ASIIN Accreditation Report

Bachelor's and Master's Degree Programmes
Architecture
Civil Engineering

offered by
East Kazakhstan State Technical University Ust Kamenogorsk

Version: 27.06.2014

Table of Content

A About the Accreditation Process

Title of the degree Programme	Labels applied for [1]	Previous accreditation	Involved Technical Committees (TC)[2]
Bachelor Architecture	ASIIN		TC 03
Master Architecture	ASIIN		TC 03
Bachelor Civil Engineering	ASIIN		TC 03
Master Civil Engineering	ASIIN		TC 03
Date of the contract: 24.04.2012 **Submission of the final version of the self-assessment report:** 24.12.2012 **Date of the onsite visit:** 25 until 26 January 2014 **at: Ust Kamenogorsk**			
Peer panel: Dr. Kristin Ammann-Dejozé (Owner of an Arcitecture Office) Prof. Dr. Joaquin Diaz (University of Applied Science Mittelhessen) Prof. Dr. Mike Gralle (Technical University Dortmund) Prof. Dr. Ralf Weber (Technical University Dresden)			
Representative of the ASIIN headquarter: Dr. Michael Meyer			
Responsible decision-making committee: Accreditation Commission for Degree Programmes			
Criteria used:			

[1] ASIIN Seal for degree programmes;

[2] TC: Technical Committee for the following subject areas: TC 01 – Mechanical Engineering/Process Engineering; TC 02 – Electrical Engineering/Information Technology); TC 03 – Civil Engineering, Surveying and Architecture; TC 04 – Informatics/Computer Science); TC 05 – Physical Technologies, Materials and Processes); TC 06 – Industrial Engineering; TC 07 – Business Informatics/Information Systems; TC 08 – Agronomy, Nutritional Sciences and Landscape Architecture; TC 09 – Chemistry; TC 10 – Life Sciences; TC 11 – Geosciences; TC 12 – Mathematics; TC 13 – Physics.

European Standards and Guidelines as of 10.05.2010

ASIIN General Criteria, as of 10.12.2010

Subject-Specific Criteria of Technical Committee 03 –Architecture, Civil Engineering and Geodesy as of 28.09.2012

In order to facilitate the legibility of this document, only masculine noun forms will be used hereinafter. Any gender-specific terms used in this document apply to both women and men.

B Characteristics of the Degree Programmes

a) Name & Final Degree	b) Areas of Specialization	c) Mode of Study	d) Duration & Credit Points	e) First time of offer & Intake rhythm	f) Number of students per intake	g) Fees
Ba Architec-tures		Full time	8 Semester 240 CP	September 1rst; Every winter semester	40 / year	2350 $ / year
Ma Architec-ture		Full time	4 Semester 120 CP	September 1rst; Every winter semester	5 / year	2860 $ / year
Bachelor Civil Engineering		Full time	8 Semester 240 CP	September 1rst; Every winter semester	40 / year	2520 $ / year
Master Civil Engineering		Full time	4 Semester 120 CP	September 1rst; Every winter semester	5 / year	2860 $ / year

Regarding the self report in general, students should obtain the following skills in the architectural programmes:

A. Design

- Ability to develop imagination, to think creatively, to propose innovation and provide the project guidance.
- Ability to collect information, foresee possible problems, analyse problems and offer critical opinion, and also work out and form a strategy of actions.
- Ability to think three-dimensionally during project development.
- Ability to harmonize conflicting factors, integrate knowledge and use skills for developing design.

B Knowledge

Culture and art

- Ability to use knowledge of historical and cultural precedents in local and world architecture.

- Ability to use knowledge of fine arts as a factor influencing the quality of architectural design.
- Understanding issues connected with population in architectural media.
- Realizing the links between architecture and other creative disciplines.

Social factors

- Ability to use knowledge of the society and work with clients and users.
- Ability to define design needs of the society, clients, and users; also to do the research and determine functional requirements for various types of architectural media depending upon context.
- Ability to understand social context of architectural projects; take into consideration ergonomic and special demands, as well as the issues of social equity and convenient access for all.
- Ability to act according to corresponding codes, regulating standards and norms in town planning, design, construction, health care, on-the-job safety and the rules of using architectural media.

Environment factors

- Ability to use knowledge of natural systems and types for architectural projects.
- Understand the issues of nature protection and waste utilization management.
- Knowledge about the life cycle of various materials, understand the issues of ecological stability and environmental effects, ability to develop energy saving systems, as well as knowledge of passive systems and their management.
- Knowledge about the history and practice of landscape architecture, town planning, and also the issues of territory and national planning and their links with local and global demography and resources.
- Ability to plan for the risk of natural disasters.

Engineering sciences

- Engineering knowledge in the area of structures, materials and methods of building.
- Knowledge about innovative technologies used in building technology and an understanding of their development.
- Understanding of engineering design and ability to join structures, building technologies and service systems in an effectively functioning system.
- Understanding of service systems and systems of transport, communications, maintenance and safety.

- Knowledge about the role of paperwork and specifications in project realization, understand the significance of planning processes and building cost control.

Design methodology

- Knowledge of theory and methods of design.
- Understand the procedures and processes of design.
- Knowledge of precedents in the area of design and architectural practice.

Professional knowledge

- Knowledge about professional, business, financial, and legal contexts.
- Ability to understand various ways of selling architectural services by a client.
- Acquaintance with the activity of building and processing industry, finance dynamics, with the rules of investing into real estate and structures management.
- Understand the potential role of architects in traditional and new types of activity including the international context.
- Understand the effects of market principles on the building environment, of project management and of the work of professional consulting companies.
- Knowledge of professional ethics and codes of behavior in architectural practice and an understanding of an architect's legal accountability in the issues of registration, practice and making contracts for building.

