Национальный центр профессионально-общественной аккредитации

FINAL REPORT

ON THE EXTERNAL EVALUATION

of study programmes

«Algebra»,

«Analysis on Manifolds»

in the field of study

«Mathematics» (01.04.01)

delivered by Kazan (Volga region) Federal University

accredited 06/2017 – 06/2023

Kazan, 2017

Content

Kazan Federal University (KFU) commissioned **evalag** and the National Centre for Public Accreditation (NCPA) with the external evaluation of the 2nd cycle Master's degree study programme Algebra and Analysis on Manifolds at KFU in Russia. The programme evaluation was carried out by an international expert panel that assessed the study programme (SP) according to the Guidelines for Joint International Accreditation, which comply which comply with current Russian legislation in the sphere of education, German legislation and the main principles and documents of the Bologna process as well as the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG and the Federal State Educational Standards (FSES) in the Russian Federation (RF). The objective of this international accreditation is to evaluate and recognise the high quality of higher education and to state the conformity of the SP to the standards and criteria for international programme accreditation established jointly by evalag and NCPA. Moreover, it is intended to enhance the competitiveness of the offered SPs of the globally recognised federal state autonomous educational institution of higher professional education Kazan (Volga Region) Federal University by accreditation the programmes and awarding **evalag's** international quality label to the study programmes.

1. Kazan Federal University (KFU)

KFU is one of the oldest universities in Russia and was established in 1804. It is located in Kazan, the capital city of the Republic of Tatarstan, which is about 800 kilometres east of Moscow. KFU is a state-licensed higher education institute which offers Bachelor degrees (I cycle) and Master degrees (II cycle), which are directed towards professional and academic activity, as well as postgraduate degrees (PhD). KFU is licensed and accredited by the Ministry of Education and Science to hold educational activities in the field of higher education.

According to Russian legislation, university level higher education institutions offer full-time bachelor and master degrees that allow graduates to pursue a professional or academic career. KFU is entitled to award PhD degrees (III cycle) in certain fields. KFU has about 46,500 students and offers 479 degree programmes, including 85 doctoral and 8 double-degree programmes with partner universities. The University received a certificate of state accreditation in 2015, valid until March 2021. Currently the Competitiveness Enhancement Programme among the world's leading research and education centres for 2013 to 2020 is being implemented at KFU. The strategic objective is to enhance competitiveness in the field of research and developments to achieve a high international level of the study programmes to be in the list of top 100 of the world universities ranking.

According to the homepage 3,216 international students from 90 countries study at KFU. The staff consists of 3,000 faculty members, 121 invited professors from world renowned universities and research centres complete the academic profile. Priority areas of KFU are Biomedicine and Pharmaceutics, Oil extraction, Refining and Petro chemistry, Infocommunication and Aerospace Technologies, Advanced Materials and Social Sciences and Humanities.

Main academic units of the University are:

- Institute of Fundamental Medicine and Biology
- Institute of Environmental Sciences
- Institute of Geology and Petroleum Technologies
- Institute of International Relations, History and Oriental Studies

- Lobachevsky Institute of Mathematics and Mechanics
- Institute of Physics
- Alexander Butlerov Institute of Chemistry
- Faculty of Law
- Institute of Computer Mathematics and Information Technologies
- Institute of Philology and Intercultural Communication
- Institute of Social and Philosophical Sciences and Mass Communications
- Institute of Psychology and Education
- Institute of Physical Education and Sport
- Higher School of Information Technologies and Information Systems
- Institute of Management, Economics and Finance
- Institute for the Comparative Studies of Modernity
- School of Public Administration
- Higher School of Business
- Institute of Language
- Institute of Continuing Education
- Faculty of Advanced Training and Staff Retraining
- Preparatory School for International Students
- Branch in Naberezhnye Chelny
- Branch in Yelabuga

Lobachevsky Institute of Mathematics and Mechanics

In 2011 the Nikolai Lobachevsky Institute of Mathematics and Mechanics (IMM) was established by merging the Faculty of Mechanics and Mathematics of KFU and Nikolai Chebotarev Research Institute of Mathematics and Mechanics. The Institute consists of three divisions: Mathematics, Mechanics and Pedagogical Education. About 100 professors work at the institute and 604 (full- and part-time) students studied there in 2016-2017. The Division of Mathematics includes the six following departments, they all include Open Lab and Research and Education Centre:

- Department of Algebra and Mathematical Logic
- Department of Geometry
- Department of Mathematical Analysis
- Department of Differential Equations
- Department of Theory of Functions and Approximations
- Department of General Mathematics

IMM offers its students the following study programmes:

Bachelor's degree programmes	Master's degree programmes	Doctoral (PhD) specialities
Pure Mathematics	Algebra	Real, Complex and Functional Analysis
Mathematics and Computer Sciences	Analysis on Manifolds	Differential Equations, Dynamical Systems and Optimal Control
Mathematical Education and Information Technology	Theory of Functions and Information Technology	Mathematical Physics
Mathematics and English	Solid mechanics	Geometry and Topology
Mathematics	Fluid mechanics	Theory of Probability, Statistics and Stochastic Processes
	Information Technology in Physical and Mathematical education	Algebra, Logics and Number Theory
		Solid Mechanics
		Fluid Mechanics

Responding to the need of the society, the regional labour market and the feedback from employers, the Institute's programmes are – according to the self-evaluation report – annually included in the list of the best study programmes of Innovation in Russia and it is in the top ten of Mathematics major of the best Russian universities. In 2016 KFU took the 301-400th position in the world in QS subject rating of Mathematics major.

The general leadership of the Institute's activities is performed by the Academic Board. The main functions are to develop interdisciplinary research, to involve students in research activity and to raise the scientific elite.

2. Algebra and Analysis on Manifolds Programme

The goals of implementation of the study programmes «Algebra», «Analysis on Manifolds» in the field of study of «Mathematics» (01.04.01) are:

- formation of students' mathematical culture, fundamental training of students in the field of Mathematical, Functional Analysis, studies of modern apparatus of the Theory of Functions of a Complex Variable, Noncommutative Analysis and Algebra for further use in other areas of mathematical and natural sciences and disciplines;

- training Master's degree students capable of solving research problems in the field of Algebra and Mathematical Logic using the latest information technologies;

- development of students' personal qualities, formation of general cultural and professional competencies, knowledge and ability to apply them in their work activities.

Teachers teach disciplines, which are close to their scientific interests, thus, their research activity merges with the pedagogical one. The requirement to combine re-

search activity with pedagogical one is found in the accreditation indicator of academic degree holders rate (the national requirement for a Master's degree is at least 80%). The requirement for teachers is continuous improvement and professional development, which is possible only with their active participation in methodological and scientific conferences, in cooperation with leading Russian and foreign colleagues.

