Национальный центр
профессионально-общественной
аккредитации

SUMMARY REPORT

on international public accreditation of the cluster of educational programmes in

«Applied Informatics» (09.03.03, 09.04.03)

delivered by Altai State University

2021

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 «Applied Informatics» (09.03.03, 09.04.03) delivered by Altai State University.

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

CONTENTS

GENERAL INFORMATION ON EDUCATIONAL INSTITUTION

|	
Full name of the educational institution	*Federal State Budgetary Educational Institution of Higher Education «Altai State University»*
Founders	*Russian Federation*
Year of foundation	*1973 — Altai State University* *2002 — State Educational Institution of Higher Professional Education «Altai State University»* *2011 — Federal State Budgetary Educational Institution of Higher Professional Education «Altai State University»* *2016 — Federal State Budgetary Educational Institution of Higher Education «Altai State University»*
Address	*61, Pr. Lenina, Barnaul, Altai region, 656049*
Rector	*Sergei Bocharov, Doctor of Economics, Professor*
License	*Series 90Л01 №9352 reg. № 2296 of 29.07.2016 permanent*
State accreditaiton	*Certificate of State Accreditation Series 90A01 № 3238, reg. №3079 of 30.04.2019 valid till 30.04.2025*
Number of students	*11526* *of whom:* *8379 are full-time students* *131 are part-time students* *3016 study in absentia*

INFORMATION ON THE STUDY PROGRAMMES UNDERGOING ACCREDITATION

Educational programmes	*«Applied Informatics» (09.03.03), «Applied Informatics» (09.04.03)*
Level of training / Standard period of training	*Bachelor's degree programme / 4 years Master's degree programme / 2 years*
Structural subdivision (Head)	*International Institute of Economics, Management and Informational Systems (Stepan Mezhov, Doctor of Economics, Associate Professor)*
	Institute of Mathematics and Information Technologies (Evgenii Zhuravlev, Candidate of Physics and Mathematics, Associate Professor)
Graduate departments (and their respective heads)	*Department of Mathematical Analysis (Aleksandr Sazhenkov, Candidate of Physics and Mathematics)*
	Department of Digital Technologies and Business Analytics (Olga Kozhevina, Doctor of Economics)
	Department of Informatics (Denis Kozlov, Candidate of Physics and Mathematics)
	Department of Theoretical Cybernetics and Applied Mathematics (Elena Ponkina, Candidate of Engineering)
Dates of Review	*November 24-27, 2020*
Person responsible for accreditation from the HEI	*Marina Kolbunova, Head of the Office for Quality and Education Development Strategy Sergei Kucher, Head of the Education Quality Sector*

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

Indicators	2020
Cluster of educational programmes «Applied Informatics» (09.03.03, 09.04.03)	
Number of the given programmes in the RF	510
Number of higher educational institutions to offer the given programmes	363
Number of programmes – winners of the project (% from total number of these programmes offered in the RF)	77 (15%)
Altai region	
Number of the given programmes offered in the region	7
Number of programmes – winners of the project (% from total number of these programmes offered in the region)	2 (29%)
Number of higher educational institutions and branches in the region	21
Total number of programmes offered in the region	449
Total number of programmes – winners of the project (% from total number of these programmes offered in the region)	55 (12%)

REFERENCE DATA ON STUDENT ENROLLMENT FOR PROGRAMME

Прикладная информатика (09.03.03)
Прикладная информатика (09.04.03)
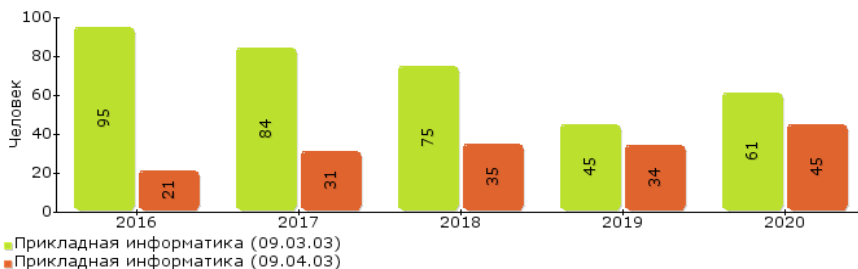
ACHIEVEMENTS OF THE STUDY PROGRAMMES

