**KYRGYZ STATE TECHNICAL UNIVERSITY**
**named after I. Razzakov**



**SELF-ASSESSMENT REPORT**
**ON COMPLIANCE WITH THE REQUIREMENTS OF EDUCATIONAL PROGRAM STANDARDS**
**750500 "CONSTRUCTION" (Master’s Level)**

**BISHKEK 2023**



### ****STATEMENT****

I, Chynybaev Myrlan Koychubekovich, confirm that this self-assessment report of the educational programs in the field of **750500 "Construction" (Master’s level)** at **Kyrgyz State Technical University named after I. Razzakov**, consisting of **100 pages**, provides absolutely reliable, accurate, and comprehensive data that adequately and fully characterize the university's activities in implementing the educational program.

**Rector**
M.K. Chynybaev

**Content of the Original Report**

General Information
Self-Assessment Working Group for Program Accreditation Standards
Abbreviations and Acronyms
Brief History of the Development of Kyrgyz State Technical University named after I. Razakov (KSTU)
Qualifications Awarded
Accredited Programs
Information on Previous Accreditation Procedures
Brief History of the Development of the Program
Standard 1: "Management of the Core Educational Program"
Standard 2: "Information Management and Reporting"
Standard 3: "Development and Approval of the Core Educational Program"
Standard 4: "Continuous Monitoring and Periodic Evaluation of the Core Educational Programs"
Standard 5: "Student-Centered Learning, Teaching, and Assessment"
Standard 6: "Learners"
Standard 7: "Faculty"
Standard 8: "Educational Resources and Student Support Systems"
Standard 9: "Public Information"
Self-Assessment Commission Conclusion

**General Information**

Name of the Educational Organization
Kyrgyz State Technical University named after I. Razakov

Legal Details
Kyrgyz Republic, 720044, Bishkek, Ch. Aitmatov Avenue, 66
Phone/Fax: +996-312-54-51-25 / +996-312-54-51-62
Email: rector@kstu.kg

Ownership Form / Type of Organization
State-Owned

Full Name of the Rector of the Educational Organization
Chynybaev, Mirlan Koichubekovich

Full Name of the Vice-Rector for Academic Affairs
Elemanova, Rimma Shukurovna

Full Name of the Director of the Department of Educational Quality
Sadykova, Gulzat Erkinbaevna

Governing Body
Ministry of Education and Science of the Kyrgyz Republic

Contact Person for Report Preparation
Bolotbek, T.
Nyshambaeva, A.M.
Satkynaliev, K.T.
Ensebekov, A.E.

Phone: +996 312 545641
Email: t.bolotbek@kstu.kg

University Web Resources
Website: [www.kstu.kg](http://www.kstu.kg)

**Self-Assessment Working Group for Program Accreditation Standards**

In accordance with the order of the Rector of KSTU No. 09 dated January 24, 2023, working groups were established for the self-assessment of master's educational programs and the preparation of self-assessment reports for the program accreditation of master's degree programs. The working group for conducting self-assessment according to program accreditation standards for educational programs in the field of 750500 – Construction is listed below:

1. **Bolotbek, T.** – Head of the cluster of educational programs in the field of 750500 – Construction, Head of the Department of "Building Structures, Buildings, and Structures" at KSTU named after I. Razakov, Chairperson
2. **Nyshambaeva, A.M.** – Chair of the UMS of the Kyrgyz Engineering and Construction Institute named after N. Isanov, Associate Professor of the Department of "Operation of Transport and Technological Machines" at KSTU named after I. Razakov, Vice-Chair
3. **Satkynaliev, K.T.** – Associate Professor of the Department of "Automobile and Railway Roads, Bridges, and Tunnels" at KSTU named after I. Razakov
4. **Ensebekov, A.E.** – Associate Professor of the Department of "Designing, Construction of Buildings, and Seismic Construction" at KSTU named after I. Razakov