C. Skills

- Ability to translate ideas to a group by discussing written descriptions of projects, through the creation of drawings and models, quantitative analysis and cost evaluation.
- Ability to use manual, electronic, graphic and model making tools and methods in the process of studying, developing, and determining the final product.
- Understanding the methods of independent assessment that use manual or/and electronic devices to calculate characteristics of various types of architectural environment.

For the Bachelor's degree programme in architecture the self-assessment report states the following **intended learning outcomes**:

The goal of the bachelor's degree programme is to train students for an active, creative, cognitive and practical activity in the field of creating a material and a spiritual environment. Basis of the training of the bachelor's degree "Architecture" is a combined system of architectural-artistic, scientific-technical and liberal education with an emphasis upon artistic individuality, ability and talent.

The students should have the ability to make architectural designs merge with aesthetic and technical requirements. They should have adequate knowledge of the history and theory of architecture and related arts, and also technical and human sciences as well as knowledge of fine arts as a factor effecting the quality of architectural design. They should aquire adequate knowledge of city design, town planning and master the skills necessary for territory planning. They should be able to understand the relations between people and structures, between structures and environment and between structures and space while considering human requirements, social factors, scale, and an understanding of the significance of the architectural profession in society.

The following **curriculum** is presented:

Table 13 – Curriculum for Bachelor's Degree of the speciality 5B042000 „Architecture"

1 semester	2 semester	3 semester	4 semester	5 semester	6 semester	7 semester
Engineering graphics -1 3 ECTS	Engineering graphics -II 3 ECTS	Engineering graphics -III 3 ECTS	Ecology and stable development 3 ECTS	Fundamentals of personal and social safety 1.5 ECTS	History of architecture of Kazakhstan 1,5 ECTS	Fundamentals of town planning 1.5 ECTS
Architectural graphics and protopyping 4.5 ECTS	Computer science 4.5 ECTS	Engineering mechanics I 4.5 ECTS	Architecture I 3 ECTS	Architecture I 3 ECTS	Architectural structures I 3 ECTS	Engineering improvement and transport 1.5 ECTS
Drawing 1 4.5 ECTS	Geodesy 1.5 ECTS	Architectural design I 3 ECTS	Architectural designing I I 3 ECTS	Engineering systems I 4.5 ECTS	Architectural strutures II 3 ECTS	Building structures I 3 ECTS
Fundamentals of architectural designing I,II 4.5 ECTS	Architectural composition 3 ECTS	Architectural designing I- I 3 ECTS	Drawing IV 1 ECTS	Architectural physics I 1.5 ECTS	Architectural physics II 3 ECTS	Modern architecture 1.5 ECTS
History of Kazakhstan 4.5 ECTS	History of arts 3 ECTS	Philosophy 4.5 ECTS	Construction materials I	Painting I 3 ECTS	Painting 2 1.5 ECTS	Fundamentals of innovative activity and

			3 ECTS			patent branch 3 ECTS
Kazakh (Russian) language 3 ECTS	Kazakh (Russian) language 3 ECTS	Kazakh (Russian) language 3 ECTS	World history of architecture I 3 ECTS	World history of architecture II 3 ECTS	Architectural designing V 4.5 ECTS	Sculpture 3 ECTS
A foreign language 3 ECTS	A foreign language 3 ECTS	A foreign language 3 ECTS	Fundamentals of economic theories 3 ECTS	Architectural designing III 4.5 ECTS	Architectural designing VI 3 ECTS	Architectural designing VII 4.5 ECTS
	Drawing II 1 ECTS	Politology 3 ECTS	Sociology 3 ECTS	Architectural designing IV 3 ECTS	Professional software 4 3 ECTS	Architectural designing VIII 4.5 ECTS
		Professional software I 3 ECTS	Professional software 2 2 ECTS	Professional software 3 1 ECTS	Technology of building technology 3 ECTS	Composition of town-planning objects 1.5 ECTS
		Drawing III 1 ECTS		Architectural typology of buildings and structures 3 ECTS	History of town planning	
					Institute 3 ECTS	
27 ECT	22 ECTS	31 ECTS	24 ECTS	28 ECTS	31,5 ECTS	24 ECTS
7 exam.	8 exam	9 exam	9 exam	9 exam	10 exam	8 exam

For the Master's degree programme in architecture the self-assessment report states the following **intended learning outcomes**:

The goal of the master's degree "Architecture" is the ability for scientific- research and pedagogical work. The students should have an idea about methodological problems of science and scientific work.

The graduates should understand the methods for building design. They should be able to use methodology of scientific research and should have an advanced understanding of designing building structures as well as building and engineering problems connected with buildings design. They should have adequate knowledge of physical and technologi-

cal problems and building functions with the goal to provide comfortable interior conditions in regard to climatic effects. They should be able to use theoretical and methodological basics to build stable architecture and to master design skills necessary for the clients' requirements in regard to economic factors and buildings standards. They should have knowledge of industrial branches, organizations, norms and procedures necessary for realization of design concepts into actual structures and the ability to integrate their ideas into plans. The programme should train students to learn independently, to master new professional knowledge and skills, and pursue ongoing professional development,

The following **curriculum** is presented:

Table 15 – Curriculum for Master''s Degree of the speciality 6M042000 – Architecture

1 semester	2 semester	3 semester	4 semester
Science history and philosophy 6 ECTS	Psychology 6 ECTS	Pedagogy 6 ECTS	Area of research 6 ECTS
A foreign language (professional) 6 ECTS	Architectural structures 6 ECTS	Architectural semiotics 6 ECTS	
Problems and tendencies in architecture today 6 ECTS	Architectural-town-planning concepts 6 ECTS	Theory of architecture 3 ECTS	
Modeling of systems and structures 6 ECTS	Architecture of buildings and structures 6 ECTS	Ecological problems of architecture and town planning 3 ECTS	
Organization of research 3 ECTS	Environment ergonomics 6 ECTS	Style forming and composition in architecture 6 ECTS	
Designing activity 3 ECTS	Designing activity 3 ECTS	Architectural pedagogics and psychology 3 ECTS	
	Coloristics and material science 6 ECTS		
30 ECTS	39 ECTS	27 ECTS	6 ECTS

For the Bachelor's and Master's degree programme in civil engineering the self-assessment report states the following **intended learning outcomes**:

Training a graduate for industrial-management activity in the field of construction and mounting production on the basis of resource-effective technologies

Training a graduate for designing activity using the means of computer-aided design of construction elements and structures, technological processes of their production and means of the processes techniques

Mastering the skills of design necessary for the client requirements within the network of limitations associated with cost factors and buildings standards. Accounting for the results of the architectural-research activity.