Quality of delivering the study programmes

The quality of educational programmes is ensured by high qualification of the teachers and its regular improvement; research activities of the teachers and students; extensive international ties and international mobility of students and teachers; close cooperation with employers; development and continuous improvement of educational and methodological materials, including the electronic ones; use of innovative educational technologies (case methods, business games, portfolio method, etc.); development of material and technical and informational resources.

Provision of up–to-date education

The up-to-date content of education is ensured by annual renewal and adjustment of the educational programmes, curricula and programmes of disciplines in compliance with the changes in the federal and regional legislation, their agreement with employers and stakeholders with the account of international experience. The University signed cooperation agreements with the government of the Altai region and administrations of municipal institutions of the Altai region. The University cooperates with research institutes and laboratories of the Siberian Branch of the Russian Academy of Sciences. There are 7 basic departments at the Institutes.

Independent assessment of student learning outcomes

All programmes under review successfully passed independent evaluation of education quality against accreditation teaching measuring materials in terms of the project «Federal Internet Exam in Higher Education».

During state accreditation (February – March 2019) the students of the educational programmes under review successfully passed independent evaluation of training quality.

The students regularly hold award-winning places at professional competitions and research conferences. The students serve internships in leading IT-companies and subject-specific organizations.

Teaching staff

The teaching staff has high qualification and huge experience of working in subject-specific organizations:

	Total number of teachers (people)	Teachers having an academic degree (%)	Teachers having practical experience (%)
09.03.03 Applied Informatics	38	89,5	7,9
09.03.03 Applied Informatics, specialization Applied Informatics in Economics	61	90,2	16,4
09.03.03 Applied Informatics, specialization Data Mining	31	90,2	9,7
09.03.03 Applied Informatics, specialization Digital Economy	38	92,1	7,9
09.04.03 Applied Informatics, specialization Applied Informatics in Financial Management	55	89,0	13,0
09.04.03 Applied Informatics, specialization Information Technologies in Management of Social and Economic Processes	16	88,0	12,0
09.04.03 Applied Informatics, specialization Information Systems Management in Business	22	95,4	13,6

Educational resources

The educational programmes are provided with necessary material and technical resources in compliance with the requirements. There are six academic buildings.

The research library of ASU delivers library and information services of educational, research and other activities of the University. The total area of the library is 1811 m^2.

There are 147 workplaces, 34 of which are provided with personal computers with access to the Internet.

On January 1, 2020 the library stock was 1 638 233 units.

In 2019 the number of registered members of the library was 15 011 people.

Research activity

For the last 5 years 22 coursebooks, 368 study guides, and 59 monographs were published.

4920 research works were published, including 378 research works in journals of the Higher Attestation Commission, 1345 works in RSCI journals, and 211 works in journals of Scopus, Web of Science. 75 teachers have Hirsch index of 5 and more. More than two hundred research events were held.

Academic mobility of students

173 foreign students master the educational programmes under review in the current academic year; 21 students master programmes of double degree.

High academic mobility of students is proved by their participation in foreign internships: Europe (Spain, Czech Republic, Germany) – 7 people; Asia (South Korea, Japan) – 8 people; neighboring countries (Kazakhstan) – 35 people.

Employability of graduates

Employability of graduates is more than 90%. The graduates are in demand in the Altai region and other Russian regions.

International projects

The University has about 200 international contracts, agreements, memoranda and protocols about ideas in science, education and culture.

ASU is a basic HEI of the University of the Shanghai Cooperation Organisation; a number of joint educational programmes is delivered on the basis of this cooperation.