The graduation departments are actively engaged in the research in the following fields: algebra and algebraic structures of algorithmic nature, local theory of degrees of unsolvability, Lie algebra, special classes of rings and modules, semirings and semimodules, theory of operads. Within the Master's programme, elective disciplines are delivered covering the outcomes of the current scientific research in the above areas. The leading teachers of the department supervise students' final qualification papers in the above areas.

The study programmes are closely linked with the scientific research. The outcomes of scientific research are included in the content of the study programme courses. Master's degree students participate in scientific seminars in Geometric Theory of Functions of a Complex Variable, Von Neumann Algebras, in the work of post-graduates' seminars. The subjects of the courses are related to the scientific interests of the leading scientists of the Institute. Scientific achievements of the Master's degree students are presented at the annual All-Russian scientific schools-conferences "Lobachevsky Readings", at the final scientific conferences of students of KFU. Students solve the applied statistical problems while studying the course of Theory of Probability and Mathematical Statistics.

3. Evaluation and Accreditation Process

The programme evaluation was carried out with a peer review based on a self-evaluation report (according to the Methodology for Evaluation of Higher Education Study Programmes and **evalag**'s criteria catalogue) provided by the KFU, a site visit of an expert team, an assessment report by the experts and the accreditation decision by **evalag**'s accreditation commission.

The programme evaluation (the performance principles, steps, processes, and procedures of the evaluation) was conducted in accordance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (2005) and documents regulating the evaluation of study programmes in the Republic. The expert team formed by **evalag** consisted of one professorial and one professional practitioner:

- Prof. Dr. Georg Hein, University Duisburg-Essen, Faculty of Mathematics
- Dr. Ekaterina Eremenko, Technical University Berlin, Faculty for Mathematics and Natural Sciences Institute for Mathematics

NCPA provided one professorial expert and a student representative:

- Prof. Dr. Alexander Mikhalev, Professor of department of Mathematical Analysis, Lomonossov Moscow State University
- Irek Shaikhnurov, 4th year student, Faculty of Textile Industry Technology and Fashion, Kazan Research Technological University

The site visit took place on 14 and 15 march 2017 at KFU.

During the site visit, the expert team met with the members of the University administration, the director and deputy directors of the Lobachevsky Institute of Mathematics

and Mechanics, representatives of the programme management (head of department, programme coordinator, deputy director for education), students and teaching staff. They also visited the main building of the library, lecture rooms, labs used by the students of the programme and offices of the staff during a guided tour.

The expert team produced an assessment report of the programme with an accreditation recommendation, which was submitted to **evalag**'s Accreditation Commission, who took the final accreditation decision on June 26th, 2017 and NCPA's Accreditation Board, whose decision was taken on June 29th, 2017.

From **evalag**'s side, Thomas Gossner coordinated the accreditation.

The following assessment report is structured along the six standards and criteria of the joint international accreditation by **evalag** and NCPA. Each chapter starts with a description of the current status regarding the criterion based on the information in the self-evaluation report of the university and the information gathered during the site-visit. On this basis, the expert team assesses the criterion and finally list their recommendations for further improvement.

4. Programme Assessment

4.1 Programme profile

Current situation

The programmes are based on the knowledge and skills obtained in the Bachelor's mathematical programme: mathematics, mechanics and mathematical simulation, mathematical and computer science, mathematics (teacher training profile).

In 2012 the Mathematics programme was accredited by the Agency of Quality Assurance in Higher Education and Career Development (AKKORK). Its profile is fully consistent with the higher education FSES (Federal State Educational Standard) for Mathematics major approved by the Ministry of Education and Science of the Russian Federation of August 17, 2015 No.827. The expert evaluation was conducted in accordance with the standards for quality and education quality assurance of AKKORK established on the basis of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG).

The objectives and qualification goals are specified in the Basic Professional Study Programme (BPSP), the main principle for BPSP of higher education design is the graduate's competence-based model built in accordance with the needs of the regional labour market and taking into account new developments in science and technology and features of the scientific-pedagogical schools and traditions of KFU.

The self-evaluation report describes the programme aims and intended learning outcomes of the study programme and links them to the curriculum. The goals of the study programme are

- development of mathematical culture, fundamental training in the field of mathematical, functional analysis, mastering of modern apparatus of complex variable theory, non-commuted analysis and algebra for further application in other fields of mathematical knowledge and natural scientific courses
- Training of students capable of solving research problems in the field of algebra and mathematical logics using contemporary information technologies

- Development of personal qualities, general cultural and professional competencies, sufficient knowledge and skills enabling students to benefit from these in their further professional activity.

The intended learning outcomes describe professional knowledge and competences as well as general and soft skills. They are distinguished as follows:

General cultural competences: abstract thinking, analysis and synthesis abilities; readiness to act in non-standard situations, bear social and ethical responsibility for the decisions made; readiness for self-development, personal fulfilment and use of creative capacity.

General professional competences: ability to find, formulate and solve actual and important problems of fundamental and applied mathematics; ability to develop and research into new mathematical models in natural sciences; readiness to develop application software based on contemporary information technologies and network resources; readiness to communicate orally in written form in the state language of the Russian Federation and in the foreign language in order to achieve professional goals; readiness to manage a group of people within professional activity, be tolerant to social, ethnic, confessional and cultural differences.

The **professional competences** are divided into three sectors:

Research: application of mathematical and algorithmic modelling methods; analysis and generalisation of research results in the field of mathematics, using contemporary advancements in science and technology, best national and international practices; preparing and holding seminars, workshops, conferences and symposiums as well as preparing and editing research publications.

Production and technological activity: ability to apply the methods of mathematical and algorithmic modelling when addressing theoretical and applied tasks; ability to use, develop and implement mathematically complex algorithms in contemporary software applications based on creative approach; ability to have a personal vision on the applied aspect of strict mathematical formulas.

Organizational and managerial activity: ability to apply the methods of mathematical and algorithmic modelling when analysing economic and social processes, business challenges, financial and actuarial mathematics; ability to formulate non-mathematical field of knowledge as problem-based issues; ability to present and adapt mathematical knowledge depending on the target audience.

Pedagogical activity: ability to teach physical and mathematical courses and information technologies in comprehensive schools, vocational institutions and further education institutions; ability and inclination to educational and instructional activity, readiness to promote and popularise research advancements; ability to fulfil methodical and expert work in the field of mathematics.

The following professional specialisations were taken into account when the programme was developed: Teacher, teacher of supplementary children and adults' education, teachers of vocational training and further education, information systems specialist, head of information technology projects, head of software development, specialist in research and development activities and researcher.

The international dimension of the programme is proved by the fact that for the period 2015-2016 25% of the total admissions to the Mathematics Master's degree programme were international students coming especially from Asian or Central Asian countries as China, Syria, Yemen, Uzbekistan and Kazakhstan.