Training a graduate for organizational-engineering activity to support effective functioning of buildings, municipal organizations and enterprises

Knowledge of industrial branches, organizations, norms, and procedures necessary for the realization of design concepts into actual structures and integrating their plans in general planning, without sacrificing present scientific experimentation.

Training a graduate for scientific-pedagogical activity in the field of creating innovative technologies for making construction units and structures and construction and mounting objects, means of their technique.

Training a graduate to learn independently, to master new professional knowledge and skills, and pursue ongoing professional development.

The following **curriculum** is presented in the bachelor's degree programme:

1 semester	2 semester	3 semester	4 semester	5 semester	6 semester	7 semester	8 semester
History of Kazakhstan 1 lec. 2 pr. ECTS 4.5	Philosophy 11 lec. 1 lec. 2 pr. ECTS 4.5	Principles of economic theories 1 lec. 1 pr. ECTS 3	Sociology 1 lec. 1 pr. ECTS 3	Political science 1 lec. 1 pr. ECTS 3	Law fundamentals 1 lec. 1 pr. ECTS 3	Buildings structures 3 2 lec. 1 pr. 1 lab. ECTS 6	Prediploma practice ECTS 5
Kazakh (Russian) 3 pr. ECTS 4.5	Kazakh (Russian) 3 pr. ECTS 4.5	Physics 2 lec. 1 pr. 1 lab. ECTS 6	Fundamentals of personal and social safety 1 lec. 1 lab. ECTS 3	Engineering systems 1 1 lec. 1 pr. 1 lab. ECTS 4.5	Building production technology 1 2 lec. 1 pr. ECTS 4.5	Special course 1 2 lec. 1 lab. ECTS 4.5	Final state attestation ECTS 12
A foreign language 3 pr. ECTS 4.5	A foreign language 3 pr. ECTS 4.5	Engineering mechanics 1 2 lec. 1 pr. ECTS 4.5	Architecture of CEB 2 lec. 1 pr. ECTS 4.5	Construction machinery and equip- equip-	Geotechnics 2 2 lec. 1 pr. ECTS 4.5	Structures from wood and platics 2 lec. 1 lab. ECTS 4.5	

				ment 1 lec. 1 lab. ECTS 3			
Mathematics 1 1 lec. 2 prak. ECTS 4.5	Mathematics 2 1 lec. 2 prak. ECTS 4.5	Ecology and stable development 1 lec. ECTS 1,5	Protection of building structures from corrosion 2 lec. 1 pr. ECTS 4.5	Building structures 1 1 lec. 1 pr. ECTS 3	Labour protection 2 lec. 1 pr. ECTS 4.5	Seismic resistance of buldings and structures 2 lec. 1 lab. ECTS 4.5	
Computer science 1 lec. 2 lab. ECTS 4.5	Engineering graphics 2 1 lec. 1 lab. ECTS 3	Construction materials 1 1 lec. 1 lab. ECTS 3	Design 1 lec. 2 pr. ECTS 4.5	Geotechnics 1 1 lec. 1 pr. ECTS 3	Building structures 2 2 lec. 1 pr. 1 lab. ECTS 6	Buildings technical operation 2 lec. 1 lab. ECTS 4.5	
Engineering graphics 1 1 lec. 1 lab. ECTS 3	Chemistry 1 lec. 1 lab. ECTS 3	Architecture 1 1 lec. 1 lab. ECTS 3	System of computer aided design 1 lec. 2 lab. ECTS 4.5	Technology of repair construction work 2 lec. 1 pr. ECTS 4.5		Economy in civil engineering management 2 lec. 1 pr. ECTS 4.5	
Geodesy 1 lec. 2 lab. ECTS 4.5		Strength of materials and structural mechanics 2 lec. 1 pr. ECTS 4.5	Engineering mechanics 2 2 lec. 1 pr. ECTS 4.5	Engineering mechanics 3 2 lec. 1 pr. ECTS 4.5			
		Fundamentals of innovative activity in patent study 1 lec. 1 pr. ECTS 3		Building production technology 2 2 lec. 1 pr. ECTS 4.5			
	Practical training ECTS 4.5		Production practice ECTS 4.5		Technological practice ECTS 5		
30 ECTS	28.5 ECTS	28.5 ECTS	33 ECTS	25.5 ECTS	27.5 ECTS	33 ECTS	17 ECTS
7 exam	6 exam	8 exam + 1 CW	7 exam + 1CP	7 exam + 1CW	5 exam + 1CW + 2CP	7 exam + 1CW + 2CP	

The following **curriculum** is presented in the master's degree programme:

1 semester	2 semester	3 semester	4 semester
Science history and philosophy 1 lec. 1 pr. ECTS 6	Psychology 1 lec. 1 pr. ECTS 6	Fundamentals of scientific and methodology of experimental research 1 lec. ECTS 3	Master's research including completing Master's Dissertation ECTS 6
A foreign language 2 pr. ECTS 6	Buildings and structures seismic resistance and monitoring of contaminating substances discharge into basins 1 lec. 1 pr. ECTS 6	The theory of designing civil engineering objects. Economical aspects of nature protection measures 1 lec. 1 pr. ECTS 6	Complex examination, completing and defense of Master's Dissertation ECTS 12
Pedagogy 1 lec. 1 pr. ECTS 6	Architectural engineering calculation using software. Up-to-date computer-aided calculations in civil engineering 1 lec. 2 lab. ECTS 9	Probabilistic methods of calculating building structures. Organization of specific structures assembly 2 lec. 1 pr. ECTS 9	
Innovative problems of designing building structures. High buildings assembly 2 lec. 1 pr. ECTS 9	Earthquake engineering. Computing ferroconcrete buildings. Contsruction work quality control. 2 lec. 1 pr. ECTS 9	Up-to-date systems of life support of civil engineering objects and populated areas. Conditioning, and disinfection of surface and underground waters 1 lec. ECTS 3	
Modern reinforced concrete structures. The assembly of industrial buildings and structures	Up-to-date technologies of construction materials and material study 1 lec. ECTS 3	Engineering and ecological safety of building systems. Industrial surface waste water affect on the environment 1 lec. ECTS 3	

2 lec. 1 pr. ECTS 9			
	Building structures strengthening. Up-to-date methods of management on civil engineering 2 lec. 1 pr. ECTS 9		
Master's research including completing Master's dissertation ECTS 3	Master's research including completing Master's dissertation ECTS 6	Master's research including completing Master's dissertation ECTS 6	
39 ECTS	57 ECTS	39 ECTS	18 ECTS
5 exams	6 exams	5 exams	

C Peer Report for the ASIIN Seal

1. Formal Specifications

Criterion 1 Formal Specifications

Evidence:

- Self-assessment report
- Discussions with representatives of the university

Preliminary assessment and analysis of the peers:
The peers noted that according to Kazakh legislations, scholarships are offered to those students applying with the highest grades after completion of high school. The peers found all formal information to be appropriate.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 1:

The comment of the university provides no new information and the peers confirm their previous assessment.

2. Degree programme: Concept & Implementation

Criterion 2.1 Objectives of the degree programme 2.2 Learning Outcomes of the Programme

Evidence:

- Self-assessment report (see chapter A)
- Discussions with representatives of the university [objectives, classification]

Preliminary assessment and analysis of the peers:
The programmes under review provide an education in Architecture and Civil Engineering. The self-assessment report presented a lengthy list of objectives and intended learning outcomes for the Bachelor's and the Master's programmes which the peers found reasonable and useful goals applicable to the demands of the labour market.

The aims for the architectural programmes correspond with the general European requirements for the appreciation of architects. In detail the aims met the requirements of the subject specific criteria of the Technical Committee for architecture and civil engineering regarding design expertise, knowledge of cultural and arts sciences, of social and human sciences and of environmental sciences. The students should earn a basic understanding of the integration of bearing structure and of civil engineering. They should be able to apply design methods and learn economic knowledge and management skills. The peers also followed the separation of the general aims to the Bachelor's and Master's degree programme. The only exception is a certain lack regarding knowledge of urban design aspects. Here the peers recommended integrating those aspects into the bachelor programme of architecture.

The aims of the civil engineering programmes content well-founded knowledge in the fields of mathematics and natural science, well-founded knowledge of subject-specific fundamentals in civil engineering and deepened and expanded subject-specific skills of the graduates as well as advanced subject-specific consolidation in selected engineering subjects together with the imparting of special methodical knowledge. Furthermore, graduates should aquire the ability to apply their knowledge into the different fields of civil engineering.

In this content the peers learn that in Kazakh and at the EKSTU civil engineering is concentrated on structural engineering while the fields of traffic and transport or water systems, hydraulic engineering and sanitary and environmental engineering are offered in special programmes of other sub-departments at the university. The peers could follow this segmentation in general, but from their point of view civil engineers should get a more broad education and therefore should have at least basic knowledge of the mentioned specific fields. Otherwise in the understanding of the peers graduates would be structural engineers but not real civil engineers with a view to interdisciplinary and interconnected applications.

Because the aims and learning outcomes of the programmes in civil engineering were not differentiated between the qualification levels (bachelor/master) it is questioned whether all these statements were suitable on both level of the Bachelor's and the Master's degree programme as a whole. The peers saw the necessity to describe the aims and learning outcomes clearly separated for both these programmes.

They also took note that the intended aims and learning outcomes as they were written in the self-assessment report for all programmes were not accessible in the same manner in any formal documents, on the website or the draft diploma supplement. The intended learning outcomes should be publicly available in a clear and concise manner so that all

stakeholders can refer to them and all quality assurance measures can be tailored towards verifying their actual achievement.

The goals of the academic program have been stated taking into consideration the demands and requests of potential students? **Is this what you mean or do you mean users? That would be more appropriate than consumers**. The programme goals have been stated coming out of the assessment of the educational program which is determined by the interests of potential employers, applicants, the universities' potentials, and demands of the state and society in common.

Criterion 2.3 Learning outcomes of the modules/module objectives

Evidence:

- module description

Preliminary assessment and analysis of the peers:

The peers judged the module descriptions in general as an appropriate information base for the students but their comparability were hindered by the unequal elaboration. In some cases the intended learning outcomes of the single modules are described only generally while in other cases they were formulated with great detail. So, from the point of view of the peers, the module descriptions have to be revised and must contain subject specific information of the goals and content. Furthermore, the peers asserted that not all module titles given in the module descriptions are consistent with the titles in the curricula templates in the programmes regulations.???

The module descriptions are available to the students and other interested persons digitally on the internet and in printed form.

Criterion 2.4 Job market perspectives and practical relevance

Evidence:

- Statistics on graduates employment in terms of market sector
- Overview of jobs and companies of graduate employment
- Overview of companies for practical training
- Description of expected learning outcomes

Preliminary assessment and analysis of the peers:

For the peers the intended positions on the labor market for graduates seemed to be reasonable. The self study report documents very good chances in the labor market for the graduates. Nearly all of them find jobs directly after the final exams due to a lack of edu-

cated experts in East Kazakh because in the 1990er many graduates left the region to build up their own companies in other parts of Kazakh. Thus, the peers saw a demand in the labour market for graduates who possess the intended learning outcomes and the competences as presented thus allow graduates to work in a sphere appropriate to the qualification.