EXTERNAL REVIEW PANEL

Akkyz Mustafina (Almaty, Kazakhstan)

Review Chair, foreign expert

> *Candidate of Engineering, Associate Professor, Director of the Department for Academic Issues of the International University of Information Technology (Kazakhstan), academician of the International Academy of Informatization*

A nominee of the Independent Agency for Quality Assurance in Education (Kazakhstan)

Andrei Krasov (Saint Petersburg, Russia)

Deputy Review Chair, Russian expert

> *Candidate of Engineering, Associate Professor, Head of the Department of Secured Communications Systems, Bonch-Bruevich St. Petersburg State University of Telecommunications, member of the Guild of Experts in Higher Education, academician of the International Telecommunication Academy*

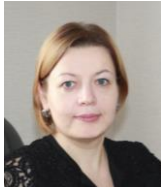A nominee of the Guild of Experts in Higher Education

Elena Spirina (Karaganda, Kazakhstan)

Panel member, foreign expert

> *Candidate of Pedagogy, Associate Professor, Head of the Department of Applied Mathematics and Informatics, E.A. Buketov Karaganda University (Kazakhstan)*

A nominee of the Independent Agency for Quality Assurance in Education (Kazakhstan)

Natalia Britceva (Barnaul, Russia)

Panel member, representative of professional community

> *Deputy Director for Information Technologies, Altai Institute of Digital Technologies and Education Quality Evaluation*

A nominee of the Altai Institute of Digital Technologies and Education Quality Evaluation

Andrei Korol (Lipetsk, Russia)

Panel member, representative of students

> *Master's degree student, Faculty of Automation and Informatics, Lipetsk State Technical University, All-Russian Student Union*

A nominee of the All-Russian Student Union

INFORMATION ON THE LEADING TEACHERS OF THE EDUCATIONAL PROGRAMMES

Gennady Algazin

Doctor of Physics and Mathematics, Professor, Department of Theoretical Cybernetics and Applied Mathematics

Olga Voronkova

Doctor of Economics, Professor, Department of Management, Business Organization and Innovations, expert of the Eurasian technological platform «Agroindustrial Complex – Healthy Foods»; member of two thesis boards in the field of study 08.00.05 on the basis of Altai State University and Novosibirsk State Agrarian University

Igor Dubina

Doctor of Economics, Professor, Department of Economics and Econometrics; in 2004-2005, 2009, 2010-2011, 2014 worked as a visiting researcher and teacher at Central European University (Hungary), The George Washington University (USA), Martin Luther University of Halle-Wittenberg (Germany). He delivered lectures many times at HEIs of Germany, Hungary, USA, Japan, China, Kazakhstan, Kyrgyz Republic. Member of thesis boards at ASU, Al-Farabi Kazakh National University and l.N. Gumilyov Eurasian National University, deputy editor-in-chief and member of the editorial board of 4 international journals, including those of Scopus and Web of Science

Olga Kozhevina

Doctor of Economics, Head of the Department of Digital Technologies and Business Analytics

Nikolai Oskorbin

Doctor of Engineering, Professor, Department of Theoretical Cybernetics and Applied Mathematics

Anna Petrova

Doctor of Physics and Mathematics, Professor, Department of Differential Equations

COMPLIANCE OF THE EXTERNAL REVIEW OUTCOMES WITH THE STANDARDS

STANDARD 1. Policy (goals, development strategy) and quality assurance procedures of a study programme

Compliance with the standard: **full compliance**

Good practice:

The educational programmes under review are very popular at the University (7% of the total number of students), and in the region (almost 40% of the total number of students mastering this field of study in the region, according to monitoring data of HEIs performance in 2019).

Altai State University is a leader, which defines vector of development of this field of study in the region.

The University cooperates with universities of Central Asia.

Areas for improvement:

In order to achieve indicators of the State programme of the Altai region «Digital development of economy and information environment of the Altai region» for 2020-2024 (of 24.01.2020 №25), it is necessary to improve the educational programmes aimed at increasing the number of graduates and enhance the content of the educational programmes in compliance with the requirements of the region.

The University should involve student self-governance bodies and associations of graduates in discussion of the strategic plan of development of the University, update of the mission, goals and objectives of the University related to its academic policy.

