




# SUMMARY REPORT OF THE EXTERNAL EVALUATION

of the cluster of educational programmes  
in “Means of Transportation”

delivered by  
Northern (Arctic) Federal University



2013

While preparing this Summary Report we used information from the Self-Evaluation Report and the Report on the External Review of the educational programmes in "Service of Transport Vehicles, Production Machines and Equipment" (190603.65), "Operation and Maintenance of Transport Vehicles and Production Machines and Complexes" (190600.62), offered at Northern (Arctic) Federal University.

The presentation document for the use by the National Accreditation Board.

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## GENERAL INFORMATION ON EDUCATIONAL INSTITUTION

Full name of the educational institution	<i>Federal State Budgetary Educational Institution of Higher Professional Education Northern (Arctic) Federal University named after M.V. Lomonosov (NArFU)</i>
Founders	<i>Ministry of Education and Science of the Russian Federation</i>
Year of foundation	<i>1929 – Arkhangelsk Forestry Engineering Institute 1994 – Arkhangelsk State Technical University 2010 – Northern (Arctic) Federal University named after M.V. Lomonosov (NArFU)</i>
Current state accreditation status:	
Type	<i>Educational Institution of Higher Professional Education</i>
Kind	<i>Federal University</i>
Location	<i>Arkhangelsk Region, Arkhangelsk, 17 North Dvina Emb.</i>
Rector	<i>Elena Kudryashova, PhD, professor</i>
License	<i>Series AAA №002105 reg. No. 1417 of 15.06.2011 permanent</i>
State Accreditation	<i>Certificate of State accreditation No. BB 001043 reg. No.1031 of 12.07.2011 valid till 22.06.2014</i>
Number of students	<i>9551</i>

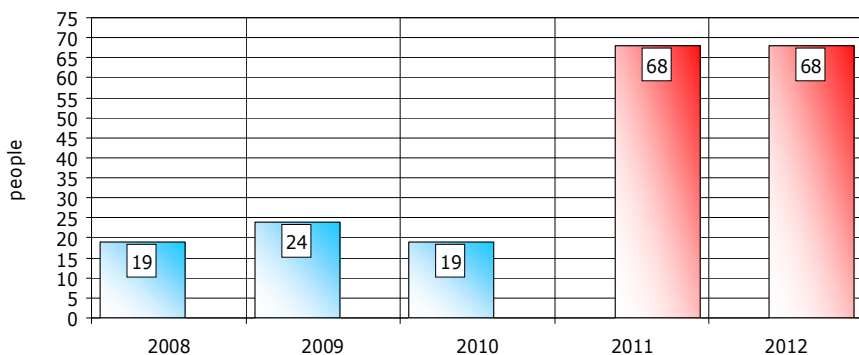
## INFORMATION ON THE EDUCATIONAL PROGRAMMES UNDERGOING ACCREDITATION

Educational programmes	<p><i>"Service of Transport Vehicles, Production Machines and Equipment" (190603.65)</i></p> <p><i>"Operation and Maintenance of Transport Vehicles and Production Machines and Complexes" (190600.62)</i></p>
Level of training / Standard period of training	<p><i>Bachelor's programme / 4 years</i></p> <p><i>Master's programme / 2 years</i></p>
Structural subdivision (head)	<p><i>Institute of Energy and Transport (Lyubova Olga Alexandrovna, Candidate of Technical Sciences, associate professor)</i></p>
Major departments (heads of major departments)	<p><i>The Department of Transport Vehicles (Elepov Alexander Alexeevich, Candidate of Technical Sciences, associate professor)</i></p> <p><i>The Department of Transport Vehicles and Production Machines of the Forestry Complex (Marushkey Michail Yurievich, Candidate of Technical Sciences, associate professor)</i></p> <p><i>The Department of Materials Technology and Construction Materials (Dumansky Igor Olegovich, Candidate of Technical Sciences, associate professor)</i></p> <p><i>The Department of Applied Mechanics and Principles of Mechanical Design (Dudin Nikolai Ivanovich, Candidate of Technical Sciences, associate professor)</i></p>
Date of the site visit	<p><i>3-5 June 2013</i></p>
Person responsible for public accreditation of the educational programme	<p><i>Vorozhtsova Ludmila Alexandrovna, Deputy First Vice-Rector</i></p>