Graduates are mostly absorbed by the local and regional job market. In general graduates are employed at university departments, government agencies, industry, financial institutions and IT-companies or continue their education taking a postgraduate programme. For further development of the programme the interests of employers under the new labour market conditions are taken into consideration by meetings of representatives of the department with employers (industry or NGOs representatives.

Assessment

According to the expert team, the training of practical skills in the programmes are combined with scientific research. The programmes are also consistent and fit well into the context of other programmes. The intended learning outcomes describe well the contents and the qualifications offered by the programme and fully meet the required level of qualifications. The learning outcomes are also clearly defined and publicly accessible, describe the professional orientation of the programme and meet the European academic and professional requirements of a graduate in the field of mathematics.

The expert team values the highly qualified teaching staff. The programmes have clearly been defined and documented objectives are consistent with the university's mission and the corresponding strategic goals. The information about the study programmes are available for all stakeholders (website in public domain).

Recommendations

R 1 The experts suggest to the programme administration to provide opportunities for students to learn languages (not only English).

R 2 They also recommend that the participation in international conferences should be made easier for students and staff.

R 3 The programmes should be expanded for international students.

4.2 Curriculum

Current situation

The curriculum and study subjects are described in the self-evaluation report, the study plans and – more detailed regarding content and working methods – in the programme description. Students have the possibility to choose an individual study plan based on the proposed optional study subjects.

The programmes consist of the three following sections: disciplines (modules), practical training and final certifying examination.

Disciplines include subjects relating to the basic components (obligatory) and a variable (elective) part. Compulsory are the following study subjects: philosophy and methodology of scientific knowledge, history and methodology of mathematics, methods of mathematical simulation of socio-economic processes, methods of mathematical simulation of natural science problems, foreign language in the professional field and academic writing. The variable part consists of the obligatory subjects (modern problems of mathematics, computer technologies) and elective courses (selected chapters of mathematical logic, abstract algebra, theory of computability, model theory,

number theory, applied algebra, set theory, discrete math, commutative algebra, representation theory, complexity theory, theory of rings and modules, automaton structures):

Practical training includes work experiences and work placement, pre-graduation practical training and research work.

The final certifying examination includes graduation qualification paper including preparation for the defence.

Curriculum for 'Algebra' master program					
Course Code	**Course Name**	**Total program hours**	**Credits**	**Semester**	**Assessment form**
Bl.B	**Basic component**	540	15		
Bl.B.l	Philosophy and Methodology of scientific knowledge	108	3	1	Exam
Bl.B.2	History and Methodology of Mathematics	72	2	3	Pass/fail test
Bl.B.3	Methods of mathematical modeling of socio-economic processes	72	2	3	Pass/fail test
Bl.B.4	Methods of mathematical modeling of natural science problems	72	2	3	Pass/fail test
Bl.B.5	Foreign Language in the professional field of activity	144	4	2,3	Pass/fail test
Bl.B.6	Academic Writing	72	2	1	Pass/fail test
Bl.V	**Elective component**	1,692	47		
Bl.V.OD	**Compulsory courses**	324	9		
Bl.V.OD.l	Modern problems of mathematics	108	3	3	Pass/fail test
Bl.V.OD.2	Computer technologies	216	6	1,2,3	Pass/fail test
Bl.V.DV	**Elective courses**	1,548	43		
Bl.V.DV.l	Selected chapters of mathematical logic	180	5	1	Exam
Bl.V.DV.l	Abstract algebra 1	180	5	1	Exam
B1.V.DV.2	Applied algebra 1	144	4	1	Pass/fail test
B1.V.DV.2	The theory of computability 1	144	4	1	Pass/fail test
B1.V.DV.3	Model theory	180	5	1	Pass/fail test
B1.V.DV.3	Numbers theory	180	5	1	Pass/fail test
B1.V.DV.4	Abstract algebra 2	216	6	2	Exam
B1.V.DV.4	Computable Model Theory 1	216	6	2	Exam
B1.V.DV.5	Set theory	180	5	2	Exam

B1.V.DV.5	Applied algebra 2	180	5	2	Exam
B1.V.DV.6	Discrete Math	108	3	2	Pass/fail test
B1.V.DV.6	The theory of computability 2	108	3	2	Pass/fail test
B1.V.DV.7	Commutative algebra	108	3	3	Exam
B1.V.DV.7	Computable Model Theory 2	108	3	3	Exam
B1.V.DV.8	Representation theory	108	3	3	Exam
B1.V.DV.8	Complexity theory	108	3	3	Exam
B1.V.DV.9	The theory of rings and modules	144	4	3	Pass/fail test
B1.V.DV.9	Automaton structures	144	4	3	Pass/fail test
B2	**Practice**	1,656	46		
B2.R	**Research work**	1,656	46		
B2.R.2	Research work	648	18	1,2	Pass/fail test
B2.R.3	Research work (distributed)	144	4	1,2, 3	Pass/fail test
B2.P.1	Pre-diploma Practice	864	24	4	Pass/fail test
	State final examination	216	6	4	
Courses (modules) – 68 credits*					
Professional practice – 46 credits *					
State final examination – 6 credits *					
*1 credit – 36 hours.					
List of abbreviations					
B1. - courses (modules)					
B1.B - courses of basic component					
B1.V – courses of elective component					
B1.V.OD - compulsory courses of elective component					
B1.V.DV – Elective courses					
B2. - Practice					
B2.R – Research work					
B2.P – Pre-diploma Practice					

Teachers deliver the following types of classes: lectures, seminars, practical classes, laboratory works, workshops, test works (classes), consultations and all types of practical training and course papers (projects). In addition the students participate in research seminars both for established scientists and for undergraduate and postgraduate students, where they report on the obtained results. They can also make presenta-

tions at the KFU student's conferences and have the opportunity to make reports at the annual Autumn Lobachevsky Readings Youth School-Conference. The best reports are published in the conference proceedings.

To meet the needs of the Russian society and labour market as well as European and international interests in the programme, the teachers participate in international scientific conferences and they are members in international organizations.

Assessment

The expert team acknowledges that the Algebra programme has reached a good position in the competition between Russian Higher Education Institutions. The expert team assesses the curriculum as well-balanced, clearly structured and logical.

The courses cover the relevant contents and competences to meet the programme objectives and prepare the graduates for their professional tasks. The contents of the curriculum also reflect current developments in the field of Algebra.

The study subject descriptions are mostly exemplary and give students and teaching staff a comprehensive overview over content, intended learning outcomes, working methods, assessment and workload of the study subjects. On-line and e-learning methods are not introduced yet.

One question discussed with teachers was the introduction of an additional state exam, which is considered by a special commission and the faculty.