The graduates and employers should be more involved in monitoring of the content of the educational programmes in order to timely introduce changes in the educational programmes depending on the requirements of the regional labour market.

STANDARD 2. Design and approval of programmes

Compliance with the standard: **substantial compliance**

Good practice:

State accreditation was successfully passed.

The University has a Cisco Networking Academy; it is successfully used in the educational process on networking technologies, which is an undeniable achievement of the educational programmes under review.

The University actively promotes personal growth and development of professional competencies of the students.

Areas for improvement:

IT components of the educational programmes should be enhanced; the University should pay special attention to practical training of the students in order to develop more quality professional skills in information systems and technologies.

In Master's degree programmes more attention should be paid to the research components of the educational programme in order to achieve 7-8 levels of professional standards, which give better possibilities to Master graduates in comparison with Bachelor graduates.

The role of the professional standard 06.022 System Analyst should be enhanced, for example, by other professional standards related to 7-8 levels (Master's degree) avoiding doubling of the standards of 5 level (Bachelor's degree).

The University should use free resources, which are offered by the Cisco company in terms of partner programmes.

STANDARD 3. Student-centred learning and assessment

Compliance with the standard: **substantial compliance**

Good practice:

The University uses independent technologies for evaluation of learning outcomes, for example, the Federal Internet Exam in Higher Education, as well as technologies of networking academies Cisco and Microsoft, which comprise internationally recognized effective systems of case studies for organization of the educational process and testing of students' knowledge in the sphere of information technologies.

The students annually take part in the competitions of professional excellence and research works and olympiads and show good results.

Areas for improvement:

The University should use more the technologies of networking academies Cisco and Microsoft when delivering other disciplines, which they can improve on an internationally-recognized level. For example, the University can extend the training programmes of graduates on programming in Python and Java.

The University should take into account the results of independent testing systems when evaluating learning outcomes.

The students should have more possibilities in choosing elective disciplines, designing an individual curriculum and providing student-centered learning.

STANDARD 4. Student admission, support of academic achievements and graduation

Compliance with the standard: **full compliance**

Good practice:

The University has an effective system of work with applicants and a recruitment system in neighboring countries.

The informational and educational environment of ASU allows students to get information on all issues related to their academic performance. The University introduced an app «Portfolio of a Student», i.e. portfolio of academic and non-academic achievements of students.

The University organizes and holds olympiads and competitions for students.

An effective system of career guidance is aimed at selection of motivated applicants.

Areas for improvement:

The University should investigate the opportunities of employer-sponsored education through working with employers, applicants and their parents.

The University should enhance promotion of Diploma Supplement and opportunities that it gives for the graduates.

The University should use various means of information of the students about academic mobility programmes:

- Enhancement of the role of English in the educational process;

- Establishment of the support system for foreign students;

- Information of students about the possibilities of various programmes, for example, Erasmus+;

- Summer schools in English, where possibilities and conditions of learning at ASU can be introduced to foreign students.

STANDARD 5. Teaching staff

Compliance with the standard: **substantial compliance**

Good practice:

ASU has a mechanism of internal independent evaluation of quality of teachers' performance.

High qualification of the teaching staff is in place.

The University has a system of motivation and promotion of teachers, which takes into account educational, research, international, social and career guidance activities.

Areas for improvement:

The monitoring of teachers' performance should include fulfilling the requirements by teachers of the Federal State Educational Standards on publication activities.

The University should enhance promotion of teachers to publish research articles related to the disciplines they teach.

The University should develop and carry out a long-term plan of qualification advancement in the field of study 09.00.00 (or other related fields of study).

The University should support the teaching staff to take language courses.

STANDARD 6. Learning resources and student support

Compliance with the standard: **full compliance**

Good practice:

The University has modern material and technical resources, developed information infrastructure, digital resources and own electronic library system.

The University comprises different IT-laboratories, Centres of competences and Academies of vendors.

The University is well prepared to carry out the educational process with the help of remote learning technologies in the context of a difficult epidemiological situation.

