, review of graduate qualification works. Said activity is regulated by local regulations. Representatives of employers actively influence the formation of the matrix of professional competencies and participate in the work of the state bodies and public administration and in University governance (Academic Council, Teaching Council, Publishing Council, Scientific and Technical Council, Quality Council, an Association of young scientists and professors, Trade Union of Workers of Public Education and Science of the Russian Federation, Council of employers, Student council, the Council of young scientists and researchers, legal special forces).

Social partners of the Department of System Analysis and Management are Joint Institute for Nuclear Research (JINR) and All-Russian Research Institute of Geological, Geophysical and Geochemical Systems (VNIIgeosystem).

Employers contribute to the employment of graduates of the program in the form of agreements on targeted training, agreements for special admission, after the internship students are invited to work, the employers make recommendations on the results of graduate qualification works and other.

At least 30% of the membership of the State Accreditation Commission is the representatives of employers, who are also involved in the creation of basic chairs and teaching and research units, aimed at training highly qualified specialists, the implementation of joint development and research, attracting students to scientific activity.

The self-assessment report of the educational institution shows theresults of the employers' survey concerning their satisfaction with the quality of graduates' training. This diagram illustrates the data confirmed by experts during the interviews with employers and the data, which complies with the self-assessment results.
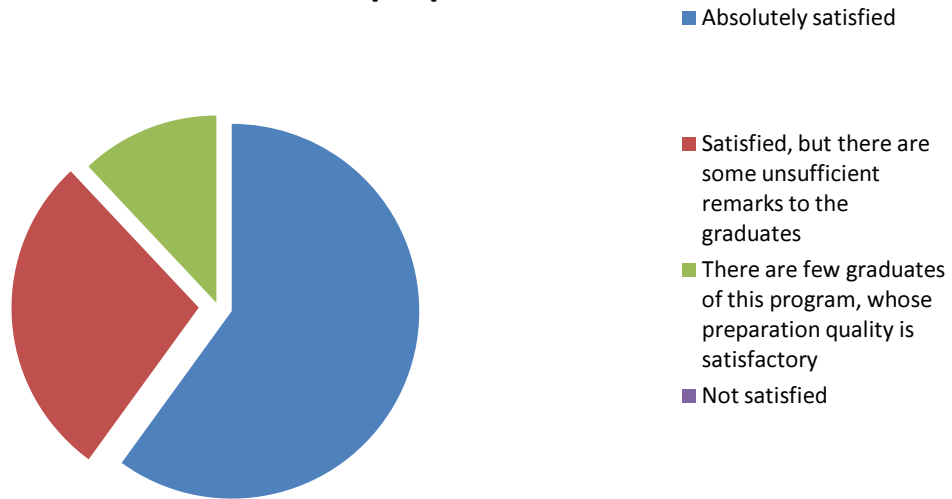
The opinion of the employers regarding the lack of formation of the following graduate's competencies should be noted:
• The ability to use different software development technologies (PRK-1);

• The ability to understand the concepts and attributes of software quality (reliability, safety, ergonomics) (PRK-4).

This testifies about the active involvement of employers in the implementation of the program.

Employers' satisfaction with the quality of the students' preparation

- ■ Absolutely satisfied
- ■ Satisfied, but there are some unsufficient remarks to the graduates
- ■ There are few graduates of this program, whose preparation quality is satisfactory
- ■ Not satisfied

4.10. Participation of the students in determining the contents of the program

4.10.1. Evaluation Criteria: excellent.

4.10.2. Strong points of the program:

Questioning students showed a very high evaluation of the quality of education, quality and availability of textbooks, teaching aids, organization of scientific activity of students.

4.10.3. Areas of improvement:

1. To improve the forms of interaction of the developers of the program with the students for purposes of taking into account their opinion on the structure and content of academic disciplines. It is important to respond clearly to the views of the active part of the students who work virtually in the IT sector and quite objectively assess the needs of the labor market.

2. The surveys of students are conducted, but it is not clear how they are conducted and how the feedback to students on measures taken is provided. It is important to close the feedback loop and to inform students about the actions taken in response to their suggestions.

