




SUMMARY REPORT OF THE EXTERNAL EVALUATION

of the cluster of educational programmes

- "Technology of Chemical Wood Processing"
(240406.65),
- "Chemical Engineering and Biotechnology"
(240100.62),
- "Chemical Engineering" (240100.62,240100.68),
- "Biotechnology" (240700.62, 240700.68),

delivered by
Northern (Arctic) Federal University



While preparing this Summary Report we used information from the Self-Evaluation Report and the Report on the External Review of the cluster of educational programmes in “Technology of Chemical Wood Processing” (240406.65), “Chemical Engineering and Biotechnology” (240100.62), “Chemical Engineering” (240100.62,240100.68), “Biotechnology” (240700.62,240700.68), offered at Northern (Arctic) Federal University.

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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 No. 002105 reg. № 1417 of 15.06.2011 permanent</i>
State Accreditation	<i>Certificate of State accreditation No. BB No. 001043 reg. No 1031 of 12.07.2011 valid till 22.06.2014</i>
Number of students	<i>9551</i>

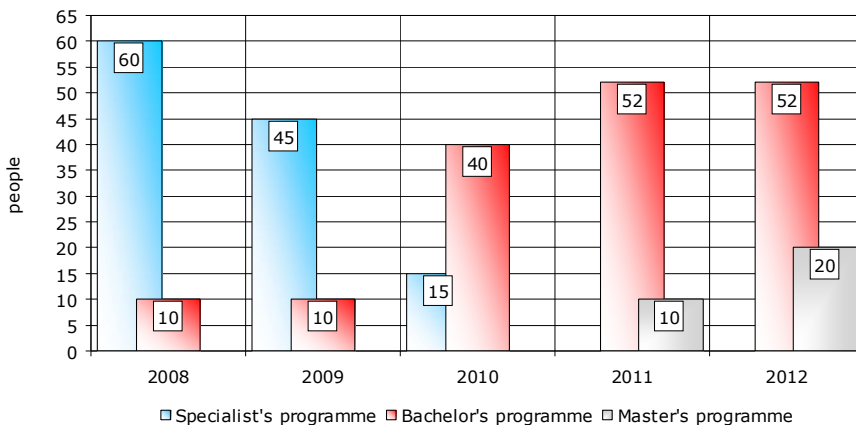
INFORMATION ON THE EDUCATIONAL PROGRAMMES UNDERGOING ACCREDITATION

Educational programmes	<i>"Technology of Chemical Wood Processing" (240406.65), "Chemical Engineering and Biotechnology" (240100.62), "Chemical Engineering" (240100.62,240100.68), "Biotechnology" (240700.62, 240700.68)</i>
Level of training / Standard period of training	<i>Specialist's programme / 5 years Bachelor's programme / 4 years Master's programme / 2 years</i>
Structural subdivision (head)	<i>Institute of Theoretical and Applied Chemistry (Komarova Galina Vladimirovna, Candidate of Chemical Sciences, associate professor)</i>
Major departments (heads of major departments)	<i>Department of Technology of Pulp and Paper Industry (Kazakov Yakov Vladimirovich, Candidate of Technical Sciences, associate professor) Department of Chemical Engineering Bogdanovich Nikolai Ivanovich, Doctor of Technical Sciences, professor) Department of Biotechnology (Novozhilov Evgeni Vsevolodovich, Doctor of Technical Sciences, professor)</i>
Date of the site visit	<i>3-5 June 2013</i>
Person responsible for public accreditation of the educational programme	<i>Vorozhtsova Ludmila Alexandrovna, Deputy First Vice-Rector</i>

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

Indicators	2013 r
Cluster of educational programmes in "Technology of Chemical Wood Processing", "Chemical Engineering and Biotechnology", "Chemical Engineering", "Biotechnology"	
Number of such programmes delivered in RF	90
Number of such programmes delivered in RF	54
Number of programmes – winners of the project (% from the total number of these programmes delivered in RF)	27 (30%)
Arkhangelsk Region	
Number of such programmes delivered in the region	6
Number of programmes – winners of the project (% from total amount of these programmes delivered in the region)	6 (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



ACHIEVEMENTS OF THE EDUCATIONAL PROGRAMME

The quality of the study programme delivery

37 teachers of major departments are engaged in the programmes under accreditation. Among them 8 staff members hold the degree of the Doctor of Sciences, and the academic title of Professor. 92% of the teaching staff are research degree and academic title holders.

Employability of graduates

The majority of the graduates of the educational programmes are employed in the area of their specialty. The cooperation with the field specific enterprises is carried out not only on the basis of agreements on field practice but also at the two branches of the Department of Pulp and Paper Industry – LLC “Sukhonsky PPM” and JSC “Arkhangelsk PPM”.