The students mentioned during the site visit the very close and easy contact to their lecturers. They reported that they were very content with the curriculum and that they are encouraged to participate in research activities. It is possible to follow any course, there are no restrictions. Sometimes the connection and correspondence between the courses is not obvious, otherwise there is a good connection between lecture and seminar. However, students wish to have a greater selection of courses. Due to the low number of students there are courses with only 2 or 3 students.

Recommendations

R 4 With regard to widening the offers for students the experts would like to encourage the faculty to offer more courses and seminars in diverse areas and make it easier to introduce them into the curriculum. The number of courses taught in English should be increased.

R 5 It is recommended to reduce the teaching load to give more room to research, e.g. to take the time for correction of homework into account for teaching load. (comes from standard 4)

R 6 It is recommended to translate the programmes of courses into English for easy access of all interested parties.

R 7 In this context it is also strongly recommended to integrate more and regular literature and publications into the course units and therefore scrap the existing rule for literature being very recent (not older than five years after publishing).

4.3 Student assessment

Current situation

The period of learning covers 2 years, each year contains 2 semesters. In the first year of the study programme students take 4 exams and 2 exams in the second year.

Students who completed the curriculum on al full scale in good academic standing are admitted to a Master thesis defence.

In case the students' knowledge turns out to be unsatisfactory at the examination, the students are allowed to retake the examination during an additional session.

If the student is not satisfied with the examination grade, the appeal commission is created to review the student's request and to fix date and time of the appeal consideration.

The assessment system corresponds to the intended learning outcomes. A point Rating System has been developed to encourage students' systematic studies while mastering the subjects. In each discipline the student's ranking is 100 points. The following rating point compliance scale has been accepted: over 86 – excellent, 71-85 points – good, 55-70 points – satisfactory, less than 54 points – unsatisfactory.

The main research work for students is the Master thesis. Every student can choose his own topic, a list of topics is offered by the department, but is not final so that students can propose their own theme giving reasons for necessity and expediency of its development. The topic of the graduation is student-specific and cannot be developed by any other student.

Competence mastering stage	**Form of control**	**Criteria for evaluation**			
		Excellent	**Good**	**Satisfactory**	**Fail**
	Regular monitoring				
1	Written home assignment	All the tasks are correct. Demonstrates high level of learning material mastery. Demonstrates excellent abilities to apply knowledge and skills in accomplishing specific tasks.	Most tasks are correct. There are minor mistakes. Demonstrates good level of learning material mastery. Demonstrates average abilities to apply knowledge and skills in accomplishing specific tasks.	Half of the tasks are correct. There are serious mistakes. Demonstrates satisfactory level of learning material mastery. Demonstrates low abilities to apply knowledge and skills in accomplishing specific tasks.	Less than half of the tasks are correct. Demonstrates unsatisfactory level of learning material mastery. Demonstrates insufficient abilities to apply knowledge and skills in accomplishing specific tasks.

2		Recitation	Responds properly and completely defines the theme, the response is well-structured. The conceptual framework is well mastered. Demonstrates deep understanding of the learning material. Capable to excel in formulating thoughts and discussing debatable concepts	General issues are covered. The response is generally adequately structured. The conceptual framework is properly mastered. Demonstrates good level of material understanding. Demonstrates good skills in formulating thoughts and discussing debatable concepts.	The theme is partly covered. The response is not properly structured. The conceptual framework is partly mastered. Demonstrates understanding of some material within the theme. Demonstrates satisfactory skills in formulating thoughts and discussing debatable concepts.	The theme is not covered at all. The conceptual framework is insufficiently mastered. Demonstrates fragmented understanding the learning material or inability to demonstrate the understanding of learning material at all. Unable to formulate thoughts or discuss debatable concepts.
	Passed					Failed
		Test	A student demonstrates the knowledge of the basic learning material sufficient to continue studies and start working in		A student demonstrates significant gaps in the knowledge of the basic learning material, makes fundamental mistakes in assignments stipulated in the programme and is unable to	
26						
Competence mastering stage		**Form of control**	**Criteria for evaluation**			
			Excellent	**Good**	**Satisfactory**	**Fail**
			profession; a student has coped with all the assignments stipulated in the programme of the course.		continue education or start working in the profession without attending extra classes in the course.	

Assessment

The examination scheme is described transparently and uses multiple assessment methods to check different competences of the students.

The study programme documents are publicly available on the KFU's website. The student group confirmed, that the conditions and procedures for the exams are clear and sufficiently transparent. The preparation for the exams depends on the programme and the content.

The lecturers are highly committed to find individual solutions for students in special situations.

Recommendations

R 8 It is recommended to introduce an abstract of the graduate thesis into English.

R 9 It is recommended to consider an opportunity of increasing the number of articles in scientific journals published on the basis of graduation theses.

4.4 Organisation of the study programme

Current situation

The procedure of admission to the study programme is based on competition and students' personal applications. The admission profile examination is in full compliance with the requirements imposed to a Bachelor's degree of the relevant profile. Russian and foreign graduates of mathematical faculties take a written examination in higher mathematics. Foreign students, who cannot be present in the exam, are interviewed at the entrance test including a discussion on issues related to the applicants' research interests and discussion on the Bachelor thesis.

The general workload of the programme is 120 credits (60 credits each year). The first three semesters are devoted to the courses mastering and are aimed at preparing for the thesis writing and defence (literature review, making experiments). The fourth semester is devoted to writing a Master's thesis and pursuing certain research results.

The training cycle (from admission to graduation) includes two aspects: training and socio-educational. Tutors and group advisors coordinate the relationship between the student and the organizers of the academic process.

The teaching staff has opportunities to participate in international academic mobility. They can take part in international conferences, summer schools and internships at foreign universities. Therefore, relationships to the following foreign partners have been established: USA, UK, Singapore, China, Germany, Armenia and Uzbekistan.

Lodging seems to be no problem, also due to the good supply of two main places to live with a big number of rooms. Student housing is quite cheap, about a quarter or not more than a third of the scholarship. Also prices for books, food or travel expenses are fair.

Due to the good conditions almost all students are able to find appropriate jobs in their profession. They get employed in computer business, mathematical or elite schools and up to 50% get a PhD and become scientists. The students mentioned during the site visit that finding a job is not a big issue as they see themselves largely well prepared to work in Russia or in other countries.

All in all the students are very satisfied with their situation at the university.

Assessment

The expert team assesses the admission requirements as well-founded and the study process of the programme seems to be very well organised and balanced. The organisation of the study process seems to be adequate to achieve the intended learning outcomes. The students of the programme confirmed this assessment during the site visit. They were very satisfied with their study situation and appreciated KFU due to its reputation and good job opportunities.

Good students can profit from special budgets for taking part in conferences.

The administrative work for teachers depends on the individual situation.

