Immanuel Kant Baltic Federal University

National Centre for Public Accreditation

SUMMARY REPORT OF THE EXTERNAL EVALUATION

of the cluster of educational programmes in

"Physics" (03.04.02),
"Radiophysics" (03.03.03, 03.04.03),

delivered by the Federal State Autonomous Educational Institution of Higher Professional Education "Immanuel Kant Baltic Federal University"

2016

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 "Physics" (03.04.02), "Radiophysics" (03.03.03, 03.04.03), delivered by the Federal State Autonomous Educational Institution of Higher Professional Education "Immanuel Kant Baltic 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	*Federal State Autonomous Educational Institution of Higher Professional Education "Immanuel Kant Baltic Federal University"*
Founders	*Ministry of Education and Science of the Russian Federation*
Year of foundation	*1947 – Kaliningrad Pedagogical Institute* *1966 – Kaliningrad State University* *2005 – Russian State University named after Immanuel Kant* *2010 – Immanuel Kant Baltic Federal University*
Location	*Russia, 236041, Kaliningrad, A. Nevskogo 14*
Rector	*Doctor of political sciences, professor Klemeshev Andrey Pavlovich*
License	*Series AAA №002625 reg. № 2506 dated from 22.02.2012 permanent*
State Accreditation	*Certificate of State Accreditation Series 90A01 № 0001060 reg. №0995 of 15.05.2014 valid till 15.05.2020*
Number of students	*10891* *among them:* *full-time 8782* *on-site and off-site 141* *part-time 1968*

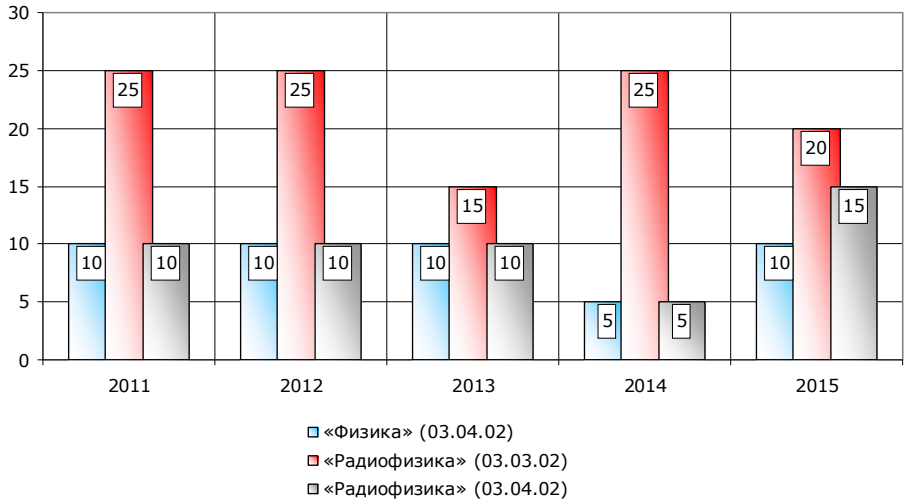
INFORMATION ON THE EDUCATIONAL PROGRAMMES UNDERGOING ACCREDITATION

Educational programmes	*"Physics" (03.04.02)* *"Radiophysics" (03.03.03, 03.04.03)*
Level of training / Standard period of training	*Bachelor's degree programme / 4 years* *Master's degree programme / 2 years*
Structural subdivisions (head)	*The Institute of Physics and Technology (Cand. Phys. Math. Sc., associate professor Shpilevoy Andrey Alekseevich)*
Major departments (heads of major departments)	*Department of Physics (Doct. Phys. Math. Sc., professor Ivanov Aleksey Ivanovich)* *Department of Radio physics and Information Security (Doct. Phys. Math. Sc., professor Zakharov Veniamin Efimovich)*
Date of the site visit	*October 05-07, 2015*
Person responsible for public accreditation of the study programme	*Director of the Institute of Physics and Technology, Cand. Phys. Math. Sc., associate professor Shpilevoy Andrey Alekseevich*

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

Indicators	2015
Cluster of the educational programmes "Physics" (03.04.02), "Radiophysics" (03.03.03, 03.04.03)	
Number of the given programmes in the RF	211
Number of higher educational institutions to offer the given programmes	151
Number of programmes – winners of the project (% from total amount of these programmes offered in the RF)	37 (17,53%)
Kaliningrad region	
Number of the given programmes offered in the region	3
Number of programmes – winners of the project (% from total amount of these programmes offered in the region)	3 (100%)
Number of higher educational institutions and subsidiaries in the region	29
Total number of programmes offered in the region	128
Total number of programmes – winners of the project (% from total amount of these programmes offered in the region)	52 (40,6%)