## SAMPLING RESULTS OF THE PROJECT 'THE BEST EDUCATIONAL PROGRAMMES OF INNOVATIVE RUSSIA'

Indicators	2013
<b>Cluster of educational programmes "Means of Transportation"</b>	
Number of such programmes delivered in RF	284
Number of such programmes delivered in RF	186
Number of programmes – winners of the project (% from the total number of these programmes delivered in RF)	5 (2%)
<b>Arkhangelsk Region</b>	
Number of such programmes delivered in the region	2
Number of programmes – winners of the project (% from total amount of these programmes delivered in the region)	2 (100%)
Number of higher educational institutions and branches in the region	20
Total number of programmes delivered in the region	207
Total number of programmes – winners of the project (% from the total number of these programmes delivered in the region)	14 (7%)

### REFERENCE DATA ON STUDENT ENROLLMENT IN THE PROGRAMMES



- Service of transport vehicles, production machines and equipment
- Operation and maintenance of transport vehicles and production machines and complexes

## **ACHIEVEMENTS OF THE EDUCATIONAL PROGRAMME**

2008 – 2012

### **The quality of the study programmes delivery**

In the last five years the graduates of the Institute of Energy and Transport of the NArFU (educational programmes "Service of Transport Vehicles, Production machines and Equipment" (190603.65), "Operation and Maintenance of Transport Vehicles and Production Machines and Complexes" (190600.62) were awarded six honorary diplomas in the national completion of graduation qualification papers (diploma projects).

### **Employability of graduates**

100% of graduates are employed; out of this number 87-92 % are employed in the car service companies of the North-Western Region.

### **Up-dating the contents of education**

Within the framework of the programme "Operation and Maintenance of Transport Vehicles and Production Machines and Complexes" two new bachelor specializations have been opened: "Car Service" and "The Service of Transport Vehicles" and "Production Machines and Equipment in Forestry".

### **Research work**

At the Department there are two scientific schools: in fuel and energy resource saving and environmental protection.

### **Material resources**

The major Department is fit with unique equipment ("Hydraulic and pneumatic control systems", exerciser). New subjects have been introduced: nanomaterials in automobile industry, transport logistics and "SolidWorks" simulation package.

### **Academic mobility of students**

Annually one or two students go to Norway for a practical training at one of HEIs.

### **International projects**

The Department takes part in the international project Arctic Logistics Technologies (ALTECH).

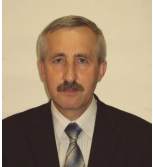
## EXTERNAL REVIEW PANEL



**Igor Kabashkin** (Latvia)  
Review Chair, foreign expert

*Habilitated Doctor of Sciences, professor, President of the Institute of Transport and Communications, Director of the Institute of Telematics and Logistics, member of the Joint Transport Research Centre of OECD and ITF, President of the Latvian Association of the Development of Transport and Education*

A nominee of the Higher Education Quality Evaluation Centre (Latvia)



**Viktor Smelik** (Russia)  
Deputy Review Chair

*Doctor of Technical Sciences, professor, Vice-Rector for scientific work and innovations of the Saint-Petersburg State Agrarian University*

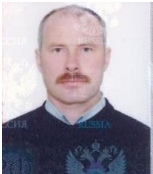
A nominee of the Guild of Experts in the sphere of professional education (Russia)



**Nikolay Grinchar** (Russia)  
Panel member

*Doctor of Technical Sciences, professor, Deputy Head of the Department "Track, Construction Machines and Robotic Complexes" of the Institute of Transport Engineering and Control Systems of the Moscow State University of Transport*

A nominee of the Guild of Experts in the sphere of professional education (Russia)



