



FINAL REPORT

EXTERNAL REVIEW OF THE STUDY PROGRAMMES IN

Architecture and Constructions

delivered by the Northern (Arctic) Federal University
named after M.V. Lomonosov



Kaliningrad, 2012

External Review
of study programmes
in “Architecture and Constructions”,
delivered by the Northern (Arctic) Federal University named after
M.V. Lomonosov

Review Panel Chair

A handwritten signature in blue ink, appearing to read 'A. Chernykh', written over a horizontal line.

Alexander Chernykh

Arkhangelsk, 2012

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EXECUTIVE SUMMARY

An external review of the study programmes in "Architecture and Construction" delivered by the Northern (Arctic) Federal University named after M.V. Lomonosov (hereinafter – NArFU) was carried out during the period from September 2012 to November 2012, involving a review of the self-evaluation report supplied by the University, a site visit by the external review panel, and preparation and production of the present report on the outcomes of the external review process.

The main purpose of the review was to analyze whether the reviewed study programmes meet the Standards and Criteria for Public Accreditation of Higher Education Programmes (hereinafter – NCPA Standards and Criteria) developed by the National Centre of Public Accreditation (NCPA) in accordance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG-ENQA).

The External Review Panel, which was composed of Russian and foreign experts, visited NArFU from 12 November 2012 to 14 November 2012. In course of the site visit the Panel had meetings and interviews with the Administration of the University, staff members responsible for accreditation, teaching staff members of majoring departments, undergraduate and postgraduate students, alumni and employers. Administration of the University and the Institute of Construction and Architecture were not present at the meetings with focus groups (undergraduate and postgraduate students, teaching staff, alumni and employers), which helped to increase impartiality of the process.

During the site visit the Review Panel visited classes in "Examination of buildings and constructions" and "Drawing".

The Review Panel requested supplementary materials for further information: list of basic and additional literature, information on research activities, performed by teaching staff of the departments delivering the reviewed study programmes, reports on field practice, ranking of academic performance of students based on the outcomes of the summer examination session.

The Panel wishes to emphasize high level of organization of the site visit by representatives of NArFU and NCPA, including arrangement of meetings and interviews on site, provision of meeting rooms and working facilities for the Panel.

The present Final Review Report provides the basis for a decision on public accreditation against NCPA Standards and Criteria which is to be made by NCPA with respect to the programmes under review.

The main goal of public accreditation is to enhance quality of education and to promote quality culture in education institutions, to identify best practices of ongoing improvement of educational quality, as well as to ensure public provision of information about education institutions delivering study programmes in accordance with European standards of educational quality.

1. CONTEXT AND MAIN STAGES OF THE REVIEW

1.1 Reasons for commissioning the review

Article 33.2, Point 41 of the Law of the Russian Federation "On Education" of 8 November 2010 №293-Φ3 stipulates that education institutions have the right to undergo public accreditation procedures conducted by Russian, foreign, or international educational, scientific, public, or other organisations. Information on

the outcomes of such accreditation shall be considered in the state accreditation review process.

To undergo the public accreditation procedure regarding the study programmes in "Architecture and Construction" the Northern (Arctic) Federal University named after M.V. Lomonosov applied to the National Centre of Public Accreditation which carries out its activities at the national level and is recognized by the leading international organisations of quality assurance in higher education¹. (Annex 1)

1.2 Composition of the Review Panel

The National Centre of Public Accreditation (NCPA) was responsible for the review process coordination, as well as for selecting and appointing the members of the External Review Panel.

The Review Panel consisted of six Russian and foreign members:

Alexander Chernykh – D.Sc., Professor, Dean of Civil Engineering Faculty of Saint Petersburg State University of Architecture and Civil Engineering (Saint Petersburg, Russia) – Review Chair – e-mail: chagrig@lan.spbgasu.ru; chernyh.a.g@lan.spbgasu.ru;

Yuri Filatov – PhD., Associate Professor, Head of Quality Management Department of Moscow State University of Civil Engineering (Moscow, Russia) – Panel member – e-mail: umko@mgsu.ru;

Pentti Kareoja – Professor of School of Art and Design of Aalto University, Leading Finnish Architect of ARK-House (Helsinki, Finland) – Panel member – e-mail: pentti.kareoja@ark-house.com;

Mikhail Ikonnikov – Director of Arkhangelsk Branch of «Rostehinventarizatsiya – Federal Bureau of Technical Inventory» (Arkhangelsk, Russia) – Professional practice representative - e-mail: arhangelsk@rosinv.ru;

Ilya Rastokin – 6th year student of Faculty of Pediatrics, Chair of the Student Scientific Society of Northern State Medical University (Arkhangelsk, Russia) – Student member – e-mail: ilya.rastokin@gmail.com.