REFERENCE DATA ON STUDENT ENROLLEMENT FOR PROGRAMMES



ACHIEVEMENTS OF THE EDUCATIONAL PROGRAMMES

Quality of the delivered educational programmes

The quality of implementation of educational programmes is ensured by attraction of a highly-qualified teaching staff, creation of a modern laboratory base corresponding to world tendencies of development of science and technology, as well as participation in the development and implementation of educational programmes, formation of the subject of course works and graduation thesis of leading research institutes and enterprises of the region, research centers and laboratories of the scientific and technological park "Fabrika".

Provision of up-to-date education

In order to provide an up-to-date content of educational programmes scientific and methodological seminars are held at the departments, surveys of students, employers, representatives of professional community of the region and graduates are conducted, curricula of leading Russian and foreign universities are analyzed, methods of achievement of objectives of educational programmes are also improved.

Teaching staff (competence of the teaching staff)

The teaching staff of the educational programmes under accreditation corresponds to all requirements of federal state educational standards of higher education.

Scientific activity

Students and teachers take active part in research work in the sphere of physics, radio physics and information security.

Material and technical base

The material and technical base of the Institute is annually renewed in accordance with the development programme of the University. All classrooms are equipped according to modern requirements. All subdivisions are supplied with computers and other equipment.

Use of laboratory equipment in the study process and research work during course works and graduation thesis is 100%.

Employability of graduates

Comparative analysis of employment of graduates of 2009-2014, shows in-demand of specialists at the labour market.

Academic mobility of students

Exchange programmes of students are implemented in the frameworks of partner relations with a number of European educational and scientific centers. Besides the Institute arranges short-term (up to 3 months) internships in scientific centers in the sphere of radio physics and information security.

The University participates in partner relations providing international perspectives and plans further extension of international contacts.

International projects

The teaching staff takes active part in joint international projects, conferences, foreign internships in Poland, Germany, Spain, Brazil and Italy.

EXTERNAL REVIEW PANEL

Zhigong Wang (China)

Review Chair, foreign expert

Doctor of Engineering, professor of the theory of information and technology of the Southeast University (China), member of CIEE, IEEE, New York Academy of Sciences, chair of the Consultative committee of Chinese universities in electricity and electronics

A nominee of the Higher Education Evaluation Center of the Ministry of Education (HEEC)

Sergey Letuta (Russian Federation)

Deputy Review Chair, Russian expert

Doctor of Physical and Mathematical Sciences, professor of the Department of Biophysics and Physics of condensed state, vice-rector for research of the Orenburg State University

A nominee of the Guild of Experts in Higher Professional Education

Vyacheslav Molofeev (Republic of Belarus)

Panel member, foreign expert

Dean of the Faculty of Pre-University Education, assistant professor of the Department of System Analysis and Computer Modeling, secretary of the Quality Council of the Belarusian State University

A nominee of the Ministry of Education of the Republic of Belarus

Irk Shagimuratov (Russian Federation)

Panel member, representative of professional community

Candidate of Physical and Mathematical Sciences, director of the Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation named after Nikolay Pushkov of the Russian Academy of Sciences

A nominee of the Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation named after Nikolay Pushkov of the Russian Academy of Sciences

Ilya Arefiev (Russian Federation)

Panel member, representative of students

5 year student of Radiotechnical Faculty of Baltic Fishing Fleet State Academy, subdivision of Kaliningrad State Technical University

A nominee of the Kaliningrad State Technical University

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: **full compliance**

Good practice

The development strategy of the educational programmes is well-developed; its objectives are strictly formulated as enhanced fundamental and professional training to a corresponding activity including research work. Administration of the University takes active part in defining objectives and development strategy of educational programmes.

Methods of achievement of these objectives are well-developed.

Tasks and objectives of educational programmes are corrected with due regard to results of surveys, questionnaires, recommendations of the University administration, teachers, students and employers. The terms and procedures of an internal quality control are defined by regulating documents of the University.

Quality assurance system of educational programmes is developed with account of regional and national requirements to quality assurance. Consultations with partner organizations and coordination of professional competencies and an elective part of curricula are held on a regular basis.