Recommendation

R 10 The number of students enrolled in «Algebra», «Analysis on Manifolds» should be increased.

R 11 It is recommended to deepen the cooperation with other Federal Universities on the national level, e.g. by joint study programmes.

4.5 Resources

Current situation

The programme is financed by public funding (15 students in 2016) and training on a fee-paying basis. According to the self-evaluation report the programme funding is sufficient to carry out training at a high level of quality.

In the Algebra programme 44 teachers are involved. Currently 13 members of the teaching staff provide training of the concerned study programme:

8 teachers are employed work part-time

9 teachers have a PhD degree, 4 teachers are Doctors of Science

5 teachers have the title of an assistant professor

3 teachers have the title of a professor

All teachers are doing research and present their research outcomes at scientific conferences and congresses and in publications. Not less than 25% of full-time teachers annually take training to improve their skills in research and teaching.

According to the self-evaluation report teachers continuously participate in internal and external trainings to acquire new knowledge, experiences and skills required for teaching and learning processes. The teachers also participate in internal qualification improvement courses organised by the university, which seek to improve employee qualifications, to support their interest in innovations, and to strengthen the community of the university. Teachers improve their qualification through active participation in projects and working groups initiated by respective institutions at the national, regional and international level.

KFU provides the necessary specialised classrooms, laboratories and workshops for practical training in all disciplines: multimedia equipment in lecture rooms (projector or television set, PC, screen or interactive whiteboard), IT room with PCs based on special software.

The library possesses print and electronic editions of basic educational literature in the disciplines published over the last 10 years. Students have access to electronic resources: Scientific Electronic Library eLIB-RARY:RU, GARANT information and legal system, Consultant Plus legislative information and search system, Scopus abstracts and scientometrical electronic database. Periodicals are as well available by subscription.

Assessment

The expert team acknowledges the good facilities of the Institute, the building and the rooms are of adequate size for a pleasant teaching and learning atmosphere.

The experts appreciate very much the high motivation of teachers, which was clearly observable during the site visit. They are ambitious and communicate their high standards to the students. This provides a good basis for constant high-level developments.

One important item during the site visit was the introduction of the worldwide roaming access service “Eduroam” (Educational Roaming) for the international research and education community; this would allow students, researchers and staff from participating institutions to obtain Internet connectivity across campus and when visiting other participating institutions by simply opening the laptop. During the session with the director of the Institute promised to enrol the system in the near future. From the experts’ view, this is a gain for the study programme.

The quantity and quality of resources available is sufficient to achieve the goals of the study programme.

Recommendations

R 12 It is recommended to reward good evaluations of teachers.

R 13 It is necessary to improve the classroom space within the educational programme.

R 14 It is recommended to improve the types of qualification improvement of the teaching staff.

R 15 The experts recommend access for the students and the staff to the “Eduroam” service.

4.6 Quality Assurance

Current situation

According to the self-evaluation report, the Education Quality Management System (QMS) has been developed to the pattern including the requirements and recommendations of the National Standard ISO 9001:2011, ENQA standards and guidelines are introduced to implement the KFU’s Development Programme for 2010-2019.

Study programmes of KFU arte developed in accordance to the labour market requirements and are subject to license evaluation and accreditation of the Federals

Service for Supervision in the Sphere of Education and Science. Internal audits take place to monitor the outcomes of the programmes.

Teachers, students and committees reflect results of surveys and analyses, and measures are taken to improve quality.

Subjects of the revision processes are the learning outcomes and student's competencies, programme contents and structures, exam results, student's data, student's workload, causes for dropout and the services for students.

Assessment

The experts certify that the KFU has implemented a comprehensive quality management system. All organizational levels and necessary stakeholders are involved and their responsibilities and tasks are clearly described and published.

During the site visit, the students have confirmed that they are involved in all processes and they have plenty opportunities to participate and to criticize. It is their impression that their own concerns are taken seriously.

Recommendations

R 16 It is recommended to establish a system of evaluation of lectures together with benefits for excellent teaching. Another important point for improvement is the availability of the description of the course programme in English, which does not yet exist.

5. Overall assessment

The experts acknowledge the open and respectful communication culture, pleasant working environment and visibly high commitment and dedication for continuous development and innovation of the university administration, programme representatives, teachers and students. They were also impressed by the solidity, attractiveness and sustainability of the programme. In general, the expert team assesses the Algebra programme very positively. The Institute for of Mathematic and Mechanic provides a very good education on the level of European universities and prepares the students well for their future profession. In several aspects of the study programme, the competition with other national and European universities is noticeable. This generates high motivation for the KFU, the faculty and the programme representatives. An atmosphere of continuous development and innovation was evident for the experts. They would like to strengthen KFU's focus on quality assurance. For this approach, good conditions are given at the KFU. The experts encourage the programme representatives explicitly to follow and expand this way.

The experts also value the activities of the programme representatives to attract more foreign students and to take actions to increase the total number of students in the programme. Finally, they recommend to add mathematics into the list of priority areas of KFU.

Accreditation recommendation

According to the expert team the study programme Algebra at KFU meets the criteria for international programme accreditation. Therefore, the expert team recommends the **evalag** label for programme accreditation of the programme.

The experts recommend that the KFU should consider and implement the recommendations in this report to further improve the programme.

6. Statement of the University

Ministry of Education and Science of the Russian Federation
Federal State Autonomous Educational Institution of Higher Education
"KAZAN (VOLGA REGION) FEDERAL UNIVERSITY"
DEPARTMENT OF EDUCATION

18 Kremlyovskaya st., Kazan 420008, Russian Federation
Phone +7 843 233 71 42, Fax +7 843 292 72 44,
e-mail: edu@kpfu.ru

№ 01.31-11/4374 Date 23.05.2017

Statement of the University

Statement of the University

N.I. Lobachevsky Institute of Mathematics and Mechanics expresses its gratitude to the expert group for their expert report on the international accreditation of the study programs "Algebra" and "Analysis on Manifolds", delivered by the Federal State Autonomous Institution of Higher Professional Education "Kazan (Volga Region) Federal University".

One factual error has been revealed in the report:

- The name of the study program keeps changing throughout the final report ("Calculus on Manifolds" or "Analysis on Marifolds"). The exact naming is "Analysis on Manifolds".

We would like to express once again our gratitude to the expert group, German accreditation agency evalag and national accreditation agency NCPA for the large scope of highly professional work on preparing and drawing up the expert report on evaluation and accreditation of the study programs "Algebra" and "Analysis on Manifolds" in the field of study "Mathematics" (01.04.01).

Khalilova Alina
Head of the Department of Education

ДЕПАРТАМЕНТ ОБРАЗОВАНИЯ (ЮЛ КФУ)

7. Decision of the Accreditation Commission

The Accreditation Commission of **evalag** accredited the master programmes Algebra and Analysis on Manifolds of the Kazan Federal University (KFU) and awarded the **evalag** label for international programme accreditation. The accreditation is valid **from 27th june, 2017 until 29th june, 2023.**

To further improve of the programme the accreditation commission affirms the recommendations given by the expert team.