1.3 Goals and objectives of the review

The review of the study programmes in "Architecture and Construction" delivered by the Northern (Arctic) Federal University named after M.V. Lomonosov was aimed at:

- evaluation of the effectiveness of the reviewed study programmes and assessing the level of their compliance with the NCPA Standards and Criteria;
- analysis of the content, level and quality of training, content of the study programmes and conditions for their delivery, identification of strengths and weaknesses of the study programme, evaluation of the dynamics of development of the Institute of Construction and Architecture and the material and technical resources;
- evaluation of the quality of delivery the study programmes in "Architecture and Construction";

¹ The Central and Eastern European Network of Quality Assurance Agencies in Higher Education CEENQA (full membership); The Asia-Pacific Quality Network APQN (full membership); The International Network for Quality Assurance Agencies in Higher Education INQAAHE (associate membership); The European Network for Quality Assurance in Higher Education ENQA (associate status).

- provision of recommendations which could assist the programmes under review in further development and quality enhancement of the content and management of the study process.

1.4 Stages of the review

The review of the study programmes in "Architecture and Construction", delivered by the Northern (Arctic) Federal University named after M.V. Lomonosov, was conducted in 3 main stages:

1.4.1 Self-evaluation report

The University's representatives in charge for the external review of the Northern (Arctic) Federal University named after M.V. Lomonosov were responsible for conducting the self-evaluation procedure of the study programmes in "Architecture and Construction", as well as for writing a self-evaluation report on the study programmes under review and its timely submittal to NCPA.

Based on the NCPA Guidelines for Conducting Self-Evaluations at the Programme Level, the self-evaluation report included an introduction, findings of the self-evaluation procedure, conclusions and annexes.

In accordance with the NCPA accreditation procedure the self-evaluation report of the study programmes in "Architecture and Construction" was supplied to NCPA in time and distributed among the Review Panel members 30 days prior to the site visit by the Panel to the University.

The Review Panel would like to point out that the self-evaluation report was rather informative which enabled the Review Panel to get an overall impression of the study programmes under review and identify key areas for a deeper study during the site visit to NArFU. However, the findings of the report were too declarative and general, and could be more precise and factual.

1.4.2 Site visit to the Northern (Arctic) Federal University named after M.V. Lomonosov

The site visit to the Northern (Arctic) Federal University named after M.V. Lomonosov was undertaken between 12 November 2012 and 14 November 2012, in order to verify the validity of information contained in the self-evaluation report provided by the study programme under review, and to gather additional evidence as to the programme's delivery and its compliance with the NCPA Standards and Criteria.

NCPA was responsible for setting the dates and schedule of the evaluation visit; the site visit programme and timetable were finalized after they had been discussed and agreed upon by the Review Panel and NArFU.

During the visit to NArFU the Panel requested for further information and supplementary materials.

At the end of the site visit, the Review Chair and the Review Secretary made a brief presentation to the University staff describing the most prominent preliminary findings of the external review.

The detailed schedule of the site-visit is attached as Annexes B, C to the present report.

1.4.3 Evaluation report

The Review Panel was responsible for submitting to NCPA the Final Evaluation Report on the outcomes of the external review of the study programmes in

"Architecture and Construction" delivered by the Northern (Arctic) Federal University named after M.V. Lomonosov.

The draft report (13 pages, excluding annexes), was written by the Panel Secretary based on the findings of the Panel. Panel members then commented on the draft report twice and the finalized draft was sent to the University to check for factual errors. The panel finalized the report after making all necessary factual corrections, and sent it to NCPA to submit it to the Accreditation Council for the final decision to be made.

2. DESCRIPTION OF THE STUDY PROGRAMMES

Today the Institute of Construction and Architecture continues Implementation of study programmes in 5 specialties in accordance with State Educational Standard of Higher Professional Education with a full-time training period of five years:

- 270102.65 Industrial and Civil Engineering, qualification - Engineer;
- 270205.65 Highways and airports, qualification - Engineer;
- 270114.65 Building Design, qualification - engineer-architect (period of training is 5.5 years);
- 270115.65 Appraisal and Real Estate Management, qualification - Engineer;
- 050501.65 Vocational training (Construction Engineering, Installation and Repair-Construction Engineering Technology), qualification - teacher of professional training.