**Sergey Elukov** (Russia)  
Panel member, representative of professional community

*Chief of the car fleet of medical ambulance transport of Arkhangelsk Regional Clinical Hospital*

A nominee of the Regional Association of Employers "Union of Industrialists and Entrepreneurs of the Arkhangelsk Region" (Russia)



**Veronika Bulygina** (Russia)  
Panel member, representative of students

*4<sup>th</sup> year student of the Pediatric Faculty of the Northern State Medical University*

A nominee of the National Centre for Public Accreditation (Russia)



## **COMPLIANCE OF THE EXTERNAL REVIEW OUTCOMES WITH THE NCPA'S STANDARDS**

### **STANDARD 1. Policy (mission, vision) and procedures for quality assurance**

Compliance with the standard: **substantial compliance**

#### **Good practice**

Priority directions of NArFU development are stated in the "Development Programme of the Federal State Budgetary Educational Institution of Higher Professional Education Northern (Arctic) Federal University named after M.V. Lomonosov" for the period of 2010-2020" and are implemented by the Institute of Energy and Transport.

The methods of achieving and adjusting the goals and objectives of the educational programmes on the whole meet the requirements of the NCPA's standards and criteria.

The strategic goals and objectives, the mission of the Institute of Energy and Transport are instrumental to the effective delivery of the educational programmes, which take into consideration specific conditions of the Arctic Region.

The Institute of Energy and Transport has in place some elements of the internal quality assurance system of educational programmes.

#### **Areas for improvement**

Though there are elements of the inner quality assurance system in place at the Faculty, however, there is no integral quality assurance system, which would be able to ensure the participation of Departments, other units, teaching staff and students in the procedures of quality assurance.

There are no effective tools enabling the participation of all stakeholders in defining and adjusting (if necessary) the goals and strategies of the programme development.

It is necessary to improve the Master's programmes.

## **STANDARD 2. Approval, monitoring and periodic review of educational programmes**

Compliance with the standard: **substantial compliance**

### **Good practice**

Curricula and educational programmes are annually reviewed and updated according to the goals and outcomes of the study programmes: the content of the working programmes of academic subjects, teaching materials and methodological guidelines providing for the implementation of a relevant educational technology are updated to be in line with the modern developments in science, technology, information technologies, economy, culture and social policy.

The coordination of the teaching process in the HEI, the preparation of the normative documentation, monitoring, control over development and delivery of educational programmes at the University is carried out by the Academic Department. All syllabi and curricula of all educational programmes are reviewed and submitted for approval by the Methodological Committee

When developing curricula there is a coordination and correlation between the contents of different academic subjects, which are taught in their logical sequence.

The graduate students have achieved high results in the competition of graduate qualification papers.

### **Areas for improvement**

The opinion of students and employers when designing and updating syllabi and curricula is not taken into account systematically

The effectiveness of educational programmes is not regularly monitored.

### **STANDARD 3. Assessment of student learning outcomes / competencies**

Compliance with the standard: **substantial compliance**

#### **Good practice**

The required by the curricula forms of student assessment are observed. The students are informed of the results of assessment; the results are also discussed at the meetings of the Academic Council of the Institute of Energy and Transport. This practice ensures continuous and on-going control of the students' performance. The results are made public

The following types of student assessment are used: express surveys, colloquium, formative control, self-assessment, testing, oral examinations, and others.

Formative control and interim attestation are held in accordance with the approved regulations: P143-03.01 "Regulations on conducting formative control and interim attestation of the students of higher professional education programmes".

#### **Areas for improvement**

The system of electronic tutoring is not developed enough.

Students are not sufficiently involved in research and research competitions outside their University.

There is no effective system of motivating students and their research supervisors in research work.

The support system of student mobility is not sufficiently developed.

## **STANDARD 4. Quality assurance of teaching staff**

Compliance with the standard: **partial compliance**

### **Good practice**

The teaching staff is highly competent in the areas of knowledge relevant to the educational programme.

The teaching process is closely connected with research.