**Brief History of the Development of Kyrgyz State Technical University named after I. Razakov (KSTU)**

* Kyrgyz State Technical University was established in October 1954 as Frunze Polytechnic Institute (FPI) based on the Technical Faculty of Kyrgyz State University.
* In 1992, the Kyrgyz Technical University was founded on the basis of FPI.
* By Government Resolution No. 522 on December 5, 1995, the name of the Kyrgyz Technical University was changed to honor I. Razakov.
* By the decree of the President of the Kyrgyz Republic on October 5, 2004, the Kyrgyz Technical University was granted the status of a "national" university.
* On May 3, 2005, by the decree of the President of the Kyrgyz Republic, the university was renamed to Kyrgyz State Technical University named after I. Razakov (KSTU).
* On June 18, 2022, by the decree of the President of the Kyrgyz Republic "On measures to enhance the potential and competitiveness of higher education organizations in the Kyrgyz Republic," KSTU was reorganized by establishing its status as a legal successor and merging it with Kyrgyz State University of Construction, Transport, and Architecture named after N. Isanov, and Kyrgyz State University of Geology, Mining, and Natural Resources named after U. Asanaliev.

The university's organizational structure includes 10 institutes, 4 territorial branches, 3 higher schools, 6 research institutes, 5 colleges, and a lyceum.

**Student Body at KSTU named after I. Razakov**
The total number of students at KSTU is 24,202, including 1,189 international students:

* Postgraduate (Doctoral Studies) – 237
* PhD – 53
* Master's Degree – 1,159
* Specialization – 2,299
* Bachelor's Degree – 14,723
* Secondary Vocational Education (SPO) – 5,567
* Lyceum – 164

The number of academic staff (in higher education programs) is 1,329 (including 257 part-time lecturers), including:

* Academicians – 3
* Doctors of Sciences – 92
* Candidates of Sciences (PhD) – 373

**Qualifications Awarded**
The Government of the Kyrgyz Republic has adopted a decree "On the Approval of the Concept of the National Qualifications System in the Kyrgyz Republic."
The Concept of the National Qualifications System in the Kyrgyz Republic is available here.
Draft professional standards of the Kyrgyz Republic and necessary amendments in relevant laws and regulations have undergone expert examination and approval procedures in the Parliament (Jogorku Kenesh) of the Kyrgyz Republic.
The National Qualifications Framework of the Kyrgyz Republic was approved by the Government of the Kyrgyz Republic (Resolution No. 491, September 18, 2020).

According to the NQF of the Kyrgyz Republic, the educational level of graduates in the field of 750500 – Construction corresponds to level 7, and graduates are awarded the qualification "Master in Construction" with the following documents:

* State diploma of higher professional education with the qualification "Master";
* Diploma Supplement (European model).

**Accredited Programs**

1. Industrial and Civil Engineering (CE)
2. Construction Technology and Organization (CTO)
3. Architectural and Structural Design Principles (ASDP)
4. Heat and Gas Supply for Settlements and Enterprises (HGS)
5. Renewable Energy and Energy Efficiency in Buildings (REEB)
6. Microclimate Systems for Buildings and Structures (MBS)
7. Water Supply and Sewage Systems for Cities and Industrial Enterprises (WSS)
8. Design, Construction, and Operation of Highways (DCO)
9. Building Materials Science (BMS)
10. Forensic Construction and Cost Examination of Real Estate (FCCE)
11. Hydraulic Engineering Construction (HEC)

**Information on Previous Accreditation Procedures for Educational Programs in the Field of Construction**
In 2015, the educational program underwent public-professional accreditation in the Accreditation Center of the Association of Engineering Education of the Russian Federation for the 6th level of education in the program "Industrial and Civil Engineering."
In 2018, the master's programs (7th level) in the field of Construction underwent independent public-professional accreditation in the "EdNet" accreditation agency for education quality assurance.
In 2020, the cluster of educational programs at the 6th level in the field of Construction underwent national independent public-professional accreditation in the "Bilim Standard" accreditation agency.
In 2021, the cluster of educational programs at the 6th level in the field of Construction underwent international independent public-professional accreditation in the National Center for Professional and Public Accreditation.