Provision of up-to-date education

Curricula and educational programmes are periodically reviewed and updated according to the adopted procedures and requirements of employers and representatives of the professional community of the Region.

Research work

There are three scientific schools at the Institute of Theoretical and Applied Chemistry. The innovation and technology centre “Modern technologies of the North bio-resource processing” and the joint resource center “Arctica” have been set up.

Amount of research work financing from all the sources including agreements with the leading pulp and paper companies in 2010 was 33 million rubles, in 2011 – 38 million rubles, in 2012 – 22 million rubles, and in 2013 – 40 million rubles.

Material and technical resources

There is on going development of material and technical resources, information and social infrastructure of the Institute: all laboratories and the apparatus room of the Innovation and Technological Centre have been renovated.

New research equipment was purchased to the amount of 68 million rubles (excluding the equipment of the Resource Center “Arctica”), and the educational equipment to the amount of 32 million rubles.

Student academic mobility

The number of foreign student has gone up to 2,0% of the total number of students of the Institute of Theoretical and Applied Chemistry.

EXTERNAL REVIEW PANEL



Mikhail Berengarten (Russia)

Review Chair

Candidate of Technical Sciences, professor, deputy director for academic work of the Institute of Engineering Ecology and Chemical Engineering of the Moscow State Engineering University (MAMI), member of the Guild of Experts in the sphere of professional education

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

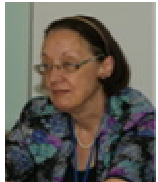


Riina Aav (Estonia)

Panel member, foreign expert

Candidate of Technical Sciences, assistant professor of the Department of Chemistry of the Faculty of Natural Sciences of the University of Technology, Tallinn

A nominee of the Estonian Higher Education Quality Agency (Estonia)

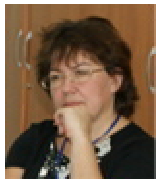


Evangelia Varella (Greece)

panel member, foreign expert

Doctor of Natural Sciences, coordinator of the Tempus project, professor of the Aristotle University, President of the European Chemistry Thematic Network Association

A nominee of the European Chemistry Thematic Network Association (Greece)



Lyudmila Yuzhaninova (Russia)

panel member, representative of professional community

Managing director of JSC "United Paper Mills", Candidate of Technical Sciences

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



Vera Diachkova (Russia)

Panel member, student representative

3rd year postgraduate student of the Northern State Medical University

A nominee of 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

The Institute of Theoretical and Applied Chemistry delivers educational programmes in priority for the Region areas of development. The programmes focus on the use of biological resources in the North. The educational activities are aimed at meeting the needs and requirements of the Region.

The HEI's management has clearly defined the goals and objectives of the development of the Institute and the educational programmes.

The programmes under review are developing according to the stated mission and strategy of NArFU.

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

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

Areas for improvement

The opinions of students and employers are not always taken into account while defining goals and objectives of the development of the Institute and educational programmes.

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.

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.

When developing curricula there is a coordination and correlation between the contents of different academic subjects, which are taught in their logical sequence. Elective courses supplement course units and subjects required by the federal component of the programme.

All the syllabi and curricula of all educational programmes are reviewed and submitted for approval by the Methodological Committee, which can be viewed as the strength of the cluster of the programmes under accreditation.

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

Student surveys are periodically conducted to get feedback on accessibility of teaching materials, course content, and the quality of teaching.

Areas for improvement

The Departments of the Institute of Theoretical and Applied Chemistry should make a wider use of the good practice of counterpart foreign educational programmes.

There are no effective tools for using student feedback when developing syllabi of educational programmes.

There is a weak connection between the results of students' surveys on accessibility of teaching materials, course content, and the quality of teaching and the measures for enhancing the quality of educational programmes.

STANDARD 3. Assessment of student learning outcomes / competencies

Compliance with the standard: **substantial compliance**

Good practice

The procedure of student competency assessment is regulated by the documents issued by the relevant structures.

The control over the quality of students' education and training is carried out on a regular basis during the whole period of study. The conclusions about the quality of education are made on the grounds of the results in learning and research.

The assessment of students' knowledge is conducted by experienced teachers who have sufficient professional qualification.

Students take part in University, Republican, national and international conferences and Olympiads. The students are involved in research work carried out at the Institute and in the joint resource centre "Arctica".

The graduates of the programmes under accreditation continue the education in Master's and Postgraduate programmes of NARFU.

Areas for improvement

Insufficient knowledge of foreign languages of teachers and students.

Insufficient student mobility. Only a small percentage of students study abroad on exchange programmes.

The University does not provide incentives for students to participate in international exchange programmes and international conferences.