The major directions of research in the Institute of Energy and Transport are connected with the priority areas of the development of science and technology, with the list of critical technologies in the Russian Federation

The proportion of young researchers (below 35 years of age) is 27% of the teaching staff number in the educational programmes undergoing accreditation.

The teachers regularly publish their research results in high ranking journals, take part in international, national and University conferences, seminars and exhibitions.

The staff of the Faculty has enough potential to be actively involved in international academic and research communities.

### **Areas for improvement**

Insufficient number of research publications in the world's leading scientific and technical journals with a high citation index.

Low mobility of the teaching staff, low attendance of international conferences and research visits.

The number of the teachers holding research and academic degrees at the Department of Transport Vehicles and Production Machines of the Forestry Complex is insufficient.

## **INFORMATION ON THE LEADING TEACHERS OF THE STUDY PROGRAMMES**

### **Lebedev Viktor**

*Candidate of Technical Sciences, assistant professor of the Department of Transport Vehicles of NArFU, Honoured worker of higher education of the Russian Federation*

### **Myasishchev Dmitry**

*Doctor of Technical Sciences, professor of the Department of Transport Vehicles of NArFU*

### **Dumanskiy Igor**

*Candidate of Technical Sciences, Head of the Department of Materials Technology and Construction Materials of NArFU, Honoured worker of higher education of the Russian Federation*

### **Prokofiev Gennady**

*Doctor of Technical Sciences, professor of the Department of Applied Mechanics and Principles of Mechanical Design of NArFU, Honoured worker of higher education of the Russian Federation*

### **Alekseev Aleksandr**

*Doctor of Technical Sciences, professor of the Department of Materials Technology and Construction Materials of NArFU*

### **Dundin Nikolay**

*Candidate of Technical Sciences, Head of the Department of Applied Mechanics and Principles of Mechanical Design of NArFU, Honoured worker of higher education of the Russian Federation*

### **Marushkey Mikhail**

*Candidate of Technical Sciences, Head of the Department of the Operation of Vehicles and Machines of the Forestry Complex of NArFU, Honoured worker of higher education of the Russian Federation*

### **Potekhin Veniamin**

*Candidate of Technical Sciences, assistant professor of the Department of Materials Technology and Construction Materials of NArFU, Honoured worker of higher education of the Russian Federation*

### **Zhigalov Aleksandr**

*Candidate of Technical Sciences, assistant professor of the Department of Transport Vehicles of NArFU*

### **Orlenko Evgeny**

*Candidate of Technical Sciences, assistant professor of the Department of the Operation of Vehicles and Machines of the Forestry Complex of NArFU*

## **STANDARD 5. Learning resources and student support**

Compliance with the standard: **substantial compliance**

### **Good practice**

The majority of classrooms at the Institute of Energy and Transport are equipped with computers, multimedia projectors, telecommunications and software, which makes it possible to provide education using modern equipment.

All University computers are integrated into a local network with the Internet access.

The NarFU Research Library creates the information environment of education and research activities by way of speedy and effective access to information resources. The library holds over 1,6 million books. An electronic reading room with the access to the resources of the President Boris Eltsin Library was opened at the University in September 2011.

The provision of the educational process with textbooks and learning materials is carried out through the University library. The information on the libraries' new acquisitions is immediately entered into traditional catalogues and the electronic base "IRBIS"

The major departments have their own specialized literature which is available to students for their research work.

There are 12 student hostels, which accommodate 4000 students. All non-resident students have a hostel place.

There is a sports complex "Arctica" and a number of sports clubs. The University sports facilities include the "Burevestnik" stadium, the ski resort "Iles", a swimming pool, and gymnasiums. Health improving and recreational programmes are available to budget funded undergraduate and post graduate students free of charge

### **Areas for improvement**

The material and technical resources at the major departments are outdated.

Distant education and On-Line Learning are not sufficiently developed.