Areas for improvement:

- It is necessary to develop the mechanisms for a wide attraction of teachers and employers to formulating the development strategy of educational programmes.
- Based on the developed mechanisms it is recommended to enlarge participation of teachers, students and employers in defining the development strategy of educational programmes.

STANDARD 2. Approval, monitoring and periodic review of study programmes

Compliance with the standard: **full compliance**

Good practice

Working curricula and programmes of course units are annually reviewed in accordance with the results of implementation of the programmes. Efficiency monitoring of implementation of educational programmes, their internal and external assessment are held on a regular basis.

Three-level system of education is taken into account in designing curricula; succession of levels is also ensured. Such a structure of educational programmes allows optimizing the study load of the teaching staff and provides a real opportunity for students to decide on continuing education.

Analysis of curricula showed that the disciplines are interconnected and curricula are balanced in a volume of the study disciplines. The connection between the disciplines is reviewed in accordance with the objectives of the programmes as well as the list of acquired competences.

The Institute implements a modular approach in the process of designing curricula and uses modern innovative educational technologies.

According to Panel's opinion training according to the developed plans provides formation of competences. Curricula contains international component provided by a standard.

Areas for improvement:

- It is necessary to continue improvement of a student-centered education.
- It is recommended to form a student union on quality.
- It is necessary to take into account opinions of all stakeholders in the process of designing requirements to assessment of academic performance. Upon approval these requirements should be available for teachers and students.

STANDARD 3. Assessment of student learning outcomes / competencies

Compliance with the standard: **substantial compliance**

Good practice

There is a full set of documents regulating assessment of knowledge and competences of students during intermediate and final attestation, developed criteria and procedures of objective assessment of knowledge. Assessment of knowledge is conducted by highly-qualified specialists.

Types of formative and summative assessment, assessment criteria, methodological instructions for students are placed in working programmes, posted at the portal of e-resources which is available for students. Funds of assessment tools approved by employers are used for summative and formative assessment.

Different methods of assessment are used during intermediate and final control. It allows defining objectively the level of training of students which permits to carry out a differentiated approach in education.

The list of achievements should include an existing system of assistance of graduates' employment.

The University established partner relations with European educational and scientific centers. The University is among the list of 10 HEIs of Russia according to indicators of intensity of international cooperation. The University is an initiator and organizer of not only academic but also other international events.

Areas for improvement:

- It is recommended to conduct independent assessment of learning outcomes on a regular basis.
- It is necessary to improve international academic mobility of students.
- It is important to increase the number of students participating in financed research work.

STANDARD 4. Quality assurance of teaching staff

Compliance with the standard: **full compliance**

Good practice

The educational programmes under accreditation are delivered by highly-qualified teachers whose competence is confirmed by publications in top-rated scientific journals. The share of teachers with academic degrees is from 61,54% to 88,89%. The share of employers participating in delivering the programmes changes from 6,67% to 11,11%. In the frameworks of implementation of the educational programmes teachers from other Russian and foreign HEIs are also invited.

Different projects in the sphere of development and modernization of educational programmes are delivered in the frameworks of the development programme of the University. The University uses the system of incentive payments.

The University implements a policy of support of scientific achievements of the teaching staff by grants (a rating mechanism of assessment is implemented) and support of participation in international programmes, conferences, joint scientific projects. Teachers of the Institute of Physics and Technology took part in international projects and undertook internships in Poland and Spain.

The University has a policy and strategy for improvement of qualification of the teaching staff.

Areas for improvement:

- It is recommended to promote development of academic mobility of the teaching staff by participating in joint international projects, conferences, internships and seminars.
- It is necessary to create on the basis of "Fabrika" the common use center of tools and equipment to enlarge international scientific contacts and a range of scientific research.
- It is necessary to increase utilization of up-to-date and expensive equipment.