8. Recommendations (summarised)

Programme Profile

R 1 The experts suggest to the programme administration to provide opportunities for students to learn languages (not only English).

R 2 They also recommend that the participation in international conferences should be made easier for students and staff.

R 3 The programmes should be expanded for international students.

Curriculum

R 4 With regard to widening the offers for students the experts would like to encourage the faculty to offer more courses and seminars in diverse areas and make it easier to introduce them into the curriculum.

R 5 It is recommended to reduce the teaching load to give more room to research, e.g. to take the time for correction of homework into account for teaching load. (comes from standard 4)

R 6 It is recommended to translate the programmes of courses into English for easy access of all interested parties.

R 7 In this context it is also strongly recommended to integrate more and regular literature and publications into the course units and therefore scrap the existing rule for literature being very recent (not older than five years after publishing).

Student Assessment

R 8 It is recommended to introduce an abstract of the graduate thesis into English.

R 9 It is recommended to consider an opportunity of increasing the number of articles in scientific journals published on the basis of graduation theses.

Organization of the study programme

R 10 The number of students enrolled in «Algebra», «Analysis on Manifolds» should be increased.

R 11 It is recommended to deepen the cooperation with other Federal Universities on the national level, e.g. by joint study programmes.

Resources

R 12 It is recommended to reward good evaluations of teachers.

R 13 It is necessary to improve the classroom space within the educational programme.

R 14 It is recommended to improve the types of qualification improvement of the teaching staff.

R 15 The experts recommend access for the students and the staff to the “Eduroam” service.

Quality Assurance

R 16 It es recommended to establish a system of evaluation of lectures together with benefits for excellent teaching. Another important point for improvement is the availability of the description of the course programme in English, which does not yet exist.

9. Scale of Assessment Parameters and Evaluation Marks

Evaluation scores of the Algebra programme

No	Evaluation Area	Final mark
1	Programme profile	4
2	Curriculum	4
3	Student assessment	4
4	Organisation of the study programme	4
5	Resources	4
6	Quality assurance	3
	Total	23 Maximum score: 24

Evaluation scale

mark	Evaluation	Description
1	Unsatisfactory	The subfield under evaluation fails to ensure study quality on the basis of the criterion under consideration. It requires substantial correction; irregularities must be eliminated.
2	Satisfactory	The subfield under evaluation meets the requirements and provides a sufficient quality of studies at basic academic standards. Improvements should/must be made and recommendations should be implemented.
3	Good	The subfield under evaluation has been well-defined and is systematically developed on the basis of the criterion under consideration. The core activities are provided at high academic standard and ensure good quality of studies.
4	Very good	The subfield under evaluation is perfectly defined and very well developed on the basis of the criterion under consideration. The core activities are provided at very high academic standard and ensures an exceptionally good quality of studies.

Annexes

Annex 1: Standards and Criteria of International Accreditation of Study Programmes and Questionnaire

Standard 1: Programme Profile

Criteria for assessment of a study programme	Issues for consideration
1.1 Correspondence of the objectives of the study programme to the profile and strategic goals of the HEI	What are the objectives of the study programme? What are qualification goals of the study programme and how do they fit to the HEI profile? How well are objectives and qualification goals of the study programme documented? How does the programme fit in the context of the other programmes provided by the faculty/teaching unit?
1.2 Definition of the intended learning outcomes of the programme and their accessibility	Are the intended learning outcomes of the programme well defined and publicly accessible?
1.3. Correspondence of the intended learning outcomes to the level of awarded qualification	Do the learning outcomes correspond to the type and level of qualification provided by the programme? How does the institution assure that the programme complies with internationally accepted standards?
1.4. Consideration of academic and professional requirements (standards), public needs and the demands of the labour market in the intended learning outcomes	How are learning outcomes based on the requirements of the Federal State Educational Standards, professional requirements (if applicable) to Bachelor, Master and Specialist Degree programme graduates; on public needs and the needs of the labour market? How do they contribute to the employability of the graduates? How is the analysis of changing labour market requirements conducted? What are the main employment possibilities of the graduates? How did the institution assess employment possibilities for the graduates? How do the expected learning outcomes contribute to the employability of the graduates?
1.5. Relation of the study programme to research (provision of scientific methods in theory and practice, research based teaching)	Is there an institutional policy related to research and research based teaching? Are the outcomes of research work used in teaching?
1.6. Compliance of the programme's profile with internationally accepted standards	Do the programmes profile and goals comply with internationally accepted standards?

1.7. The international dimension of the programme	Is there international dimension in the programme? What does it involve (student and stuff exchange programmes, international students, international component in the curriculum, etc.)?
1.8. Correspondence (adequacy) of the teaching staff's qualifications to the profile and objectives of the programme	Do the qualifications of the teaching staff, academic degrees and titles and/or work experience correspond to the profile and goals of the programme? Do the teaching staff cover all areas and disciplines of the study programme? Is the number of employed staff sufficient for the academic objectives? Are the teachers able to manage the necessary work load?

Standard 2: Curriculum

Criteria for assessment of a study programme	Issues for consideration
2.1 Structuring of the programme and ways of achieving intended learning outcomes	How do contents, structure, and teaching and learning methods meet the learning outcomes of the programme? How are they integrated in the study plan?
2.2 Mechanisms for providing knowledge in the corresponding discipline in the framework of the delivered programme. Application of scientific methods in the delivery of the programme	How does the programme provide the necessary knowledge and methodological expertise of the relevant discipline(s)? What are the main teaching and research methods used in the delivery of the programme? Why have these methods been chosen? How does the curriculum reflect the state of the art in the discipline?
2.3 Organisation of learning experience with the account of the diversity of students and their needs and appropriate student-centered teaching. Encouraging students to take an active role in creating the learning process	Is there a possibility of creating individual learning paths (if applicable)? At what point in the curriculum can students take choices (electives, tracks, etc.)? How are needs of a diverse student population (such as mature, part-time, employed and international students as well as students with disabilities and students in difficult life situations) taken into account?