The main form of student participation in the management of the program is through the interaction of student government, as well as the implementation of feedback through the website of the university. Indirect impact on management is carried out through the bureau of sociological research. Because of this the motivation potential of students from different years of study is estimated.

Student's work in assessing the quality of education includes participation in the following units of Dubna University, ensuring the effective implementation of the educational process: the academic council of Dubna University, teaching council, department of education quality and innovation in education, student council, the Analytical center "Education and Career", Bureau of Social Research. The following work is done with students: interviewing, analysis of questionnaires on quality of teaching disciplines, the analysis of the results of the evaluation of students education according to the criteria of score-rating system.

Besides, in the Analytical center "Education and Career" students conduct interviews and surveys among employers on the subject of the quality of education graduates.

Students are part of the Academic Council, they have the right to vote in the decision-making of university to control the implementation of the educational process, as well as to represent interests of students in dealing with the quality of their education.

In the future the University Dubna plans to create the section of the Student Council on the quality of education. The main purpose of the section should be the analysis of the processes of educational activities at the University, determining ways to improve training and development activities of the university in modern conditions of development of higher education.

There was developed an electronic form of questionnaire "Quality of teaching", which is available on the website of department of the quality of education and innovation in education http://otdk.uni-dubna.ru/ (section "Social research") and on the university site in the section "Feedback".
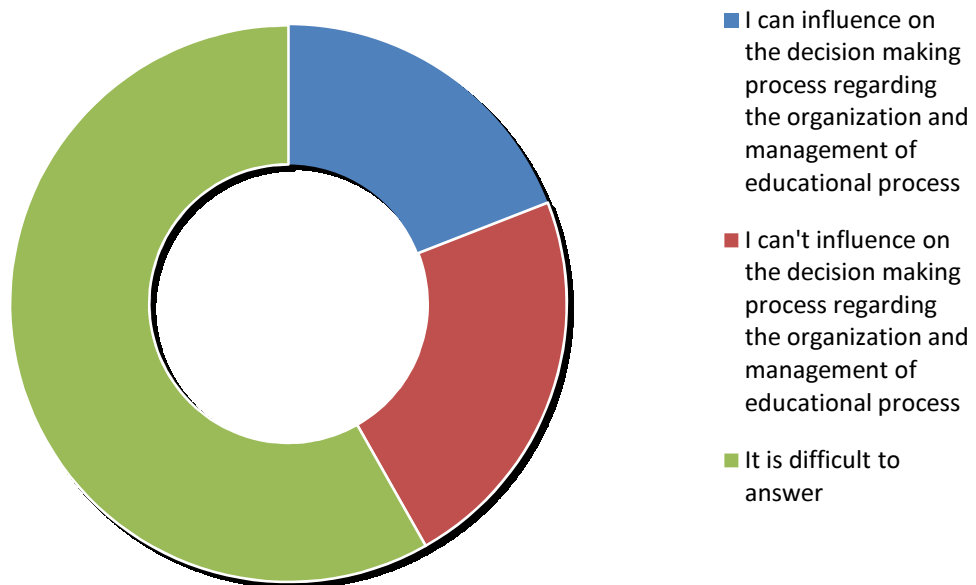
Each year, students have the opportunity to assess the quality of education in general, to take part in the social survey organized by the Department of Education Quality and Innovation in Education, Department of Sociology and Human Sciences, Center for Sociological Research (employees - professors), the Bureau of Social Research (employees - students).

Currently, there are good conditions for independent work of students. According to the survey 87% of the students are fully or largely satisfied with the existing conditions of. The results of the survey indicate a high estimate of the quality of education (largely satisfied 94%), while 87% of students report the significant impact of research on the quality of education.

In the course of on-site visit, the experts analyzed the students' participation in determining the contents of the programs, options of their participation in this process, principles of students' interaction with administration and teaching staff. This diagram illustrates the data that reflects the students' activity.

Main indexes of the analysis of the data presented indicate an active participation of students in determining the content of the program. At the same time, as it can be seen from the diagram, more than 58% of the students find it difficult to answer the question about their real participation in the development of the program, and only 19% of the total number of respondents indicates the possibility of taking into account the views of the students concerning the development of the educational program.