STANDARD 4. Quality assurance of teaching staff

Compliance with the standard: **full compliance**

Good practice

The teaching staff is highly competent in the areas of knowledge relevant to the educational programme and the teaching process is closely connected with research.

There is a close link between the teaching process and research.

The teachers take an active part in research financed by grants and contracts in the joint resource center "Arctica".

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 Institute of Theoretical and Applied Chemistry is engaged in implementing research programmes at the regional and Federal level.

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

Areas for improvement

Insufficient participation of the teaching staff members in international research and academic projects.

Insufficient teachers' mobility, to include international mobility.

Insufficient help in the editing and translating into English of research articles and materials and their preparation for publishing in international journals with a high impact factor.

INFORMATION ON THE LEADING TEACHERS OF THE STUDY PROGRAMMES

Kazakov Yakov

Candidate of Technical Sciences, assistant professor, Head of the Department of Pulp and Paper Production Technology

Khabarov Yuri

Doctor of Chemical Sciences, professor of the Department of Pulp and Paper Production Technology, Honoured worker of higher professional education of the Russian Federation

Duboviy Vladimir

Doctor of Technical Sciences, professor of the Department of Pulp and Paper Production Technology

Dulkin Dmitry

Doctor of Technical Sciences, professor, CEO of JSC MC "United Paper Mills"

Milovidova Lyubov

Candidate of Technical Sciences, assistant professor of the Department of Pulp and Paper Production Technology, Honoured worker of higher professional education of the Russian Federation

Komarova Galina

Candidate of Chemical Sciences, assistant professor of the Department of Pulp and Paper Production Technology, Honoured worker of higher professional education of the Russian Federation

Guriev Aleksandr

Candidate of Technical Sciences, assistant professor of the Department of Pulp and Paper Production Technology, Head of the Research Department of NArFU

Sevastianova Yulia

Candidate of Technical Sciences, assistant professor, director of engineering and technical centre "Modern technologies of biological resources recycling of the North"

Beloglazov Vladimir

Candidate of Technical Sciences, professor, Head of Administration of Novodvinsk

Brovko Olga

Candidate of Chemical Sciences, assistant professor, senior researcher of the Institute of Ecological Problems of North of UrRAS of the Russian Federation

Sinchik Aleskandr

Candidate of Technical Sciences, assistant professor, deputy CEO of JSC MC "United Paper Mills"

Bogdanovich Nikolay

Doctor of Technical Sciences, professor, Head of the Department of Chemical Technologies, Honoured worker of higher professional education of the Russian Federation

Makarevich Nikolay

Doctor of Chemical Sciences, professor of the Department of Wood Chemical Industries, Honoured worker of education of the Republic of Belarus, member of New-York Academy of Sciences (NYSA)., member of the International Adsorption Society (IAS)

Kutakova Natalia

Candidate of Technical Sciences, professor of the Department of Wood Chemical Industries

Kuznetsova Lidiya

Candidate of Technical Sciences, assistant professor of the Department of Wood Chemical Industries

Tretiakov Sergey

Candidate of Technical Sciences, professor, Head of the Department of Standardization, Metrology and Certification, Honoured worker of high school of the Russian Federation, Honoured worker of higher professional education of the Russian Federation

Novozhilov Evgeny

Doctor of Technical Sciences, professor, Head of the Department of Biotechnology, Honoured worker of high school of the Russian Federation, corresponding member of RANS, Deputy Head of the Dissertation Council D212.008.02,

Gelfand Efim

Doctor of Technical Sciences, professor of the Department of Biotechnology, Honoured worker of higher professional education of the Russian Federation, Honoured inventor of the Russian Federation

STANDARD 5. Learning resources and student support

Compliance with the standard: **substantial compliance**

Good practice

The educational programmes are well provided with lecture rooms, laboratories and relevant equipment. Multimedia classrooms and internet resources are actively used by the students.

In many subjects there are readily available electronic versions of textbooks and teaching guidelines, and methodological materials developed by the NArFU staff.

Library reading rooms and computer classes are available for students' independent work, research work, and writing their course and graduation papers.

All academic subjects are provided with electronic educational resources, which are placed in the educational servers of the University.

Different structural units of the University and the Institute of Theoretical and Applied Chemistry are actively engaged in the developing of the social and cultural environment and student social support.

There are students' self governing bodies in NArFU.

Areas for improvement

There is no social infrastructure to provide access to quality education for students with different learning opportunities and of different age groups.

The students are not very active in the University social life (in particular, they don't take part in syllabus and curriculum design, in choosing elective courses and individual learning paths).

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

Compliance with the standard: **substantial compliance**

Good practice

The majority of educational subjects of the cluster of educational programmes are provided with electronic teaching resources to include syllabi, study guidelines, text books, test books, and practice books.