## **STANDARD 6. Information system providing effective implementation of the study programme**

Compliance with the standard: **partial compliance**

### **Good practice**

Collecting, analysis and dissemination of information necessary for effective education management, assistance in organizing the study process in the University units is carried out by the Office of the organizational and methodological support of the educational process of NArFU.

Learning materials are published on the NArFU site and are available to all students. The major educational programmes in different fields of study offered at the University (syllabi, curricula, teaching materials, tests, laboratory course manuals) are also posted on the website.

NArFU is implementing the first stage of the project on modernization of the education process management system "Tandem University", which will help to unify and automate the management of the educational process at the University.

The "DocVision" system of automated documentation management and electronic document flow has been developed and introduced at the University.

Informatization of the educational process, active use of computers, the students' greater interest in internet resources as compared to printed resources, facilitate active introduction of modules containing learning materials available through the internet.

In order to monitor the University activities the IBS company has developed and implemented an information system of data collecting, which allowed to automate collecting, accounting and control over indicators of the Development Programme. The Institute, being a structural subdivision of the University, enters the information about its activities into the system, which makes it possible to evaluate the indicators of its development.

### **Areas for improvement**

The unified information system of education programmes management is not sufficiently developed.

The systems of computer assisted design are not sufficiently used.

The development of electronic teaching materials in the subjects of educational programmes has not been completed yet.

## **STANDARD 7. Public information**

Compliance with the standard: **substantial compliance**

### **Good practice**

The public is kept informed through the website of the University, the Institute and the Departments, through mass media and reference books for prospective students.

Career-guidance work is carried out according to the annual plan.

The public is informed through traditional annual Open Door Events for prospective applicants to the University.

The labor market demand for graduates and their employability are monitored.

The publication of information on employability and demand for graduates is carried out by the Career Guidance Department and the Marketing Department. The information is published on the University intranet.

The results of the job placement analysis are discussed at the meetings of the Rector's office with the subsequent publication of the report.

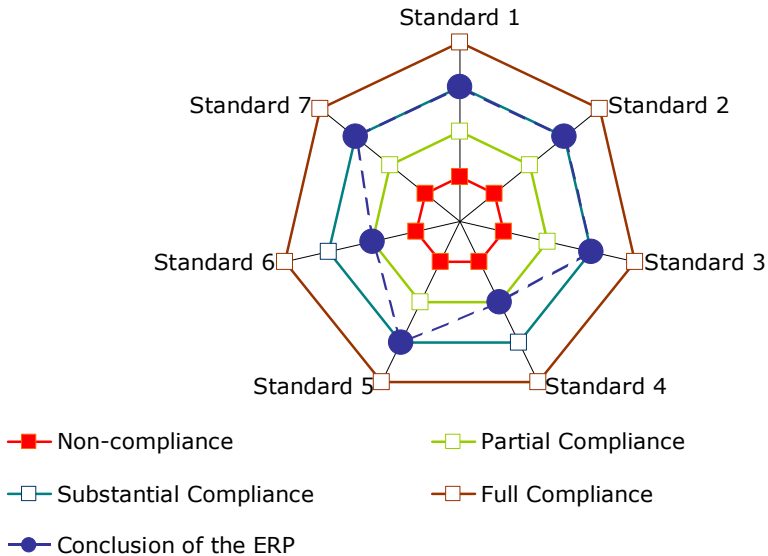
### **Areas for improvement**

The Institute of Energy and Transport of NArFU does not maintain close connections with the graduates of the educational programmes under accreditation.

The information on educational programmes and their achievements is not published in the media on a regular basis.