Students' participation

- ■ I can influence on the decision making process regarding the organization and management of educational process

- ■ I can't influence on the decision making process regarding the organization and management of educational process

- ■ It is difficult to answer

4.11. Student services at the program level

4.11.1. Evaluation Criteria: excellent.

4.11.2. Strong points of the program:
System development of student services at the level of the educational program and the entire university as a whole, taking into account individual characteristics and aptitudes of students, great opportunities for quality recreation and sports. It is developed information and communication environment for training and leisure. It should be noted regularity and high quality of the organization of cultural and sports activities for students as well as the presence of the sports complex "Olymp", one of the best sports facilities not only in Dubna, but in all the suburbs.

4.11.3. Areas of improvement:
For people with disabilities within the inclusive education it seems advisable to develop options for the implementation of educational programs aimed at the pre-emptive use of e-learning and distance learning technologies.

The self-evaluation report presents comprehensive information on the organization of educational work, cultural and sporting events, providing systematic formation of personal and social competencies of students and the organization of their leisure and recreation. Personal characteristics and tendency of students, the processes of socialization and adaptation of the students, especially the vulnerable sections of the population are taken into account in the work of extra-curricular and educational work and psychological aid. Department of Welfare Unit pays great attention to the creation of an effective organization of social issues management, conducting work on the implementation of safeguards materials and social accommodation of students and graduate students in dormitories of the University Dubna, the establishment of adequate living conditions. At a high level, cultural and sports events are held.

Good enough conditions are created to ensure inclusive education of students with disabilities, including the use of distance learning technologies.

A distinctive feature of the concept of physical education, adopted at Dubna University, is the desire to achieve good sports results, based on the desire of students to shape their physical health through training sessions and sports clubs. Training takes several phases by repeatedly changing sports, which involve student. The phases are following: from acquaintance with the chosen sport at the 1-2 years of study to improving the technology in the framework of studies on further years.

Sports complex "Olymp", located on the territory of Dubna University, is one of the most modern and multi-functional sports facilities not only in Dubna but also in the Moscow region. Sports halls are equipped with modern sports equipment, they meet the highest requirements and provides with an excellent opportunity for taking up different sports. Capacity of the stands of the sports complex allows to organize large-scale tournaments and matches, sports events and other activities. Modern heating systems, air conditioning, ventilation and lighting facilities allow to organize sports activities and training throughout the year.

According to the Regulation on the provision of scholarship for students at Dubna University, the system of student's encouragement for achievements in extracurricular activities involves the appointment of high academic scholarships for success in such areas as: science, social activities, cultural, artistic and sports activities.

Sports activities at the University are conducted in 11 directions. The following kinds of sports are developing in the University: volleyball, basketball, street ball, mini football, swimming, table tennis, chess, power lifting, kettlebell lifting, ultimate frisbee.

Dubna University organized the work of creative associations and groups: the theatre "Talion", Film Festival "Goodwin", adventure camp, eco-school, student council, student scientific society and others.

Students of Dubna University and its affiliates provide various forms of financial support. Students belonging to disadvantaged categories affected by the Chernobyl accident, left without parental care, children with disabilities, disabled groups I and II, receive social grants. In the first half of 2013 social grants were received by 598 students, including 97 students in the first and second study years who received increased social grants - 7223 rubles. (The size of basic social scholarship is 3930 rubles).

Students from low-income families, single-parent families, consisting on the dispensary with a single or both parents retired, brought into the marriage, the students in the family of whom there is a child, are able to receive financial aid. During the period from January 1st to July 1st, 2013 financial assistance in the amount more than 9 million were received by 715 people rubles.

All students studying on a budgetary basis, have the right for compensation of travel to and from schools, compensation for appreciation of the products of 12 rubles per day. Compensation of travel for the period from January 1st to July 1st, 2013 was received by approximately 900 people a month, compensation for appreciation of the products - about 1,500 people per month.

Students are given a fairly wide range of additional training courses or programs. Additional educational services for learning of foreign languages are provided by the school LEX. Language departments regularly organize internships for students abroad.

Information online resources are available in the public domain via WI-FI. In the humanities and science reading rooms there are computers for students with scientific databases and Internet sources.

In the course of on-site visit, the experts were presented the documents proving with the information of thestudents' attendance of additional courses and programs.