INFORMATION ON THE LEADING TEACHERS OF THE EDUCATIONAL PROGRAMMES

Ivanov Aleksey Ivanovich

Doctor of Physical and Mathematical Sciences, head of the Department of Physics, Doctor of Physical and Mathematical Sciences, professor, Honoured Worker of Higher Professional Education of RF, medal "For Merit to the Immanuel Kant Baltic Federal University"

Yurov Artem Valerianovich

Doctor of Physical and Mathematical Sciences, Vice-rector for research, professor, professor of the Department of Physics, Honoured Worker of Higher Professional Education of RF

Karpov Ivan Viktorovich

Doctor of Physical and Mathematical Sciences, professor of the Department of Physics, leading research worker of IZMIRAN

Kshevetsky Sergey Petrovich

Doctor of Physical and Mathematical Sciences, professor of the Department of Physics

Leble Sergey Borisovich

Doctor of Physical and Mathematical Sciences, professor of the Department of Physics

Kornev Konstantin Petrovich

Candidate of Physical and Mathematical Sciences, assistant professor of the Department of Physics, Honoured Worker of Higher Professional Education of RF

Rumyantsev Albert Vladimirovich

Candidate of Physical and Mathematical Sciences, professor of the Department of Physics, Honoured Worker of Higher Professional Education of RF

Shpilevoy Aleksey Yakovlevich

Candidate of Physical and Mathematical Sciences, assistant professor of the Department of Physics, medal "For Merit to the Immanuel Kant Baltic Federal University"

Zakharov Veniamin Efimovich

Doctor of Physical and Mathematical Sciences, head of the Department of Radiophysics and Information Security, professor, Honoured Worker of Higher Professional Education of RF

Pakhotin Valery Anatolievich

Doctor of Physical and Mathematical Sciences, professor of the Department of Radiophysics and Information Security, Honoured Worker of Higher Professional Education of RF »

Kupriyanova Galina Sergeevna

Doctor of Physical and Mathematical Sciences, professor of the Department of Radiophysics and Information Security

STANDARD 5. Learning resources and student support

Compliance with the standard: **full compliance**

Good practice

The material and technical base, computers, tools, equipment and other technical means correspond to the requirements of curricula. The Institute of Physics and Technology has 35 study and research laboratories, 3 computer classrooms with necessary software and access to Internet. Laboratory facilities are constantly updated and renewed in the frameworks of the development programme of the University.

Students have a free access to e-library systems, e-books and dissertations, scientific periodic, abstract and scientometrical databases through e-resources of the library during independent and research work. Multifunction reading room is also available for students.

Corresponding infrastructure is created for students of different possibilities and age groups.

Areas for improvement:

- It is necessary to create infrastructure providing equal conditions for students of different opportunities and age groups in all buildings of the University.
- It is recommended to continue development of feedback system with students in assessment of conditions and organization of the educational process.

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

Compliance with the standard: **full compliance**

Good practice

The Institute developed information technologies, mechanisms of collection, analysis and distribution of information. There exists information about achievements during implementation of educational programmes in comparison with other programmes.

Information about major indicators of activity of structural subdivisions of the University, responsible for implementation of programmes is also available.

Students have access to study materials, e-books, e-library systems and dissertations, scientific periodic, abstract and sciemtometrical databases, methodological materials created by teachers of the Institute of Physics and Technology. Access to e-resources is possible from the local network of the University as well as Internet with the use of personal login and password.

The Institute created a platform for extracurricular communication of teachers and students.

Integration with intramural e-resources is conducted through a unified information system of the University which allows creating statistical reports on students' academic performance in terms of Institutes and programmes.

Areas for improvement:

- It is recommended to enlarge participation of the teaching staff in the development and use of e-complexes and funds of assessment tools.
- It is necessary to increase the volume of information in the English version of the site.
- It is necessary to continue modernization of the information infrastructure of classrooms.

STANDARD 7. Public information

Compliance with the standard: **full compliance**

Good practice

Full and reliable information about the objectives, tasks and content of educational programmes, qualifications, competences, volumes and terms of mastering, expected learning outcomes, types of attestation, teaching staff are available at the official website of the University.

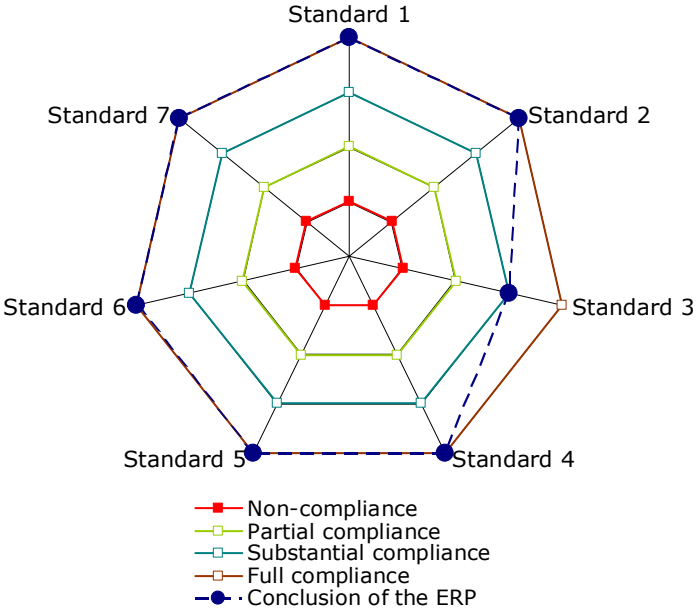
Information about employability of graduates is published at the portal of employment center of the University. There is a long-term strategy of improvement of connections with representatives of professional community which is reflected in the University strategy. Interconnection of the graduating department with enterprises, institutions and organizations of the region is carried out on the basis of bilateral partnership agreements and agreements on practice as well as by a joint formation of the subject of course works and graduation thesis.