The students are integrated in research projects conducted by teaching staff and work in engineering and architectural firms which are cooperating with the university in research. In all programmes there are integrated laboratory practice as well as project work to train students regarding practical experiences. Overall, the training offered is appropriately linked to professional practice.

Criterion 2.5 Admissions and entry requirements

Evidence:

- Rules of admission to the organization of education, implementing professional training programs in higher education, approved by the Government Resolution, January 19, 2012 No 111 (with amendments of April 19, 2012 No 487)

Preliminary assessment and analysis of the peers:

Admission procedures to the programme are governed by strictly applied and transparent procedures and quality criteria.

The rules for admission to the Bachelor's and to the Master's degree programmes respectively were considered to be overall adequate by the peer group. While access to the Bachelor's level requires the completion of secondary education as well as passing a nation-wide general tests, for the Master's level the completion of a first cycle programme as well as an English language and a subject-related exam have to be passed. The main aim of this additional exam is to test the qualifications gained through the previous Bachelor's degree. For both programmes there are no practical experiences required. So, the admission and entry requirements are designed to facilitate the achievement of the learning outcomes. They therefore ensure that those students admitted possess the required competences and formal training. The admissions and entry requirements ensure that all applicants are treated equally.

Regulations are in place covering the recognition of activities completed externally. They ensure that the learning outcomes are achieved at the intended level. The peers learned that transfer from or to other higher education institutions nationally or internationally currently is rather rare. Student exchanges are organized, with very few exceptions, with other Russian-speaking countries. Rules for the recognition of external study attainments/achievements are stipulated in the EKSTU document "Transfer and Restitution of

D. Serikbaev EKSTU Students" and guarantee that transfers from other Kazakh or foreign institution can be made when no more than five core disciplines differ.

From the view of the peers rules for the recognition of activities completed at other national and international higher education institutions are needed to increase the mobility of the students. They recommended establishing such regulations.

Criterion 2.6 Curriculum/Content

Evidence:

- Curricular structures
- Discussions with students and teaching staff

Preliminary assessment and analysis of the peers:
The objectives and content of the individual modules of all programmes are coordinated in order to avoid any unintended overlaps.

In general, the curricula of the architectural programmes make it possible to achieve the intended learning outcomes by the time the degree is completed. As the peers mentioned regarding the aims of the programmes they recommend to strengthen the abilities of the students to consider aspects of urban planning. By reviewing the final thesises and plans the peers get the impression that students possesses those skills and knowledge intended with the study aims.

For the Bachelor's degree programmes of civil engineering the peers saw adequate contents in the compulsory part of the curriculum to reach well-founded knowledge in the fields of mathematics and natural science as well as knowledge of subject-specific fundamentals in structural engineering. The ability to develop concepts and plans or methods for proof and forecast and to identify and formulate typical tasks by themselves or to assess projects are trained in several elective courses. On the other hand the peers saw that the content of many elective courses offer also a lot of field specific basics as e. g. building physics regarding fire protection, acoustic, ventilation or heating. Furthermore even with consideration to the intended focus on structural engineering the peers saw the necessity that all students build skills in construction management (e.g. calculation, project management, time schedule, site management).

For the Master's degree programme in civil engineering the peers realize that graduates get the ability to identify particular aspects of current problems, to solve them within a scientific frame and to find solutions to problems that are less common in practice, but require a technically well based handling. Graduates deepen their knowledge in a way that they can consider topics in a new way by applying means of more sophisticated sci-

entific techniques to provide novel and complex designs, constructions and developments.

In general, the peers find very traditional contents in the curricula of both programmes in civil engineering almost without aspects of sustainability of buildings or construction and renewable energy or life cycle assessment. They recommend to integrate these contemporary aspects more intensively into the curriculum.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 2:

With their comment to the peers' report the university additionally presents revised aims for civil engineering programmes separated by Bachelor's and Master's degrees. These aims are published in Russian and Kazakh on the webpage of the university.

They appreciate the announcement of the university to revise the module descriptions and the peers confirm that the example sent by the university would be a good information base for the students. But they see it to be necessary that all descriptions must be revised and comply with the former requirement.

The peers see adequate formulated aims which differ for the two qualification levels of the civil engineering programmes. But from their point of view there are still no interdisciplinary and interconnected applications intended for the bachelor graduates. Therefore they still see the necessity that all students acquire skills in construction management (e.g. calculation, project management, time schedule, site management), building physics (e.g. fire protection, acoustic, ventilation, heating) and attain at least basic knowledge regarding traffic and transport, water systems as well as sanitary and environmental engineering.

Regarding the other remarks the peers confirm their former assessment.

3. Degree Programme: Structures, Methods & Implementation

Criterion 3.1 Structure and modularity

Evidence:

- The curricular structures define the structure and modularity of the programmes.

Preliminary assessment and analysis of the peers:
The programmes are modular. Each module is a coherent and consistent package of teaching and learning in itself. The sequence of modules ensures that it is possible to commence the programmes in every semester when admissions take place.

The size and duration of the modules allow students to combine them flexibly. The peers learned that the high ratio of elective courses - approximately 40% of the curriculum -- is based on governmental regulations. On the one side they appreciate the flexibility for the students on the other side the elective courses cover basic disciplines which should be part of the core curriculum (compare chapter 2.6, above). In general they would prefer a different arrangement of compulsory and elective courses regarding volume and contents. But they understood that the so called extra subject modules must be compulsory with respect to governmental regulations.

Regarding the flexibility the concept of all programmes offers time to spend a semester at another higher education institution or on a practical placement abroad. But it would be helpful for the students to get more support by the university to organize studies abroad.

The Master's degree programmes does not incorporate any modules at undergraduate level.

Criterion 3.2 Workload and credit points

Evidence:

- The curricular structures define the workload of the single modules.
- The students report about their experiences regarding the workload.