Forms of training are full-time, part-time (evening) and distance.

New Bachelor's Degree study programme in 270100.62 "Construction Engineering" was started in 2010 according to the State Educational Standard of Higher Professional Education on profiles: "Construction Engineering in Northern Climate Conditions" and "Production and Use of building materials, products and structures". Form of training is full-time; the period of training is 4 years.

Since 2011 Bachelor's Degree programme in 270800.62 "Construction Engineering" has been implemented in full-time, part-time (evening) and distance forms according to the Federal State Educational Standard of Higher Professional Education. Full-time implies 4 years of training, providing education in Industrial and Civil Construction Engineering; Highways; Construction Engineering Design; Assessment and Real Estate Management; Construction Engineering in the Northern Climate Conditions, Production and Use of Building Materials, Products and Structures, Sustainable Construction Engineering; Buildings and Structures in the Northern Climate Conditions, Underground Structures, Bases and Foundations.

New specialist programme in 271101.65 "Construction of Unique Buildings and Structures" was started in 2012, the period of study is 6 years, resulting in specialist qualification.

Since 2009 there has been delivered new 270100.68 Master's Degree study programme in "Construction Engineering": "Theory and Design of Buildings and Structures". Currently the admission and training is implemented in accordance with the Federal State Educational Standard of Higher Professional Education for two Master's Degree programmes: "Theory and Design of Buildings and Structures" and "Construction Engineering in Northern Climate Conditions". Duration of study is 2 years in full-time form.

This year the number of vacancies for admission to the first year of studies was 218, including 117 vacancies funded from the budget. Structures of curricula

correspond to the State Educational Standards and the Federal State Educational Standards.

3. FINDINGS OF THE EXTERNAL REVIEW OF STUDY PROGRAMMES

3.1 Standard 1. Policy (mission, vision) and procedures for quality assurance

Compliance with the standard: full

The strategy for development of the study programmes under review in "Construction Engineering" is in line with the mission and the Strategy for Development of NArFU named after M.V. Lomonodov. Goals and strategy for development of the study programmes under review are clearly articulated, approved and published. Corresponding documents were provided to the Review Panel.

Methods for achievement and modification of goals of study programmes had been elaborated and were provided to the Review Panel. However, it was not possible for the Panel to evaluate their efficiency during the visit.

Administration of the Institute of Construction and Architecture and the teaching staff are fully engaged in the process of setting goals and strategies for development of the study programmes.

Participation of students in the process of setting goals and strategy for development of study programmes is fulfilled only via Educational Unit of the Institute of Construction and Architecture.

Participation of employers is assured by the following means:

- issues on training students in the NArFU are considered in the collegiate meetings of the Ministry for Construction of Arkhalngelsk region, which is a strong point of the study programmes;
- some employers at the same time teach at the NArFU on the contract base.

As stage of involvement of all stakeholders in setting goals and strategy for development is not reflected in any documents, the Panel has decided that the compliance to this criterion is full.

Study programmes quality assurance system is assured by:

- highly qualified teaching staff;
- availability of modern study facilities and laboratories;
- availability of a sufficient number of regularly updated teaching aids;
- facilities of the NArFU, which are sufficient for the study process, dwelling, meals, medical services, leisure and recreation of the teaching staff and students;
- use of modern technical aids and technology in educational process;
- modern research equipment, work with which encourages students' interest to research work (seminars for the students in the Center for collective use of equipment), which is underlined by the Panel as a strong point;
- high level of commitment to professional ethics.

It is recommended to elaborate and introduce the system of regular surveys using information technologies that would be held among all stakeholders for assessment of efficiency and modification of goals of study programmes.

3.2 Standard 2. Approval, monitoring and periodic review of study programmes

Compliance with the standard: full

Curricula and subject specific programmes are reviewed annually according to the goals and results of the study programmes: content of plans of disciplines, teaching (methodological) aids, list of recommended literature, information resources. Preparation of teaching and technical aids for each department of the Institute is carried out with regard of updated information. Modifications may be done not so often depending on needs and availability of resources (qualified teaching staff, teaching aids, technical means of training, and others).