Attendance of additional courses and programs

■ Students, attending different additional courses and programs

■ Students, who don't attend different additional courses and programs
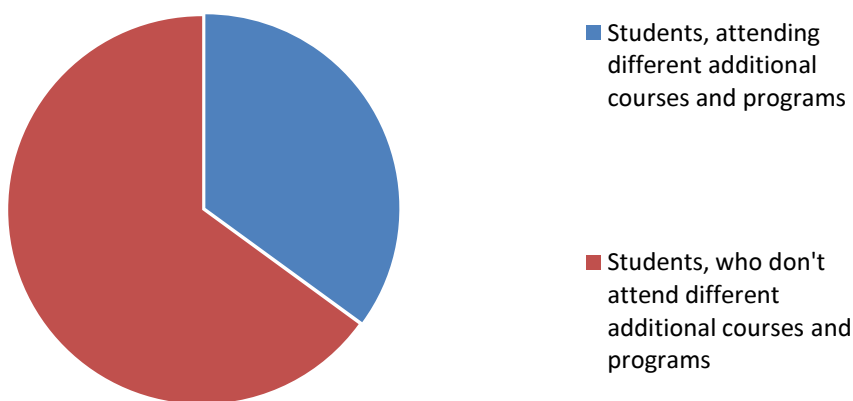
4.12. Carrier guidance. Evaluation of preparation quality of applicants

4.12.1. Evaluation Criteria: good.

4.12.2. Strong points of the program:

1. Each year agreements with city and district administrations, enterprises and organizations on target enrollment are signed, as well at the directions of the Ministry of Social Welfare, Moscow region. In 2014, agreements were made with the 25 organizations on the target reception and on the first year of study 67 students were taken under the target learning.

2. In order to attract potential applicants and provide an enrollment to the university the work on cooperation is organized with public institutions and City Department of Public Education (GORUNO) of Dubna, Protvino, Kotelniky, Taldom and Taldom region, Dmitrov and Dmitrov district, Moscow region, Kimry, Kashin, Kalyazin, Konakovo, Tver region, Uglich and Yaroslavl, Yaroslavl region, Kolchugino, Vladimir region. During the year, representatives of departments and faculties have career trips presenting the directions of teaching and enrollment conditions in the State University "Dubna".

3. Extrabudgetary Preparatory Department organizes training courses on subjects submitted for the enrollment test. Training is provided annually to 300 people. Students of the preparatory department and students of preparatory courses are provided with teaching materials. It is developed electronic textbooks in Mathematics, Computer Science, Physics, it is recorded courses of video lectures in Mathematics and Russian language, system of computer-based testing on a number of disciplines for the enrollment test is developed and used in the training.

4.12.3. Areas of improvement:

It is needed to strengthen efforts to attract to the university more trained applicants because in the year 2014 the average exam score of the Uniform State Exam in the calculation to one subject of students enrolled for training under the main educational program on a budgetary basis, is 60.38, and a passing score in the calculation to one subject - is 42, 67.

The university implements a plan of career guidance, which is maintained in the following areas:
- work with City Department of Public Education and educational institutions;
- holding the contests;
- additional training of future students in general education subjects;
- providing information about the directions of training and the conditions of admission to Dubna University;
- organization of special admission.

In order to attract potential applicants and provide an enrollment to the university the work on cooperation is organized with public institutions and City Department of Public Education (GORUNO) of Dubna, Protvino, Kotelniky, Taldom and Taldom region, Dmitrov and Dmitrov district, Moscow region, Kimry, Kashin, Kalyazin, Konakovo, Tver region, Uglich and Yaroslavl, Yaroslavl region, Kolchugino, Vladimir region. During the year, representatives of departments and faculties have career trips presenting the directions of teaching and enrollment conditions in the State University "Dubna".

Since 2010, the State University "Dubna" participates in the Joint Inter-University Mathematical Olympiad, a member of the federal List of Olympiads for schoolchildren. With the help of the specialized departments university Olympiads are held.

For students of 10th-11th grades the classes in Mathematics, Physics, Chemistry, Biology, Computer Science and ICT, Social Science, History, English and Russian languages

are held in the evening preparatory courses, weekend and part-time courses (duration - 8 months).