Information about the quality and achievements of students, graduates and teachers of the educational programme is published at the official website of the University, regional mass media, information stands, social nets, information journal "O.K." of the Institute of Physics and Technology.

Areas for improvement:

- It is recommended to develop analysis procedures of graduates' and employers' satisfaction with the level of training during implementation of the programme.
- It is necessary to publish more information about employability of graduates at the official website of the University.
- It is required to renew e-resources concerning activity of the University.
- It is recommended to develop an independent web-site of the Institute with publication of a full information about the educational programmes, quality indicators of departments' activity, graduates' and employers' satisfaction with personal webpages of teachers.

DISTRIBUTION DIGRAM OF THE EXTERNAL REVIEW OUTCOME



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 and interviews the External Review Panel came to the conclusion that educational programmes "Physics" (03.04.02), "Radiophysics" (03.03.03, 03.04.03), delivered by the Federal State Autonomous Educational Institution of Higher Professional Education "Immanuel Kant Baltic Federal University" substantially comply with the standards and criteria of public accreditation of the National Centre for Public Accreditation.

The External Review Panel recommends the National Accreditation Board to accredit the educational programmes "Physics" (03.04.02), "Radiophysics" (03.03.03, 03.04.03) for the period of 6 years.

SCHEDULE OF THE SITE VISIT OF THE EXTERNAL REVIEW PANEL

Time	Activity	Participants	Venue
October 5			
08.45	Arrival at BFU		Administrative building, BFU
09.00 – 11.00	**Training for the ERP members**		Administrative building, BFU
11.00 – 13.00	**Meeting of the ERP with the university administration and staff members responsible for accreditation**	Rector, Vice-Rectors, ERP	Administrative building, BFU
13.00 – 14.00	Lunch		
14.00 – 15.00	**Excursion around the university**	ERP	Building 2
15.00 – 16.00	**Meeting with directors of Institutes and heads of departments**	Director of the Institute, deputy directors, heads of departments, Manager, ERP	Building 2, room 301
16.00 – 16.30	Transfer to "Fabrika"		
16.30 – 17.30	**Excursion**		
17.30 – 18.30	**Meeting with representatives of employers**	Representatives of employers, ERP	Fabrika, room 204
18.30 – 19.00	Internal meeting of the ERP	ERP	Fabrika, room 204

Time	Activity	Participants	Venue
October 6			
9.45	Arrival at BFU		Building 2
10.00 – 11.00	**Meeting with students**	Students, ERP	Building 2, room 301
11.00 – 11.30	Internal meeting of the ERP	ERP	Building 2, room 308
11.30 – 12.30	**Meeting with teaching staff**	Teaching staff, ERP	Building 2, room 301
12.30 – 13.30	Lunch		Lunch
13.30 – 15.30	Internal meeting of the ERP.	Internal meeting of the ERP.	Building 2, room 308
15.30 – 16.30	**Attending classes**	**Attending classes**	Building 2
16.30 – 17.30	**Meeting with alumni**	**Meeting with alumni**	Building 2, room 301
17.30 – 18.00	Internal meeting of the ERP	Internal meeting of the ERP	Building 2, room 308
October 7			
08.45	Arrival at BFU		Building 2
09.00 – 11.30	Internal meeting of the ERP: discussion of preliminary results of the site visit, preparation of the oral report of the panel	ERP	Building 2, room 308
11.30 – 12.00	Transfer to main building		
12.00 – 13.00	Lunch		
13.00 – 15.00	**Closing meeting of the External Review Panel with BFU representatives**	Administration of the University, ERP	Main building