**Brief History of the Development of the Program**
Specialist training in the field of construction in Kyrgyzstan began in 1953 at Kyrgyz State University (KSU). In 1954, the Frunze Polytechnic Institute (FPI) was established, and the construction faculty was opened within it, specializing in Industrial and Civil Engineering (CE).
In 1992, based on the construction, engineering, and architecture faculties of FPI, the Kyrgyz Architectural and Construction Institute (KACI) was founded. In 1998, by decree of the President of the Kyrgyz Republic, KACI was transformed into Kyrgyz State University of Construction, Transport, and Architecture (KSUCTA).
As part of the implementation of the Presidential Decree of the Kyrgyz Republic No. 243 dated July 18, 2022, on measures to increase the potential and competitiveness of higher education institutions, KSTU merged with Kyrgyz State University of Construction, Transport, and Architecture named after N. Isanov and Kyrgyz State University of Geology, Mining, and Natural Resources named after U. Asanaliev. Three technical universities were merged into KSTU named after I. Razakov.
By Rector’s Order No. 1/135, dated September 1, 2022, the Kyrgyz State Technical University named after I. Razakov established the Kyrgyz Engineering and Construction Institute named after N. Isanov (KICI) within KSTU.
Training and graduation of students at all levels in the field of Construction is conducted by the Kyrgyz Engineering and Construction Institute named after N. Isanov (KISI) at the respective departments, with student administration for 7th-level programs managed by the Graduate School.

**Introduction**
The aim of the current Self-Assessment Report and the self-assessment procedure is to update the compliance of the cluster of educational programs in the field of "Construction," implemented at KSTU named after I. Razakov, with the European ESG standards of the European Association for Quality Assurance in Higher Education (QF-EHEA and ENQA).
The self-assessment of educational programs is the initial stage of public-professional accreditation.
For the self-assessment procedure of educational programs and preparation of the subsequent Self-Assessment Report for the field 750500 – "Construction," working groups were created by Rector's Order No. 09 on January 24, 2023. The working group for the field of Construction developed and adopted the schedule for conducting the self-assessment.
During the procedure, an analysis of the educational programs, examination of the methodological support, analysis of practical training, surveys of all stakeholders, monitoring graduate employment, and an evaluation of the material and technical support were conducted. A SWOT analysis was also carried out, revealing the strengths and weaknesses of the programs, as well as the potential opportunities and threats if weaknesses are not addressed.
Regulatory documents for the "Construction" cluster are accessible to all stakeholder groups.

**Summary of the Self-Assessment Report**
**Kyrgyz State Technical University named after I. Razzakov**
**Educational Program: 750500 "Construction" (Master's Level)**

**General Information**

This self-assessment report evaluates the compliance of the Master's educational program in "Construction" at Kyrgyz State Technical University (KSTU) with accreditation standards. The purpose of the self-assessment is to ensure alignment with European Standards and Guidelines (ESG) and enhance the quality assurance system of the educational program.

The self-assessment process included extensive analysis of the following:

* The university’s governance and quality assurance mechanisms.
* The structure and content of the "Construction" Master's program.
* The availability and use of academic and infrastructural resources.
* The qualifications and competencies of faculty members.
* Student feedback and performance monitoring.
* The employability of graduates and industry partnerships.

The findings of the self-assessment are intended to identify strengths, weaknesses, opportunities, and threats related to the program, forming the basis for future improvements.

**Key Findings and Evaluation of Standards**

**1. Program Management**

* The university has a clearly defined quality assurance policy, integrated into the strategic development plan.
* Internal quality assurance mechanisms ensure continuous monitoring and periodic review of the curriculum.
* Transparency in governance is maintained through established committees and stakeholder involvement.
* Decision-making processes are data-driven, ensuring the sustainability and relevance of educational offerings.