In order to improve the preparation of applicants it was developed the computer distance learning courses of intensive preparation for the Unitary State Exam in major subjects (Physics, Mathematics, Computer Science and ICT, History of Russia). Each course includes theoretical material and tests. All materials are adapted for use in remote testing.

To inform future students about the directions (specialties) of training, targeted training, career guidance activities of Dubna University "A Guide for applicants to Dubna University is annually published along with the information booklets of the University and separately by faculties and departments.

In the period from October to April there are doors open days of the faculties of the University and of the Institute of SAM (System Analysis and Management).

Representatives of the University take part in the annual job fairs, held by the employment centers of the cities of Moscow and Tver region, in the international exhibition "Education and Career", held in Gostiny Dvor, Moscow.

State University "Dubna" annually enters into the target enrollment agreements with city and district administrations, enterprises and organizations, as well as on the directions of the Ministry of Social Welfare, Moscow region. In 2014, the agreements were made with the 25 organizations on the target enrollment and 67 students were taken to the target learning course.

When analyzing Bachelor's programs, experts have prepared a diagram with analysis of the system of preliminary training of bachelors. The diagram shows the results of preliminary training in the last year.
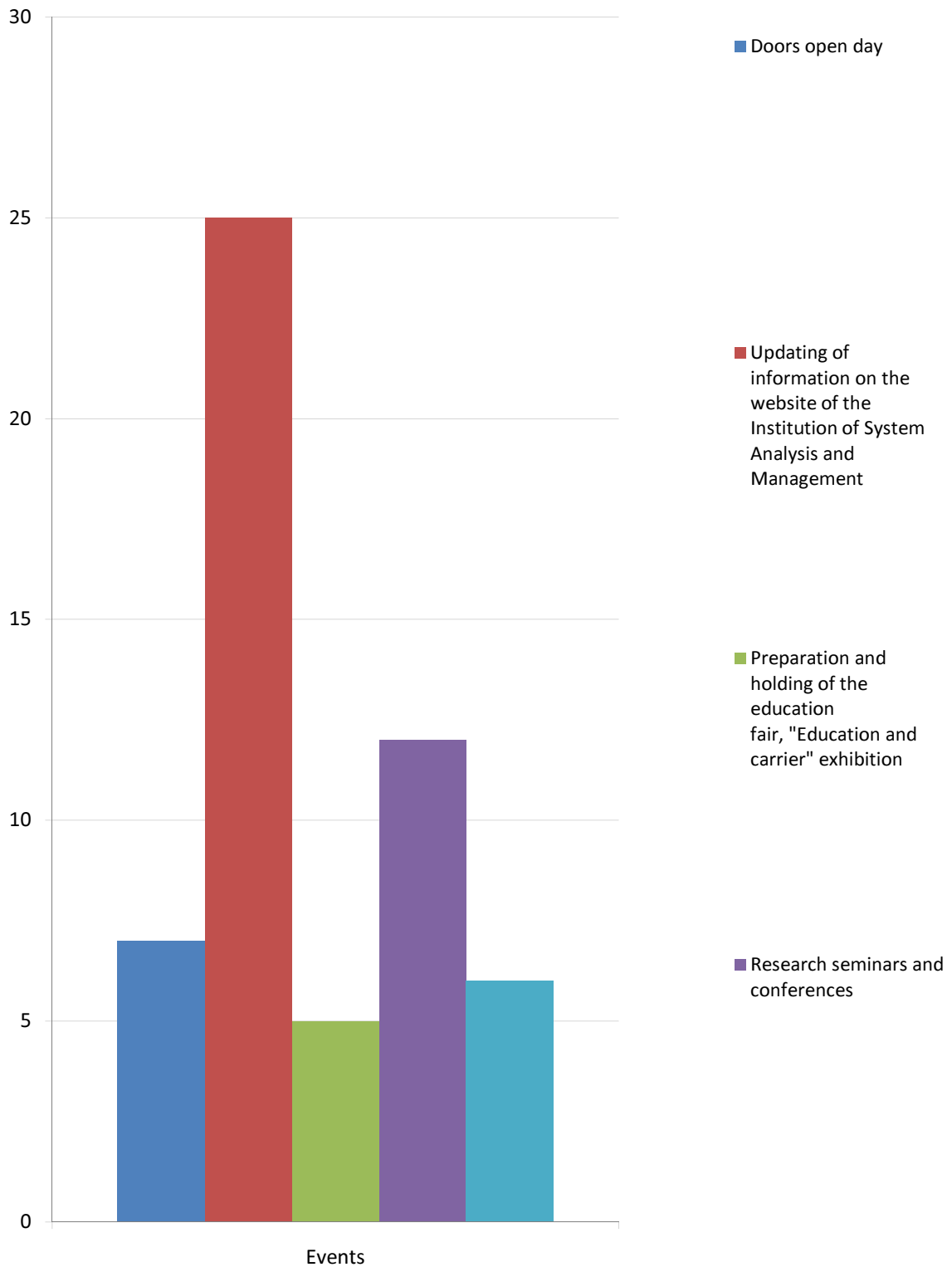
In general, experts recommend to strengthen the work with schools to improve the basic training of graduates to pass the exam and attract the most prepared for enrollment to this educational program.