Areas for improvement:

The University should develop a system for support of outbound academic mobility (first of all, by carrying out awareness-raising activities among students) and academic mobility with neighboring countries by participating in academic exchange programmes, for example, Erasmus+, and improving students' language proficiency.

The University should discuss (for example, at the Academic Council meeting) the indicators of academic areas and percentage of students, who need dormitories in order to design a development plan.

STANDARD 7. Collection, analysis and use of information for managing the study programme

Compliance with the standard: **substantial compliance**

Good practice:

The University has a unified educational portal, which comprises internal regulatory documents, methodological documents, curricula and working programmes of disciplines.

The University has 11 information systems containing confidential information (including personal data).

The University has an Office for strategy, analysis and monitoring.

The University developed a roadmap on transition to national software.

Areas for improvement:

The University should improve the informational and analytical system in receiving information related to certain educational programmes and use of data for decision-making.

The University should bring into correlation criteria and indicators with the methodology of monitoring of HEIs performance and admission quotas.

The Bachelor educational programmes in 09.03.03 «Applied informatics» should be assigned to one graduate department.

STANDARD 8. Public information

Compliance with the standard: **full compliance**

Good practice:

The strengths of the University are fully published on the official website of the University and Institutes.

News of the University and Institutes, achievements of students and staff are widely covered in the news feed of the website.

A unique ASU information system ensures effective delivery of the educational programmes, their availability and openness for all stakeholders and the public.

There are special services, which inform the public and cooperate with employers, federal and regional mass media.

Areas for improvement:

The University should regularly update information about the teaching staff in compliance with the requirements, first of all, about their qualification, retraining, qualification advancement, etc.

The University should update the information about staff of the departments on the pages of the Institutes.

STANDARD 9. On-going monitoring and periodic review of programmes

Compliance with the standard: **full compliance**

Good practice:

An effective mechanism of feedback from the students and employers on evaluation of the educational programmes is in place.

The departments and University cooperate with the public and employers to update the content of the educational programmes.

Regular monitoring of performance of the educational programmes is carried out.

Areas for improvement:

The University should increase the number of employer companies and professional communities to monitor and evaluate quality of the educational programmes.

During monitoring the University should pay more attention to evaluation of staffing and indicators of research necessary to fulfill the requirements of the Federal State educational Standards.

STANDARD 10. Cyclical external quality assurance of study programmes

Compliance with the standard: **full compliance**

Good practice:

The University holds events with participation of students and employers (conferences, lectures, surveys) for quality assurance of graduates' training.

The management of the educational process is on a good level, which helps to carry out effective training.

Areas for improvement:

The University should participate more in national rankings related to engineering and technologies.

The University should introduce review of the educational programmes (or receiving feedback) by employers and international experts.

DISTRIBUTION DIGRAM
OF THE EXTERNAL REVIEW OUTCOMES
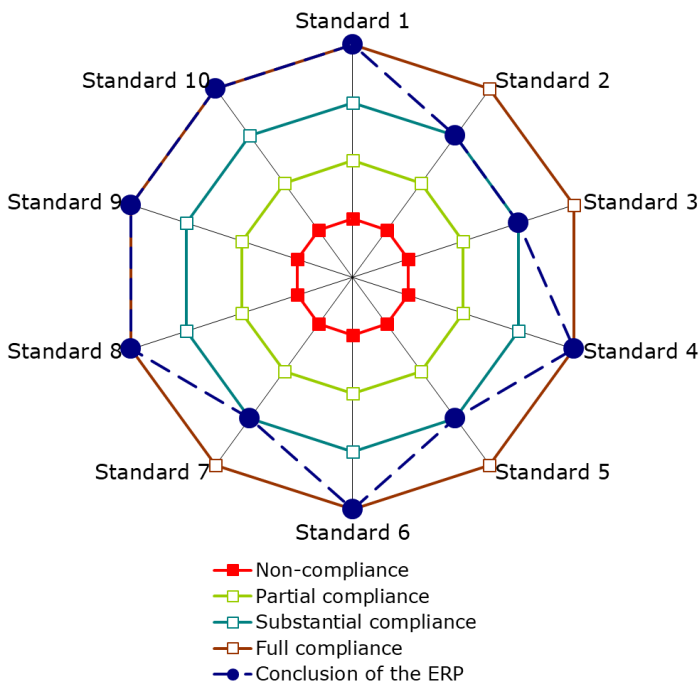
Standard 1.   Policy (goals, development strategy) and quality assurance procedures of a study programme
Standard 2.   Design and approval of programmes
Standard 3.   Student-centered learning and assessment
Standard 4.   Student admission, support of academic achievements and graduation
Standard 5.   Teaching staff
Standard 6.   Learning resources and student support
Standard 7.   Collection, analysis and use of information for managing the study programme
Standard 8.   Public information
Standard 9.   On-going monitoring and periodic review of programmes
Standard 10. Cyclical external quality assurance of study programmes