Preliminary assessment and analysis of the peers:
A credit point system is in place which considers all the work done by students. All credit points are designated as ECTS Points. But the peers found several deviations for the ECTS Standard. Per semester the allocation of the credit points is very unequal and the workload of the students seems to be much higher than 25-30 hours per credit point. In total more than 30 Credit points per semester are foreseen. The peers learned that some voluntary workload also is included into the credit point system. Although the peers got the impression out of the discussion with the students that the workload is set at a level that avoids pressure on training quality and requirements for the level of study the peers sow the necessity that the calculation from Kazakh credit points into ECTS Points must be transparent and realistic.

Criterion 3.3 Educational methods

Evidence:

- module descriptions
- self report

Preliminary assessment and analysis of the peers:
As educational methods the peers found lectures, lab classes, practical classes, independent student work with a teacher, independent student work, course projects and practical training. The Peers appreciated the small study groups during laboratorial work and lectures.

The single lessons are hold in Russian, Kazakh or in some cases, English. From the view of the peers the teaching methods and tools support the achievement of the learning outcomes at the intended level. The ratio of contact classes and independent working hours for undergraduates is 1:2, for graduates this ratio is 1:4. This ratio ensures the achievement of the defined goals. In this content the peers saw that the independent work with a teacher is a kind of tutorial work which is voluntarily for the students.

The peers wonder about the slightly old literature given in the module descriptions and its limitation to Russian language. They recommended to amend the bibliographies in all module descriptions in order to make it more usable for students and to include English language literature.

Criterion 3.4 Support and advice

Evidence:

- self report
- During the visit the students reported about their experiences with the support and advice of the teaching and administrative staff.

Preliminary assessment and analysis of the peers:
The peers saw sufficient resources available for offering individual support, supervision and advice to students. The advisory methods envisaged (subject-specific and general) are suitable for supporting students to achieve the learning outcomes and complete their degree within the normal period of study.

During the discussions with teaching staff and with students, the peer group met with a high degree of commitment. They learned that the teachers actively support students individually. Also, there are regular round tables for the discussion of papers and thesis.

The peers got the impression of very highly motivated teaching staff and therefore they met very highly motivated students.

In the discussion with the students, the only area for improvement mentioned is more information on possibilities to spend a semester or internship abroad. In the discussion with the programme coordinators, the peers note that the university fosters academic mobility and that the Department for International Cooperation counsels students about the available programmes. Nevertheless, the peers recommended to intensive the support of students to find possibilities for a semester at a university abroad.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 3:

Regarding the remarks of the university, the peers clarify that they would prefer a decrease of elective courses in the bachelor's degree programme of civil engineering to ensure that all students acquire knowledge of basic field specific aspects. Therefore, from their point of view, increasing the elective courses as the university wrote in their comment will provide no improvement.

The peers notice that the ECTS points in the new programmes' tables are distributed to the single modules in a comprehensible way. 30 ECTS points are now equally distributed in all semesters. They thank the university for the descriptions of the coefficients to transfer Kazakh credit points into ECTS points. This change not only makes it more transparent but also fulfils the formal criteria for the credit point system. A correspondent requirement is no longer necessary.

The peers appreciate the intention of the university to strengthen the support for the students regarding international studies abroad. In order to implement these arrangements the corresponding requirements must first be met, this process is still ongoing.

4. Examination: System, Concept & Implementation

Criterion 4 Exams: System, concept & implementation

Evidence:

- EKSTU DP 808 Final Control and Students' Knowledge Assessment
- During the visit the students reported about their experiences with the examination system

Preliminary assessment and analysis of the peers:
Student testing is carried out with the help of current, intermediate and final control. The current tests takes place for example as individual homework, intermediate tests are usually written exams but also oral presentations and the final exams are mainly computer testing and written examination. In addition, students have to present their results during projects or laboratory work. Practical skills and the understanding of field specific context are tested every two weeks in part by examinations about knowledge and understanding of cross sections.

When the examination session is over, the University organises an additional period (usually ten days) for students who were unable to to take the examinations.

The peers generally considered that all aspects regarding the type, organisation, distribution, and grading of examinations were regulated in a satisfactory manner. The type, organization and distribution of examinations are designed to support the attainment of the intended learning outcomes by the time the degree is completed. Examinations are coordinated so that students have sufficient time to prepare for them. The form of examination is laid down in the module description for each module. It is ensured that at the commencement of the teaching term, students are informed as to examination and pre-examination requirements, which must be in line with the module objectives. The examination organization guarantees examinations that accompany study and does not cause extensions to the period of study. The evaluation criteria are transparent for lecturers and students and focus on achieving the learning outcomes. During the presentations a student‘s ability to discuss a problem from their specialist area and how it might be solved, in the context of the subject is assessed

Regarding the final thesis, the peers got the impression that students can carry out an assigned task independently at the level of the qualification. To support the international mobility of students and graduates it is recommended to add an English abstract to the thesis in all programmes.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 4:

The peers appreciate that the university has announced that it plans to follow their recommendations. But from the universities comments on the peers report there are no new facts. Therefore, the peers uphold their initial assessment.

5. Resources

Criterion 5.1 Staff involved

Evidence:

- cf. staff handbook
- list of and information about research projects in the self-assessment report
- self report

Preliminary assessment and analysis of the peers:
In total the teaching staff contains 93 persons for all programmes. 6 Persons have a status equivalent to full professors, 33 to associate professors and 31to assistant professors. The rest of the staff is equivalent to research fellows. Professors have to teach 12-15 hours a week and research fellows up to 20 hours a week.

From the view of the peers the composition and (specialist) training of the teaching body ensure that the intended learning outcomes are achieved by the time the degree is completed. The available contact hours (overall and for individual lectures) are sufficient for teaching and student supervision.

In architecture the academic program uniqueness is connected with the opportunity for the students to take part in architectural-art, design and research while they work with competitive and real projects of the teaching staff.