Preliminary training

43
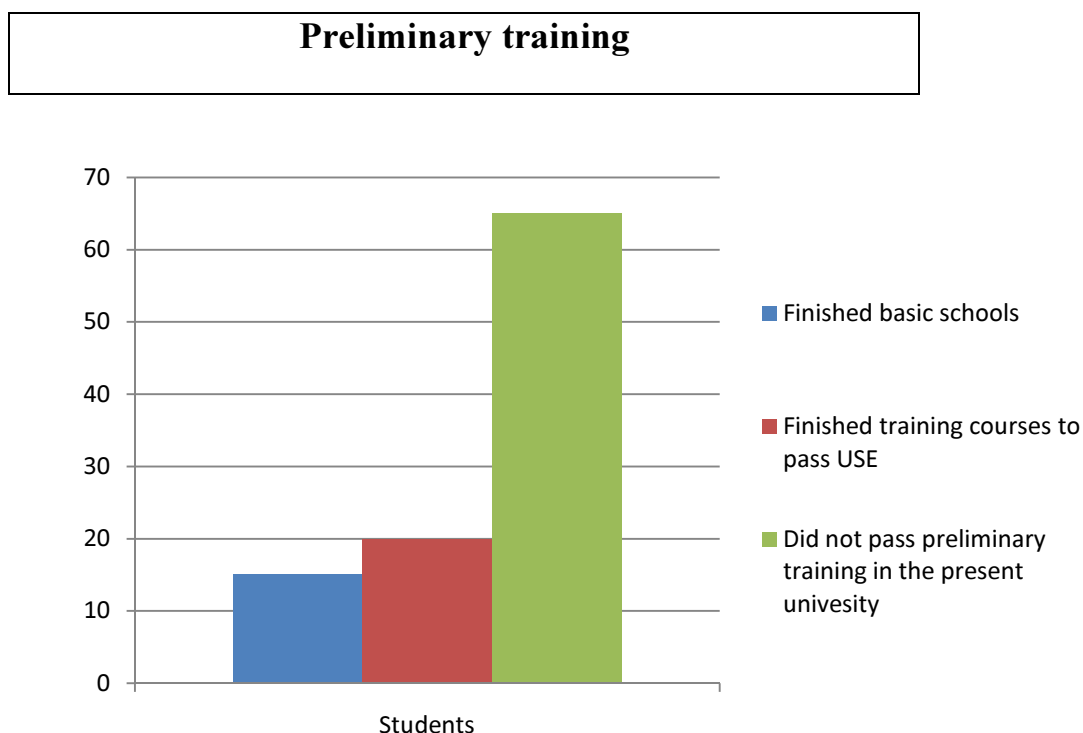
Based on the analysis of documents and interviews with program managers, experts have made a diagram illustrating the number of activities carried out during the past study year.

Data on the number of career guidance activities undertaken by scientific and pedagogical workers within a set for the program.