Students' opinions are taken into account while making subject specific plans and programmes through work of Educational Unit of the Institute of Construction and Architecture.

Participation of employers is assured by the following means:

- issues on training of students in the NArFU are considered in the collegiate meetings of the Ministry for Construction of Arkhalngelsk region, which is a strong point of the study programmes;
- some employers at the same time teach at the NArFU on the contract base.

At the same time students, graduates, teaching staff and employers note unanimously that practical training is insufficient.

Study programme efficiency is monitored using graduate employability data. The Panel considers the high level of employability of the graduates to be an impartial criterion of study programme efficiency.

Internal and external evaluations of study programmes are carried out, but are of occasional rather than systematic nature.

3.3 Standard 3. Assessment of student learning outcomes (competencies)

Compliance with the standard: full

Evaluation of the quality of training of students is carried out also basing on the analysis of results of admission examinations, learning outcomes in all disciplines, final attestation of graduates. Quality control of educational process is carried out during the whole period of studies. Documents, regulating knowledge/competency assessment during interim and final attestation are published and were available for the Panel.

The Panel considers the criteria and procedures used for students' knowledge/competencies assessment to be clearly articulated and impartial, corresponding to estimated results and goals of study programmes.

Students' knowledge/competencies are assessed by qualified specialists, which is confirmed by the provided information on the teaching staff.

The Panel thinks that students' research work is not sufficient and that the Institute of Construction and Architecture does not fully implement available resources.

The level of students' international mobility support is high. For example, regular training courses are organized in Norway and Finland. On the other hand, student exchange at national and international level requires enhancement. It is possible that agreements with foreign universities would be an improvement. At the same time the Panel thinks that at present activity of the NArFU in encouragement of international student mobility corresponds to its possibilities.

3.4 Standard 4. Quality assurance of teaching staff

*Compliance with the standard: **substantial***

The level of qualification of the teaching staff is confirmed by impartial evidence, and the Panel found the level sufficient.

The Panel found research work of most Departments not of a very high level, compared to that of Department of Engineering Geology, Bases and Foundations and of Department of Chemistry and Ecology in Construction.

The Institute of Construction and Architecture engages foreign educators from Finland, Norway and other countries. At the same time, more educators from other Russian universities should be involved in the teaching process.

System of teaching quality monitoring is traditional: analysis of implementation of educators' individual plans, elections. Motivation is built mostly on sustaining professional image, adhering to professional ethics. The Panel thinks that the Institute of Construction and Architecture does not possess sufficient financial resources for establishment of efficient motivation system.

The Panel notes that the majority of the teaching staff is rather aged, so change of generations of the teaching staff might have a great effect on the study process.

Extension of qualification is carried out in accordance with set requirements. More experienced educators visit lectures and practical classes, delivered by younger educators and check course and graduation projects supervised by the latter.

Participation of the teaching staff in international joint projects and internships are determined by the resources of the Institute of Construction and Architecture and is limited by educators' insufficient knowledge of English. Interaction in English could be an important factor of enhancement of international activities and cooperation.

3.5 Standard 5. Learning resources and student support

*Compliance with the standard: **full***

In the course of the site visit the review panel received conformation of the availability of adequate building facilities (classrooms, laboratories), equipment, of modern library and information resources to students.

NArFU implements life-long learning programmes via the delivery of further professional education programmes and the programme "Accessible environment" – via the use of means of distance learning.

However, the Review Panel points out that people with disabilities have problems with getting access to certain classrooms.

The feedback provision system aimed at getting students' opinions on the conditions and organization of the educational process functions through student self-government organisations, sometimes with the involvement of the Rector and the Academic Council.

3.6 Standard 6. Information system providing effective implementation of the study programmes

Compliance with the standard: full

At the request of NArFU the company IBS has developed and implemented a data collection and education management information system which provides the opportunity to gather and analyze information on the indicators of the Programme for development. The Institute of Construction and Architecture being a structural unit of the University inputs data on its activities once every three months which makes it possible to evaluate the indicators of its development.

The University has been implementing the first stage of the project Tandem University which is aimed at modernisation of the system of education process management and will enable the University to harmonize and computerize the education process management.

NArFU has developed and has been implementing the system of automated office work and electronic document circulation DocsVision. In the future the upgrading of this software will support the system of reporting on all documents and to manage performance and take administrative decisions based on the reported data.