In civil engineering, research work has innovative orientation and is devoted to the development of new construction materials from the wastes of heat power engineering and non-ferrous metallurgy, developing the technology of fixing construction structures with rider bracings, developing new effective constructive decisions of designed and used constructions of buildings and structures.

The students take an active part in the research. More than 200 people of the areas „Civil Engineering“ and „Architecture“ participate in different students research work including contractual research where 30% of the students participate.The active cooperation of the sub-department with the industry allows for the use of resarch results in the training process and to introduce the research results into the production process.

Criterion 5.2 Staff development

Evidence:

- Self report
- Discussion with the teaching staff

Preliminary assessment and analysis of the peers:
Regarding didactical skills, almost all members of the teaching staff visits courses offered by the didactical teaching center of the EKSTU. Additionally the EKSTU arranges a competition for the teacher of the year.

Sabbatical semesters were conducted regularly by the professors.

Criterion 5.3 Institutional environment, financial and physical resources

Evidence:

- The self report describes the institutional environment as well as the financial and physical resources.
- During the audit the peers visit the laboratories, library and lecture rooms

Preliminary assessment and analysis of the peers:
The resources employed form a sustainable basis to achieve the intended learning outcomes. The peers found well equipped laboratories in architecture. Only the workshop seemed to have limited possibilities for the students to build their models. In civil engineering the laboratories are adequately equipped for traditional teaching methods. However, to incorporate new innovative aspects or research activities, the civil engineering laboratories should be modernized.

The financing of the programmes is assured by governmental funds, student fees and and special grants or stipends for students. PhD students are completely financed by the government.

The infrastructure (e.g. laboratories, library, and IT provision) meets the qualitative and quantitative requirements of the degree programme.

There is no defined cooperation for teaching imports with other universities in all programmes. Regarding research activities there are different defined contacts with international universities. Due to the language skills of the research staff most of these cooperation contracts were concluded with institutions in Russian speaking countries. From the view of the peers a further international orientation of the sub department would help the students to get experiences abroad.

The organisation and decision-making structures are suited to delivering the training measures. The organisation is able to react to problems, solve them and make up for shortfalls (e.g. staffing, financing, numbers of incoming students) without compromising students' opportunity to complete the degree in the normal time period.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 5:

The peers confirm their initial assessment because the universities' comment and the additional documents shows no new aspects reading this criterion.

6. Quality Management: Further Development of Degree Programmes

Criterion 6.1 Quality assurance & further development

Evidence:

- Self report
- EKSTU Quality Manual
- EKSTU internal code of conduct

Preliminary assessment and analysis of the peers:

The peers found a quality assurance system which includes several arrangements on the different administrative levels. Analysis and evaluation of the effectiveness of the management of the university and its departments are carried out periodically. Assessment is divided into external and internal evaluations. External evaluation is based on the ranking of higher educational institutions at regional and international levels, the rating of educational programs, procedures of certification and accreditation of the university, and quality management systems certification. Internal evaluation is carried out by a public hearing of reports of department heads at meetings of collegial management bodies (Academic Council, the Coordinating Council for the QMS, university administration, faculty councils, training and coordinating councils, etc.), internal audits, staff rating, administration and management personnel, subdivisions, departments and faculties, as well as through various surveys of customer satisfaction.

From the view of the peers a good working quality assurance system is in place. It is regularly updated, and is designed to ensure the continual improvement of the degree programme. This quality assurance system enables the university to ascertain any failure to achieve goals, to check on the extent to which the set goals are achievable and reasonable and to draft suitable measures. Students and other stakeholders participate in quality assurance activities. Mechanisms and scopes of responsibility have been determined to ensure the regular further development of degree programmes.

Criterion 6.2 Instruments, methods and data

Evidence:

- Self report
- EKSTU Quality Manual
- EKSTU internal code of conduct
- Self report

Preliminary assessment and analysis of the peers:
The results of the survey "Teacher - through the eyes of students," suggests that EKSTU faculties are objective in assessing the academic achievement of students, respect them, are tactful, and comply with standards of teaching ethics. No negative trends have been identified. The introduction of new educational technology does not cause negative reactions among students.

Every year during the “Graduate Fair” employers are interviewed. In 2011, 50 representatives of enterprises and organizations took part in the survey. The analysis of the information revealed that, in the opinion of employers, EKSTU graduates have considerable knowledge and skills to autonomously deal with professional challenges without a long adaptation period (36.6%).

The peers find that the data collection methods are suitable for the aims of the university with regard to the degree programmes, in particular the monitoring of student numbers and progress as well as the achievement of the intended programme objectives.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 6:

The peers confirm their initial assessment because the universities’ comment and the additional documents shows no new aspects reading this criterion.

7. Documentation & Transparency

Criterion 7.1 Relevant Regulations

Evidence:

- EKSTU DP 807-II-2012 “Students’ Progress Midterm Control”
- EKSTU DP 808-II-2012 “Final Control and Students’ Progress Assessment”
- EKSTU DP 704-I-2011 “Research and Scientific Production Activity”

- EKSTU DP 705-I-2012 “Forming of the Contingent for Master’s and Doctor PhD Courses”
- EKSTU DP 706-II -2012 “Transfer and Restitution of D. Serikbaev EKSTU Students”
- EKSTU P 702.02-I-2011 “Regulations about Practical Training”
- EKSTU P 702.03-I-2012 “Regulations about School Laboratory” (appendix K)
- EKSTU R 708.01-I-2012 “Regulations about Organization of Masters’ Scientific In-Depth Training”.

Preliminary assessment and analysis of the peers:
The regulations for the programme encompass all key stipulations for admissions, the operation of the programme and graduation. The relevant regulations have been subject to a legal check and are in force. The regulations are accessible for consultation.

Criterion 7.2 Diploma Supplement and Certificate

Evidence:

- Diploma Supplement

Preliminary assessment and analysis of the peers:
Samples of the Diploma Supplements are provided to the peers as additional information to the self-assessment report during the on-site visit. They provide information about the study aims and learning objectives, nature, level, context, content and status of the studies, the success of the graduates as well as the composition of the final grade.