Career guidance arrangements, conducted by the teaching staff within the admission to the program

CVs of experts

Expert's name: Boris M. Pozdneev

Place of work, position:	Federal State-Funded Educational Institution of Higher Professional Education Stankin Moscow State Technological University, Head of the Department of Information Systems, Prorector for Quality Management
Scientific degree, academic status:	Ph.D. of Engineering Sciences, professor
Deserved degrees:	Acting member of the Academy of quality problems, the International Informational Support Academy. Twice a winner of the Prize of the Russian Federation in the field of quality
Education:	Higher Education
Professional achievements:	In the period of 20 years I am managing the department of Informational Systems, published more than 300 scientific and educational works, 10 textbooks
Sphere of scientific interests:	Research and design of information management systems, creation of informational and educational environmental and electronic educational resources
Experience of practical work in the direction of program under the expertise:	The head of more than 20 major R&D of control systems for Education and Science

Expert's name: Nikita Yu. Pustovoytov

Place of work, position:	"1C- Moscow Institute of Physics and Technology" LLC, director of information technologies; Federal State-Funded Educational Institution of Higher Professional EducationMIPT (State University), senior teacher of the Department: Corporate information systems ofFaculty of Information Computer Science; Federal State-Funded Educational Institution of Higher Professional EducationMIPT (State University), senior teacher of the Department of Innovations and High Technologies of Faculty of Information Computer Science; Federal State-Funded Educational Institution of Higher Professional EducationMIPT(State University), Research Officerof innovation laboratory of Faculty of Information Computer Science.
Scientific degree, academic status:	No
Deserved degrees:	No
Education:	Higher Education, Bachelor and Master ofFaculty of

	Management and Applied Mathematicsof MIPT (State University). Direction: Applied mathematics and physics, specialization: "Mathematical and Informational Technologies"
Professional achievements:	The State Prize Laureate of "Talented young people". The winner of the competition "Umnik" and "Start" of the Foundation for Assistance to Small Innovative Enterprises in Science and Technology. During the leadership of the Department of algorithms and programming technologies of MIPT (SU), the total number of the courses assigned to the Department increased from 3 to 16, the number of teachers – approximately from 10-12 to 55.
Sphere of scientific interests:	Computer Science, algorithms, data analysis, Data Mining, Machine Learning, Big Data
Experience of practical work in the direction of program under the expertise:	Since 2007 I amworking as a project manager. I participated in the creation of several youth innovation projects connected with the data analysis, as CEO and technical director. Since 2009 I amholding classesof computer science at the Department of Innovations and High Technologies of Faculty of Information Computer Science of MIPT (SU); Since 2010, I am teaching the courses on the following subjects: "Introduction to Programming", "Object-oriented programming", "Algorithms and data structures", "The Design and Analysis of Algorithms", a major part of which have been redesigned in their content in comparison with previous years. In 2011-2013 I was the deputy of the Head of the Department of Innovations and High Technologies of Faculty of Information Computer Science of MIPT (SU). Being on this position, I developed a part of the profile of bachelor'sdegree programof Faculty of Information Computer Science of MIPT (SU), which is connected with the Computer Science and Software Engineering. During that time, the Department opened more than 10 new courses, which appeared in the new edition of the training profile, so that the number of courses of the program is also increased. In 2010-2012 I was an executive in charge by the MIPT (SU) in joint project with 1C Company connected with the building of a multi-purpose integration of software and technology platform, made within theGovernment Resolution of the Russian

	Federation #218. A member of working group for the development of professional standards "Programmer" and "Head of software development".

Expert's name: Elizabeth Alison Kabler

Place of work, position:	University of Greenwich (Great Britain), Deputy Pro Vice-Chancellor
Scientific degree, academic status:	Ph.D. in artificial intelligence, Bachelor in Computer Science
Deserved degrees:	No
Education:	University of Greenwich
Professional achievements:	President of the British Computer Society, Chair of Council of Professors, Head of department of computer technology More than 100 of publications. The invited speaker and presenter of the conferences.
Sphere of scientific interests:	Artificial intelligence, e-learning, programming
Experience of practical work in the direction of program under the expertise:	The development of a significant number of IT systems in industry, management of many research projects

Expert's name: Semen S. Zaytsev

Place of work, position	Moscow State University of Instrument Engineering and Computer Science, student (Faculty of Computer Science)
Degree, title	n/a
Rank	n/a
Education	Not finished higher education
Professional achievements	
Sphere of scientific interests	
Experience of practical work in the direction of program under the expertise	