The teaching materials, electronic text books and manuals are available in the local intranet of the University and the Institute of Theoretical and Applied Chemistry.

The information about the results of the conferences and competitions with the student participation is published at the University website.

The information system, though being developed consistently, has not been completed yet.

Areas for improvement

There is no comparative analysis about the achievements of similar educational programmes in other Universities.

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.

The teaching staff participate in the meetings with prospective students, in University Olympiads in Mathematics and Informatics, provide consultancy on how to prepare for USE and others.

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

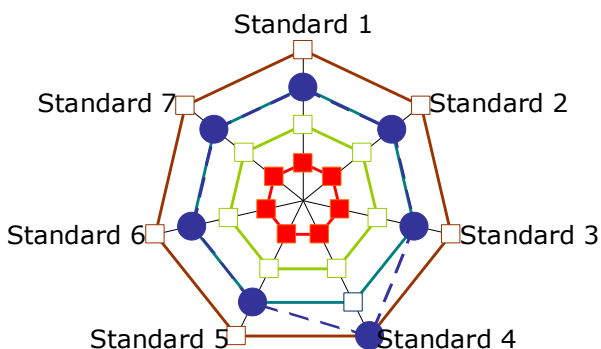
The results of the job placement analysis are discussed at the meetings of University administration.

Areas for improvement

There is not enough information on the employability of graduates on the University website.

The Internet and media resource are not sufficiently used for informing the public about the quality and achievements of the educational programmes.

DISTRIBUTION DIGRAM OF THE EXTERNAL REVIEW OUTCOMES



- Non-compliance
- Partial Compliance
- Substantial Compliance
- Full Compliance
- Conclusion of the ERP

- 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 under review 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 notes that the strengths of the educational programmes undergoing accreditation include: high professionalism of the teaching staff and consideration for gender and age related aspects; well developed material and technical resources meeting high international standards; close links with employers, contributing to practical work placement and subsequent employability of graduates; well established scientific schools and optimal correlation of education and research work.

The Panel recommends the National Accreditation Board to accredit the study programmes "Technology of Chemical Wood Processing" (240406.65), "Chemical Engineering and Biotechnology" (240100.62), "Chemical Engineering" (240100.62,240100.68), "Biotechnology" (240700.62, 240700.68 for the period of 6 years.

SCHEDULE OF THE SITE VISIT OF THE EXTERNAL REVIEW PANEL

Time	Activity	Participants	Venue
3 June, Monday			
8.45	Arrival at NARFU		17 North Dvina Emb., Main Building
09.00 – 10.00	The first meeting of the Review Panel members and coordinators of the review of the educational programmes of NARFU		Room 1220
10.00 – 10.30	Internal meeting of the ERP	External Review Panel (ERP)	Room 1360
10.30 – 11.30	Meeting of the ERP with the university administration	Rector, vice-rectors, deans, administration, ERPs	Room 1220
11.30 – 12.00	Internal meeting of the ERP	ERP	Room 1360
12.00 – 13.00	Excursion around the university	ERP	
13.00 – 14.00	Lunch		Banquet hall
14.00 – 15.00	Meeting with NARFU staff members responsible for accreditation and chairs of the educational programmes under review	Director of the institute, deputy directors, chairs of the major departments, ERP	Room 1406
15.00 – 16.30	Work with documents/attending classes (on the request of ERP members)	ERP	Room 1360
16.30 – 17.30	Meeting with alumni	Alumni, ERP	Room 1406
17.30 – 18.00	Internal meeting of the ERP	ERP	Room 1360
4 June, Tuesday			
9.45	Arrival at NARFU		
10.00 – 11.00	Meeting with teaching staff	Teaching staff, ERP	Room 1406
11.00 – 11.30	Internal meeting of the ERP	ERP	Room 1360
11.30 – 12.30	Meeting with representatives of students	Students, ERP	Room 1406
12.30 – 13.00	Internal meeting of the ERP	ERP	Room 1360
13.00 – 14.00	Lunch		Banquet hall
14.00 – 14.30	Meeting with PhD and doctorate students	PhD and doctorate students, ERP	Room 1406
14.30 – 16.30	Work with documents/attending classes (on the request of ERP members)	ERP	Room 1360

Time	Activity	Participants	Venue
16.30 – 17.30	Meeting with representatives of employers	Employers, ERP	Room 1406
17.30-18.00	Internal meeting of the ERP	ERP	Room 1360
5 June, Wednesday			
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 1360
13.00 – 14.00	Closing meeting of the Review Panel with the NArFU representatives	ERP, administration, chairs of the major departments, teaching staff, students	Room 1409
14.00 – 15.00	Lunch		Banquet hall
	Departure of the ERP members		