Standard 3: Student Assessment

Criteria for assessment of a study programme	Issues for consideration
3.1 Organisation of assessment of intended learning outcomes	How is the assessment of intended learning outcomes organised? Is there an adequate system of student assessment? Is this system in line with the intended learning outcomes? Does the study programme participate in any kind of independent procedure of learning outcomes assessment? Does the study programme participate

	in this kind of procedures on a regular basis or occasionally?
3.2 The adequacy of the amount and requirements of assessments with regard to the intended learning outcomes	Are the amount and requirements of assessments adequate with regard to the intended learning outcomes?
3.3 The correspondence of the requirements of the thesis to the level of the degree	Do the requirements of the thesis reflect the level of the degree? What kind of thesis and final examinations are necessary? What kind of topics are covered by the thesis? How do teaching staff supervise the thesis?
3.4 Transparency and consistency of assessment criteria	What are the assessment criteria and are they transparent and used consistently? Are the documents regulating assessment procedures of knowledge/competencies of students published? Is this information accessible?
3.5 Adequacy of the qualifications of the staff undertaking assessments	Are the teachers undertaking assessment adequately qualified?
3.6 Availability of examination regulations	How is the examination procedure regulated? What different types of examinations are used? How many examinations exist within one module, within one semester, within the entire programme? Are students informed about assessment procedures, examinations, tests and other types of control? How do examination results contribute to the final degree? Is there an affective appeals system? How are students' complaints addressed? How does the examination system assess the intended learning outcomes of the study programme and the modules?
3.7 Availability of clear and objective regulations for student absence, illness and other mitigating circumstances	What kind of regulations for student absence, illness and other mitigating circumstances exist in the examination regulations? Are these regulations transparent and accessible to students? How are needs of part-time, employed students, etc. taken into account?

Standard 4: Organisation of the Study Programme

Criteria for assessment of a study programme	Issues for consideration
4.1 Appropriateness of entry qualifications	What are the entry qualifications of the programme? How are these qualifications defined and how are they connected to the learning outcomes? How is the selection/admission process organised? How is it documented? Where are admission rules and rules for transfer of students from other educational institutions pub-

	lished?
4.2 Regulations for the recognition of qualifications (i.e. Lisbon Convention)	What are the regulations for the recognition of prior learning? How is it documented and where are these documents published? Are graduates issued a Diploma Supplement? Does the programme cooperate with other educational institutions and national recognition centres with a view to ensuring coherent recognition of qualifications across the country?
4.3 Organisation of the study process and achievement of intended learning outcomes. Consideration of the diversity of students and their needs	How is the study process organised (types of classes, group sizes, relation between classes, homework, self-learningtime, etc.)? Does the organisation of the study process allow the programme to be carried out in such a way that the intended learning outcomes will be achieved? Does the organisation of the study process also take the diversity of students and their needs into account? How does the programme take into account the needs of disabled students, as well as students in difficult life situations (students that have children, migrants, international students); students with different abilities; students with different level of academic achievements?
4.4 Management of the study programme (roles and responsibilities)	How is the programme management organised? Who has which responsibilities in the management of the programme?
4.5 Adequacy of the workload of the programme with respect to the necessity to reach the intended learning outcomes in the scheduled time frame	What is the student workload of the programme? How is the workload distributed across semesters and within one semester? How does the institution assure that the workload is manageable for the students? Is the workload of the programme adequate with respect to the necessity to reach the intended learning outcomes in the scheduled time frame?
4.6 Organisation of the student life cycle (i.e. all (organisational) relationships between the student and the institution from enrolment to graduation)	How is the student life cycle organised (from enrollment to graduation)?
4.7 Student support system (care services and student advisory services)	What student care services and student advisory services does the institution provide on the institutional and on the programme level? How effectively are these services organised? Is there a regular monitoring of student opinion on the issues of conditions and organisation of the study process, student support and advisory services? How is student academic mobility supported?
4.8 Cooperation with internal and external partners	Does the programme cooperate with other internal and external partners? Which parts of the programme are provided by partners? How does the programme assure that the partners provide their

	services at high quality?

Standard 5: Resources

Criteria for assessment of a study programme	Issues for consideration
5.1 Sustainability of funding and financial management	What financial resources does the programme dispose of? Which are the funding sources (tuition fees, university funding, direct government funding, third party funding, etc.)? How does the institution assure the financial sustainability of the programme? How does the programme deploy its resources to reach the programme's objectives? Are the financial resources sufficient to provide quality delivery of the programme? Is there a long term plan for financing the educational institution?
5.2 Adequacy of the number and qualification of academic staff (full-time and part-time) to ensure intended learning outcomes	Is the number and qualifications of the academic staff (full-time and part-time) adequate to ensure intended learning outcomes? What is the ratio between full time and part time academic staff? Are the teachers involved in research? Do they carry out methodological work? Do they participate in conferences and exhibitions?
5.3 Availability of strategies and processes for the staff recruiting and staff development	What are the strategies and processes for (full time) staff recruiting? How does the in-stitution recruit part time staff? Which possibilities for staff development (especially development in teaching and learning methodologies) does the institution provide? How does the teaching staff use these possibilities?
5.4 Availability, sufficiency and quality of facilities and equipment for the provision of the programme (library, laboratories, teaching rooms, IT equipment)	Do the amount and quality of facilities and equipment allow the provision of the programme (library, laboratories, teaching rooms, IT equipment)? Does the provision with material and technical recourses allow the study programme to be delivered in accordance with the requirements of the curriculum? Are there enough computers and other technical equipment? Are up-to-date methods and teaching aids used in the study process (information resources and data bases, to include electronic multi media resources)? What resources does the library provide for the programme? How accessible is the library? Are learning and teaching materials accessible for students' independent work?

5.5 Sufficiency and quality of the resources provided to reach the objectives of the programme	Are the amount and quality of the resources provided adequate to reach the objectives of the programme? How does the programme deploy its resources (financial and non-financial) to reach the programme objectives?

Standard 6: Quality Assurance

Criteria for assessment of a study programme	Issues for consideration
6.1 Design, approval and implementation of the programme; monitoring procedures	How does the institution develop, approve and implement the study programme? What are the mechanisms for its reviewing and improving? How is information on the management of the programme collected and analysed? What data does the programme collect and how are these data used for quality enhancement? - profile of the student population; - student progression, success and drop-out rates; - students' satisfaction with their programmes; - learning resources and student support available; - employability and career paths of graduates; - satisfaction of the staff with the working conditions, resources, etc. What are the procedures for reviewing and updating the curriculum with the account of the latest achievements of science and technology? How often is the programme reviewed?
6.2 Availability of a quality assurance concept of the programme and how it is connected to the quality assurance system of the institution	What is the quality concept of the programme and how is it connected to the quality assurance system of the institution?
6.3 Quality assurance processes and instruments of the programme	What are the quality assurance processes and instruments of the programme?
6.4 Effectiveness, regularity and systematic character of the quality assurance system	Does the programme use quality assurance regularly and systematically for quality enhancement? What are the objectives for the programme in quality assurance how does the institution monitor the achievement of the objectives
6.5 Availability of mechanisms for closing quality feedback loops	Are there effective mechanisms for rectifying shortcomings identified by the inner quality assurance system? How does the programme demonstrate that quality feedback loops are closed? How effective are they?