## DISTRIBUTION DIGRAM OF THE EXTERNAL REVIEW OUTCOMES



- Standard 1. Policy (mission, vision) and procedures for quality assurance
- Standard 2. Approval, monitoring and periodic review of programs and qualifications
- Standard 3. Assessment of student learning outcomes / competencies
- Standard 4. Quality assurance and competencies of teaching staff
- Standard 5. Learning resources and student support
- Standard 6. Information system providing effective implementation of the study program
- Standard 7. Public information

## CONCLUSION OF THE EXTERNAL REVIEW PANEL

Based on the self-evaluation report analysis, documents and data submitted, interviews with the representatives of the professional communities, students, post graduates, doctor-degree students, staff and administration of the educational institution the External Review Panel came to the conclusion that study programmes "Service of transport vehicles, production machines and equipment" (190603.65), "Operation and maintenance of transport vehicles and production machines and complexes" (190600.62), offered at Northern (Arctic) Federal University to a large degree comply with the standards and criteria of public accreditation of the National Centre for Public Accreditation.

The expert panel would like to note a correlation of the educational programmes under accreditation and the labor market demands, which leads to full employability of the graduates.

The panel also notes high corporate spirit, which manifests itself in the commitment of the NArFU staff to the values, goals and principles of the HEI, and the sense of students' belonging.

However, there are areas for improvement.

The Panel recommend the National Accreditation Board **to accredit the study programmes "Service of transport vehicles, production machines and equipment" (190603.65), "Operation and maintenance of transport vehicles and production machines and complexes" (190600.62), offered at Northern (Arctic) Federal University for the period of 6 years.**

## SCHEDULE OF THE SITE VISIT OF THE EXTERNAL REVIEW PANEL

Time	Activity	Participants	Venue
<b>3 June, Monday</b>			
8.45	Arrival at NArFU		17 North Dvina Emb., Main Building
09.00 – 10.00	<b>The first meeting of the Review Panel members and coordinators of the review of the educational programmes of NArFU</b>		Room 1220
10.00 – 10.30	Internal meeting of the ERP	External Review Panel (ERP)	Room 3312
10.30 – 11.30	<b>Meeting of the ERP with the university administration</b>	Rector, vice-rectors, deans, administration, ERPs	Room 1220
11.30 – 12.00	Internal meeting of the ERP	ERP	Room 3312
12.00 – 13.00	<b>Excursion around the university</b>	ERP	
13.00 – 14.00	Lunch		Banquet hall
14.00 – 15.00	<b>Meeting with NArFU staff members responsible for accreditation and chairs of the educational programmes under review</b>	Director of the institute, deputy directors, heads of the major departments, ERP	Room 1432
15.00 – 16.30	Work with documents/attending classes (on the request of ERP members)	ERP	Room 3312
16.30 – 17.30	<b>Meeting with alumni</b>	Alumni, ERP	Room 3303
17.30 – 18.00	Internal meeting of the ERP	ERP	Room 3312
<b>4 June, Tuesday</b>			
9.45	Arrival at NArFU		
10.00 – 11.00	<b>Meeting with teaching staff</b>	Teaching staff, ERP	Room 3303
11.00 – 11.30	Internal meeting of the ERP	ERP	Room 3312
11.30 – 12.30	<b>Meeting with representatives of students</b>	Students, ERP	Room 3303
12.30 – 13.00	Internal meeting of the ERP	ERP	Room 3312
13.00 – 14.00	Lunch		Banquet hall
14.00 – 14.30	<b>Meeting with PhD and doctorate students</b>	PhD and doctorate students, ERP	Room 3303
14.30 – 16.30	Work with documents/attending classes (on the request of ERP members)	ERP	Room 3312

<b>Time</b>	<b>Activity</b>	<b>Participants</b>	<b>Venue</b>
16.30 – 17.30	<b>Meeting with representatives of employers</b>	Employers, ERP	Room 3303
17.30-18.00	Internal meeting of the ERP	ERP	Room 3312
<b>5 June, Wednesday</b>			
9.45	Arrival at NArFU		
10.00 – 13.00	Internal meeting of the ERP: discussion of preliminary results of the site visit, preparation of the oral report of the panel	ERP	Room 3312
13.00 – 14.00	<b>Closing meeting of the Review Panel with the NArFU representatives</b>	ERP, administration, heads of the major departments, teaching staff, students	Room 1409
14.00 – 15.00	Lunch		Banquet hall
	Departure of the ERP members		