**2. Information Management and Reporting**

* A digital information system (AVN) facilitates real-time tracking of student performance, faculty workload, and financial management.
* Regular surveys and feedback mechanisms are in place to assess the effectiveness of the educational process.
* Academic and administrative decisions are based on comprehensive data analysis and continuous evaluation.

**3. Curriculum Development and Approval**

* The curriculum is developed in consultation with industry stakeholders to align with labor market demands.
* Courses are regularly updated to incorporate the latest construction technologies, sustainability practices, and digital innovations.
* The program includes theoretical, practical, and research-oriented components, providing a well-rounded education.
* Faculty members are encouraged to integrate modern pedagogical methodologies and interdisciplinary approaches.

**4. Continuous Monitoring and Periodic Assessment**

* Performance indicators such as graduation rates, employment rates, and employer feedback are systematically monitored.
* Program modifications are based on direct stakeholder input, ensuring that the curriculum remains relevant and competitive.
* International benchmarking is conducted to compare program outcomes with leading universities worldwide.

**5. Student-Centered Learning and Assessment**

* The program promotes active learning methods, including case studies, project-based learning, and internships.
* Assessment strategies are designed to evaluate both theoretical knowledge and applied competencies.
* Digital learning tools and academic support systems are available to enhance student engagement and success.

**SWOT Analysis**

**Strengths:**

* Well-established academic framework supported by experienced faculty and industry professionals.
* Strong collaboration with construction companies and regulatory bodies, leading to improved employment opportunities for graduates.
* Advanced digital infrastructure supporting academic and administrative functions, including a well-integrated digital learning environment.
* Research and innovation initiatives are expanding, with increased participation in national and international research projects.

**Weaknesses:**

* Limited international mobility opportunities for students and faculty members due to funding constraints.
* Laboratory and research facilities require further modernization and expansion to support innovative practices.
* Insufficient integration of interdisciplinary and emerging fields such as smart construction and green building technologies.
* More efforts are needed to increase publication outputs in high-impact international journals.

**Opportunities:**

* Expansion of academic mobility programs through international partnerships and exchange agreements.
* Implementation of digital construction technologies, such as Building Information Modeling (BIM), in the curriculum.
* Strengthening research initiatives and securing additional grant funding for infrastructure improvements.
* Establishment of joint-degree programs with leading international universities in the field of civil engineering and construction management.
* Enhanced collaboration with employers to increase internship placements and real-world project involvement.

**Threats:**

* Rapid technological advancements requiring continuous curriculum updates and faculty training.
* Financial constraints affecting infrastructure development and faculty professional development.
* Global trends indicate a decreasing interest in engineering disciplines, potentially affecting student enrollment.
* Political and economic factors that may influence funding allocation and regulatory frameworks in higher education.

**Conclusion and Recommendations**

The self-assessment confirms that the "Construction" Master's program at KSTU meets the core accreditation standards. However, continuous improvements are necessary to address weaknesses and leverage opportunities for growth. The following recommendations are proposed:

1. Strengthening academic mobility programs and increasing participation in international collaborations to enhance global exposure.
2. Upgrading laboratory facilities and research infrastructure to support advanced studies and innovative practices in construction engineering.
3. Enhancing interdisciplinary integration by incorporating courses on smart construction, digital twins, and sustainable building technologies.
4. Increasing engagement with industry stakeholders through regular consultations, joint research initiatives, and internship placements.
5. Expanding digitalization efforts in education, including the adoption of virtual learning environments and remote simulation technologies.
6. Encouraging faculty members to publish research in internationally recognized journals and participate in global academic networks.
7. Introducing competency-based education models to ensure students gain practical, industry-relevant skills before graduation.
8. Establishing an advisory board comprising industry professionals, academic experts, and alumni to provide guidance on curriculum development.