6.6 Collecting, analysis and use of data by the persons responsible for implementing the programme	How are the responsibilities for quality assurance distributed among programme staff and between levels (institution, faculty, programme)? How systematically and effectively do the persons responsible for the programme collect, analyse and use relevant information How have the results of quality assurance monitoring and periodic review contributed to the enhancement of the programme?
6.7 Involvement of stakeholders (students, teachers, administration, external experts, alumni, employers) in quality assurance	How does the institution involve stakeholders (students, teachers, administration, external experts, alumni, employers) in quality assurance?
6.8 Availability of procedures and relevant information for informing current and prospective students about the programme	Is the information about the study programme accessible to all stakeholders (applicants and their parents, students, teachers, employers, etc.)? How regularly does the programme monitor and update the published information? Is the information published on the website complete and accurate? Such as: □ curriculum, □ admission requirements, □ intended learning outcomes, □ awarded qualifications, □ teaching and learning methods, assessment procedures, □ academic progression, □ research programmes and achievements

Annex 2: Requirements for experts

The expert panel will consist of four members who are unbiased. The majority of the panel members will have substantial expertise in the management of higher education institutions. Experience with international higher education systems is also a necessary requirement. Two experts will be from higher education institutions with leadership experience. One student will also be member of the panel. Upon request of the university, the size of the expert panel may be increased.

In order to make unbiased assessments, peer reviewers need to be, and need to be seen to be, free from conflicts of interest. This requires all professional and private relations with the evaluated institution to be disclosed in order to remove any doubts about the reviewer's assessment of the institution. Possible conflicts of interest are:

- employment as professor, teacher, researcher or guest scholar at KFU within the last five years;
- doctoral or post-doctoral studies at KFU within the last five years;
- family ties, personal connections or conflicts with staff members at KFU;
- current common research or other intensive contacts with KFU;
- direct academic competition with reviewers own projects;
- student/teacher relationship with staff members at KFU dating back less than five years;
- professional dependency within the last three years;
- participation in mutual review procedures within the last five years[1];
- current application procedures or appointment negotiations with KFU;
- membership in commissions, councils or boards of KFU;
- individual or common economic interests.

[1] Participation in mutual review procedures does not necessarily lead to a conflict of interest. This needs to be checked on a case to case basis.

Annex 3: Site visit schedule

"Algebra", "Analysis on Manifolds" in the field of study "Mathematics" (01.04.01),

delivered by Kazan Federal University

SITE VISIT PROGRAMME

Time	Event	Participants	Venue
12 March, Sunday			
During the day	Arriving of expert team at Kazan Airport		
13 March, Monday			
12.00 — 15.00	Excursion around the city (for foreign experts)		
15.30	Lunch at the hotel		
17.00	Meeting of the expert team. Training.		Conference hall, Hayal Hotel
20.00	Dinner at the hotel		
14 March, Tuesday			
8.40	Transfer to the University. Meeting in the hotel lobby (for foreign experts)		
8.45	Arriving at Kazan Federal University (KFU)		Main building, Kremlyovskaya, 18
09.00 — 11.00	**Internal preparatory meeting of expert team. Training.**	Expert team	Room 336
11.00 — 12.00	**Meeting of expert teams with University Administration and heads of structural subdivisions**	Vice Rector for Academic Affairs, Director for International Cooperation department, Director of department of Methodological Support and Monitoring of Process in Training, Institute Directors, expert team	Room 335
12.10 — 12.30	**Visiting library**	Expert team	Library, main building
12.30 —	Lunch	Expert team	Café, Hayal Ho-

Time	Event	Participants	Venue
14.00			tel
14.00 — 14.10	Transfer to Mathematics building. Address: Kremlyovskaya st., 35		
14.10 — 15.15	**Meeting with Institute Director, Deputy Directors**	Institute Director, Deputy Directors, expert team	Room 712
15.15 — 15.30	Coffee-break		Room 512
15.30 — 16.30	**Meeting with programme management (academic and administrative staff)**	Heads of departments, Head of Division, Deputy Director for Academic Affairs, expert team	Room 712
16.30 — 17.00	Review of exam materials and theses	Expert team	Room 512
17.00 — 17.30	**Guided tour on the University premises (visiting lecture rooms, labs, equipment)**	Expert team	Kremlyovskaya st., 35
17.30 — 18-00			Kremlyovskaya st., 18
18.00 — 18.15	Internal meeting of expert team	Expert team	Room
20.00	Dinner at the hotel (for foreign experts)		Café, Hayal Hotel

Time	Event	Participants	Venue
15 March, Wednesday			
08.30	Meeting in the hotel lobby. Transfer		
09.00	Arriving at building №2.		Kremlyovskaya st., 35
09.00 — 09.15	**Internal meeting of expert team**	Expert team	Room 512
09.15 — 10.15	**Meeting with students**	Students, expert team	Room 712

10.15 — 10.30	Coffee break	Expert team	Room 512
10.30 — 12.00	**Meeting with teaching staff**	Teaching staff, expert team	Kremlyovskaya st., 35, room 712
12.00 — 12.30	Additional meeting on request	Expert team	Room 712
12.30 — 12.45	Transfer		
12.45 — 14.00	Lunch		Café, Hayal Hotel
Transfer to the main building. Address: Kremlyovskaya, 18			
14.10 — 16.00	**Internal meeting of expert team Filling out the assessment forms Preparation of oral report**		Room 335
16.00 — 17.00	**Feedback to programme management Final meeting of expert teams with University representatives**	Short feedback of the expert team to the programme management	Room 336
17.00 — 17.30	Opportunity of communication with experts		
20.00	Dinner at the hotel (for foreign experts)		

Annex 4: Profiles of expert panel members

Prof. Dr. Alexander Mikhalev (Russia)

Doctor of Sciences (Physics and Mathematics), Professor, Professor of the Department of Mathematical Analysis, Division of Mathematics, Faculty of Mechanics and Mathematics, Lomonosov Moscow State University, Member of the Editorial Board of the journal "Fundamental and Applied Mathematics" — Russian expert, Review Chair.

Prof. Dr. Georg Hein (Germany)

Professor of the Department of Algebraic Geometry and Arithmetic, University of Duisburg-Essen (Duisburg, Germany) — foreign expert, Deputy Review Chair.

Dr. Ekaterina Eremenko (Germany)

PhD in Mathematics, Research Assistant of the Department of Geometry and Mathematical Physics, Faculty of Mathematics, Technical University of Berlin (Berlin, Germany) — foreign expert, representative of the foreign employers' community, panel member

Irek Shaikhnurov (Russia)

Irek Shaikhnurov is a 4th year Master student at the Faculty of Textile Industry Technology and Fashion, Chair on Education Quality of the Student Union, Kazan-National Research Technological University.