Training and methodology materials are available on the official website and the portal of the University to all the parties involved in the process of education. The website contains basic study programmes in Architecture and Construction, delivered by the Institute (curricula, subject-specific programmes, course books, tests, practical assignments to be done in laboratories).

The Review Panel points out that the systems of distance learning are not actively used at the Institute. Students are not well informed about such systems.

3.7 Standard 7. Public information

Compliance with the standard: full

Information about the study programme including the data on the curricula, expected outcomes, qualifications awarded, teaching level, forms of teaching and assessment, students' educational opportunities is available on the official website of the University and communicated at the meetings with prospective students, it is also available in hard copy. These data are also published in English.

Employment demand data are published on the information boards of the Institute and the departments.

Data on the quality and accomplishments of the study programmes are regularly published in the NArFU newspaper "The Arctic vector", they are annually presented on the exhibitions "Science, education, career", regional exhibition "Building industry" and were once presented on the exhibition in the centre "Crocus-expo" (Moscow).

4. RECOMMENDATIONS FOR IMPROVEMENT

Based on the analysis of the documents, information and oral evidence the External Review Panel made recommendations which, in the opinion of the Panel, will be rather beneficial in enhancing the quality of the reviewed study programmes.

Here is a summary list of the recommendations:

1. In order to ensure the involvement of all stakeholders in determining the goals and the strategy for development of the study programmes it is recommended to develop two variants of the survey:

- for employers (fill in during the job fairs);
- for graduates (final-year students)

who will be supposed to evaluate the competencies of graduates, determined by the study programmes, and propose additional competencies they consider to be essential. The outcomes of the surveys could be used to achieve and adjust the goals of the study programmes.

2. In order to improve the professional training of graduates it is necessary to use all the possibilities provided in the framework of the Federal State Educational Standards and beyond them. Possible options: improvement of the activities of student construction brigades, involvement of students in the NArFU construction projects.
3. In order to improve the research activities of the departments delivering the reviewed study programmes, the Academic council of the University should analyze the research activities performed at the Department of Highways, Department of Engineering Constructions and Architecture, Department of Construction Operations, Department of Structural Mechanics and Strength of Materials; it should also review the current and prospective plans of research activities and analyze whether the resources for implementation and development of these activities are relevant and sufficient.
4. In order to expand the availability the information materials and develop modern information technologies it is recommended to make better use of the Interdisciplinary Centre "Open network".
5. Taking into account the unique geographical position of NArFU and lack of global knowledge on the peculiarities of construction in the northern weather conditions it is necessary to strengthen the Institute's training component focused on the study of disciplines with regard to the arctic peculiarities in construction. Focus on the arctic specialization and provision of English lessons for the teaching staff will enable the Institute of Construction and Architecture reach the international level and become a global research centre.

5. CONCLUSION

Basing on the analysis of submitted documents, presented information and oral evidence the External Review Panel has come to the conclusion that the study programmes in "Architecture and Construction", delivered by the "Northern (Arctic) Federal University named after M.V. Lomonodov" are substantially compliant with standards and criteria of the National Center of Public Accreditation.

The External Review Panel thinks that the study programmes are substantially compliant with Standard 4, and are fully compliant with standards 1-3 and 5-7 (see Annex D).

The indicated drawbacks do not affect greatly the content and conditions of implementation of the study programmes, but do require modification for assuring quality of study programmes. The University and the Institute of Construction and Architecture Administration should take adequate measures, aimed at full compliance to the abovementioned standard.

The Panel would like to point out major strengths of the study programmes, which are availability of modern equipment (for use in classes, in laboratories, and for

research), well-developed social facilities accessible for students, availability of modern library and information resources, assuring efficiency of the study programmes.

Besides, the Panel would like to underline strong team spirit and loyalty of the NArFU employees to merits, goals and main principles of the University as well as students' sense of belonging.

Weaknesses of the study programmes under review are common in general for most universities of the Russian Federation (insufficient practical training, insufficient financial recourses for international activities and staff motivation).

The Expert Panel recommends the Accreditation board of NCPA accrediting of 270102.65 Industrial and Civil Engineering, 270100.62 Construction Engineering, 270800.62 Construction Engineering, 270800.68 Construction Engineering study programmes for the period of 6 years on condition of elimination of drawbacks within the set period.

On behalf of the External Review Panel:



Yuri Filatov
Secretary of the External Review Panel