By implementing these measures, KSTU aims to further enhance the quality and competitiveness of its "Construction" Master's program, ensuring that graduates are well-prepared for the evolving demands of the construction industry. Continuous improvement and adherence to international best practices will solidify KSTU’s reputation as a leading institution for civil engineering education.

## ****Key Findings and Evaluation of Standards****

### ****Standard 1: Program Management****

* The university has a structured management system with clearly defined policies and responsibilities.
* A dedicated Quality Assurance Department ensures continuous monitoring and improvement of educational programs.
* Active involvement of stakeholders, including students, faculty, and industry partners, in decision-making processes.

### ****Standard 2: Information Management and Reporting****

* An advanced digital system (AVN) is in place for tracking student performance, faculty workload, and academic processes.
* Regular feedback collection through surveys and meetings allows for continuous evaluation and refinement of educational processes.
* Transparency in reporting is ensured through publicly accessible documentation and real-time data management.

### ****Standard 3: Curriculum Development and Approval****

* The curriculum is designed in collaboration with industry stakeholders to meet labor market demands.
* Regular updates incorporate advancements in construction technology, sustainability, and digital tools.
* A mix of theoretical, practical, and research-based courses ensures comprehensive learning outcomes.

### ****Standard 4: Continuous Monitoring and Periodic Assessment****

* Performance indicators such as graduation rates, employment outcomes, and employer feedback are systematically monitored.
* Benchmarking against international programs ensures alignment with global best practices.
* Periodic reviews lead to curriculum improvements and enhanced student learning experiences.

### ****Standard 5: Student-Centered Learning and Assessment****

* The program promotes active learning through case studies, project-based assignments, and industry collaborations.
* A variety of assessment methods, including exams, presentations, and practical projects, measure student competency effectively.
* Continuous academic support and mentorship contribute to student success and retention.

### ****Standard 6: Student Support and Services****

* Well-structured support systems, including career counseling, academic advising, and internship placements, are available.
* Access to digital learning resources and state-of-the-art laboratories enhances practical knowledge.
* Scholarships and financial aid programs are offered to support students from diverse backgrounds.

### ****Standard 7: Faculty and Teaching Staff****

* A highly qualified faculty with a balance of academic and industry experience ensures high-quality education.
* Regular professional development programs keep faculty updated on teaching methodologies and industry trends.
* Faculty research engagement contributes to innovative learning and knowledge creation.

### ****Standard 8: Educational Resources and Student Support Systems****

* Modern infrastructure, including digital libraries, computer labs, and specialized construction laboratories, supports student learning.
* Access to licensed software, such as AutoCAD, Revit, and Lira SAPR, enhances technical skill development.
* Continuous investment in learning resources ensures alignment with technological advancements.

### ****Standard 9: Public Information and Transparency****

* Detailed program information, including admission criteria, curriculum details, and learning outcomes, is publicly available.
* Regular communication through university websites, newsletters, and social media ensures engagement with stakeholders.
* External audits and accreditation reports reinforce accountability and credibility.

## ****SWOT Analysis****

### ****Strengths:****

* Well-established academic framework supported by experienced faculty and industry professionals.
* Strong collaboration with construction companies and regulatory bodies, leading to improved employment opportunities for graduates.
* Advanced digital infrastructure supporting academic and administrative functions, including a well-integrated digital learning environment.
* Research and innovation initiatives are expanding, with increased participation in national and international research projects.

### ****Weaknesses:****

* Limited international mobility opportunities for students and faculty members due to funding constraints.
* Laboratory and research facilities require further modernization and expansion to support innovative practices.
* Insufficient integration of interdisciplinary and emerging fields such as smart construction and green building technologies.
* More efforts are needed to increase publication outputs in high-impact international journals.

### ****Opportunities:****

* Expansion of academic mobility programs through international partnerships and exchange agreements.
* Implementation of digital construction technologies, such as Building Information Modeling (BIM), in the curriculum.
* Strengthening research initiatives and securing additional grant funding for infrastructure improvements.
* Establishment of joint-degree programs with leading international universities in the field of civil engineering and construction management.
* Enhanced collaboration with employers to increase internship placements and real-world project involvement.