Final assessment of the peers after the comment of the Higher Education Institution regarding criterion 7:

The peers confirm their initial assessment because the universities’ comment and the additional documents shows no new aspects reading this criterion.

D Additional Documents

Before preparing their final assessment, the panel ask that the following missing or unclear information be provided together with the comment of the Higher Education Institution on the previous chapters of this report:

1. Complete documentation of all module description and curricula templates on a current state

2. Data of student statistics regarding the last five years
3. Data of the financial budget of the sub department

E Comment of the Higher Education Institution

The university gives a detailed comment and adds the following documents:

- New curricula templates of all prgrammes
- A new template of module descriptions
- Statistical data about study behavior of the students

F Summary: Peer recommendations

The peers recommend the award of the seals as follows:

Degree Programme	**ASIIN-seal**	**Maximum duration of accreditation**
Ba Architecture	With requirements for one year	30.09.2019
Ma Architecture	With requirements for one year	30.09.2019
Ba Civil Engineering	With requirements for one year	30.09.2019
Ma Civil Engineering	With requirements for one year	30.09.2019

Requirements

For all degree programmes

A 1. (ASIIN 2.3) The module descriptions must give subject specific information of the goals and content and all module titles has to be consistent in the module descriptions and the curricula templates.

For the Bachelor's degree programme in civil engineering

A 2. (ASIIN 2.1, 2.2, 2.6) It must be ensured that all students get abilities in construction management (e.g. calculation, project management, time schedule, site management), building physics (e.g. fire protection, acoustic, ventilation, heating) and get at least basic knowledge regarding traffic and transport, water systems and sanitary and environmental engineering.

Recommendations

For all degree programmes

E 1. (ASIIN 3.3) It is recommended to amend the list of literature in all module descriptions in order to make it more usable for students and to include English language literature.

E 2. (ASIIN 3.4) It is recommended to support students by further internationalization to find a possibility to spend a semester at a university abroad. It is recommended to intensive the internationalization and to support students more intensive spending time at a university abroad.

E 3. (ASIIN 2.5) It is recommended to define rules for the recognition of activities completed at other national and international higher education institutions to increase the mobility of the students.

E 4. (ASIIN 5.3) It is recommended to modernize the equipment of laboratories and of the workshop

E 5. (ASIIN 4) It is recommended to add an English abstract to the final thesis.

For the Bachelor's degree programme Architecture

E 6. (ASIIN 2.1, 2.2, 2.6) It is recommended to include more aspects of urban design into the programme.

For the Bachelor's degree programme Civil Engineering

E 7. (ASIIN 2.6) It is recommended to integrate more contemporary aspects into the curriculum like sustainability of buildings and construction and renewable energy or life cycle assessment.

G Comment of the Technical Committee (17.06.2014)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee follows the assessment of the peers without any changes.

The Technical Committee 03 – Architecture, Civil Engineering and Geodesy recommends the award of the seals as follows:

Degree Programme	ASIIN-seal	Maximum duration of accreditation
Ba Architecture	With requirements for one year	30.09.2019
Ma Architecture	With requirements for one year	30.09.2019
Ba Civil Engineering	With requirements for one year	30.09.2019
Ma Civil Engineering	With requirements for one year	30.09.2019

H Decision of the Accreditation Commission (27.06.2014)

Assessment and analysis for the award of the ASIIN seal:

In general the Accreditation Commission follows the assessment of the peers and of the technical Committee. It modifies the recommendation regarding English abstract to clarify the issue. Furthermore the Accreditation Commission changes the recommendation regarding rules for the recognition of study courses into a requirement because Kazakhstan signed the so called Lisbon Convention in 1997 and ratified it in 1998.

The Accreditation Commission for Degree Programmes decides to award the following seals:

Degree Programme	ASIIN-seal	Maximum duration of accreditation
Ba Architecture	With requirements for one year	30.09.2019
Ma Architecture	With requirements for one year	30.09.2019
Ba Civil Engineering	With requirements for one year	30.09.2019
Ma Civil Engineering	With requirements for one year	30.09.2019

Requirements

For all degree programmes

A 1. (ASIIN 2.3) The module descriptions must give subject specific information of the goals and content and all module titles has to be consistent in the module descriptions and the curricula templates.

A 2. (ASIIN 2.5) Rules for the recognition of study courses completed at other national and international higher education institutions must be defined corresponding to the Lisbon Convention.

For the Bachelor's degree programme in civil engineering

A 3. (ASIIN 2.1, 2.2, 2.6) It must be ensured that all students get abilities in construction management (e.g. calculation, project management, time schedule, site management), building physics (e.g. fire protection, acoustic, ventilation, heating) and get at least basic knowledge regarding traffic and transport, water systems and sanitary and environmental engineering.

Recommendations

For all degree programmes

E 1. (ASIIN 3.3) It is recommended to amend the list of literature in all module descriptions in order to make it more usable for students and to include English language literature.

E 2. (ASIIN 3.4) It is recommended to support students by further internationalization to find a possibility to spend a semester at a university abroad. It is recommended to intensive the internationalization and to support students more intensive spending time at a university abroad.

E 3. (ASIIN 5.3) It is recommended to modernize the equipment of laboratories and of the workshop

E 4. (ASIIN 3.4, 5.3) It is recommended, to intensify the international cooperation of the department and to establish international student exchange programmes. In this context it is recommended to add an English abstract to the thesis.

For the Bachelor's degree programme Architecture

E 5. (ASIIN 2.1, 2.2, 2.6) It is recommended to include more aspects of urban design into the programme.

For the Bachelor's degree programme Civil Engineering

E 6. (ASIIN 2.6) It is recommended to integrate more contemporary aspects into the curriculum like sustainability of buildings and construction and renewable energy or life cycle assessment.