CONCLUSION OF THE EXTERNAL REVIEW PANEL

Based on the self-evaluation report analysis, documents and data submitted the External Review Panel has come to the conclusion that the cluster of educational programmes in «Applied Informatics» (09.03.03, 09.04.03) **fully** complies with the standards and criteria of public accreditation of the National Centre for Public Accreditation.

The External Review Panel recommends that the National Accreditation Board accredit the cluster of educational programmes in «Applied Informatics» (09.03.03, 09.04.03) delivered by Altai State University for the period of **six** years.

SCHEDULE OF THE SITE VISIT OF THE EXTERNAL REVIEW PANEL

Time	Activity	Participants
November 24, Tuesday		
9:00 — 9:15	First meeting of the External Review Panel	
09:15 — 09:30	Break	
09:30 — 10:30	**Meeting of the ERP with the University administration and people responsible for accreditation**	Rector, Vice-Rectors, people responsible for accreditation, ERP
10:30 — 10:45	Break	
10:45 — 11:45	**Meeting with Institute management**	Directors, Deputy Directors, ERP
11:45 — 12:45	Lunch	
12:45 — 13:00	Break	
13:00 — 14:00	**Meeting with Heads of Departments**	Heads of Departments, ERP
14:00 — 14:15	Break	
14:15 — 15:15	**Meeting with graduates**	Graduates, ERP
15:15 — 15:30	Break	
15:30 — 16:30	Video tour of the University (visiting classes, library, etc.)	ERP
16:30 — 17:30	Work with documents	ERP
November 25, Wednesday		
09:00 — 09:15	Internal meeting of the Panel	ERP
09:15 — 09:30	Break	
09:30 — 10:30	**Meeting with students**	Students, ERP
10.30 — 10:45	Break	
10:45 — 11:45	**Meeting with teachers**	Teachers, ERP
11.45 — 12.45	Lunch	
12.45 — 13:00	Break	

Time	Activity	Participants
13.00 — 14.00	**Meeting with representatives of professional community**	Employers, ERP
14.00 — 15.00	Work with documents	ERP
November 26, Thursday		
09:00 — 09:15	Internal meeting of the Panel	ERP
09:15 — 09:30	Break	
09:30 — 10:30	**Meeting with Institute management**	Institute Director, Deputy Directors, ERP
10:30 — 10:45	Break	
10:45 — 11:45	**Meeting with students**	Students, ERP
11:45 — 12:45	Lunch	
12:45 — 13:00	Break	
13:00 — 14:00	**Meeting with teachers**	Teachers, Head of Department, ERP
14:00 — 14:15	Break	
14:15 — 15:15	**Meeting with graduates**	Graduates, ERP
15:15 — 16:15	Video tour of the branch (visiting classes, library, etc.)	ERP
16:15 — 17:15	Work with documents	ERP
November 27, Friday		
09.00 — 11.45	Internal meeting of the Panel: discussion of preliminary results of the site visit, preparation of the oral report of the panel	ERP
11:45 — 12:00	Break	
12.00 — 13.00	**Closing meeting of the External Review Panel with the representatives of the University**	ERP, management of the University and branch, Heads of the Departments, teachers, students