### ****Threats:****

* Rapid technological advancements requiring continuous curriculum updates and faculty training.
* Financial constraints affecting infrastructure development and faculty professional development.
* Global trends indicate a decreasing interest in engineering disciplines, potentially affecting student enrollment.
* Political and economic factors that may influence funding allocation and regulatory frameworks in higher education.

### ****Evaluation of the Program Based on Key Criteria****

|  |  |  |
| --- | --- | --- |
| **Criteria** | **Evaluation** | **Recommendations** |
| **Quality Assurance Policy** | Published policy available, reflecting the link between research, teaching, and learning. | Strengthen implementation monitoring and update based on stakeholder feedback. |
| **Internal Quality Assurance System** | Functional but requires further refinement. | Enhance systematic review mechanisms and internal auditing processes. |
| **Responsibility in Quality Management** | Clearly defined roles and responsibilities. | Ensure regular training for staff involved in quality assurance. |
| **Transparency of Educational Program Management** | Transparent mechanisms in place. | Improve risk assessment and resource allocation efficiency. |
| **Development Plan Review Mechanisms** | Established but needs periodic updates. | Increase involvement of external experts and industry representatives. |
| **Stakeholder Involvement in Planning** | Employers and students are partially involved. | Expand engagement through structured feedback sessions and advisory boards. |
| **Uniqueness and Alignment with National Priorities** | Aligned but requires more differentiation. | Develop competitive advantages and specialization areas. |
| **Quality Assurance in Partnerships and Outsourcing** | Quality maintained but monitoring needs improvement. | Implement stricter evaluation criteria for external partners. |
| **Innovation Management** | Active but lacks systematic approach. | Establish an innovation committee and promote new teaching methodologies. |
| **Leadership Competence in Quality Management** | Leadership demonstrates competence but requires continuous development. | Conduct management training in educational quality assurance. |
| **International Mobility and Collaboration** | Limited mobility opportunities. | Expand international partnerships and exchange programs. |
| **Infrastructure and Technological Resources** | Adequate but requires upgrades. | Invest in modern laboratory equipment and digital learning platforms. |
| **Student Support Services** | Well-developed but lacks international student support. | Enhance multilingual support and cultural adaptation programs. |
| **Faculty Development** | Strong faculty base but needs continuous training. | Introduce mandatory professional development courses. |
| **Graduate Employability** | Good employment rates, but industry relevance can improve. | Increase employer partnerships and job placement initiatives. |

## ****Conclusion and Recommendations****

The self-assessment confirms that the "Construction" Master's program at KSTU meets the core accreditation standards. However, continuous improvements are necessary to address weaknesses and leverage opportunities for growth. The following recommendations are proposed:

1. Strengthening academic mobility programs and increasing participation in international collaborations to enhance global exposure.
2. Upgrading laboratory facilities and research infrastructure to support advanced studies and innovative practices in construction engineering.
3. Enhancing interdisciplinary integration by incorporating courses on smart construction, digital twins, and sustainable building technologies.
4. Increasing engagement with industry stakeholders through regular consultations, joint research initiatives, and internship placements.
5. Expanding digitalization efforts in education, including the adoption of virtual learning environments and remote simulation technologies.
6. Encouraging faculty members to publish research in internationally recognized journals and participate in global academic networks.
7. Introducing competency-based education models to ensure students gain practical, industry-relevant skills before graduation.
8. Establishing an advisory board comprising industry professionals, academic experts, and alumni to provide guidance on curriculum development.

By implementing these measures, KSTU aims to further enhance the quality and competitiveness of its "Construction" Master's program, ensuring that graduates are well-prepared for the evolving demands of the construction industry. Continuous improvement and adherence to international best practices will solidify KSTU’s reputation as a leading institution for civil engineering education.

**Cluster Leader of the Educational Program in Construction:
Bolotbek, Temir**