



# **ASIIN Seal & EUR-ACE<sup>®</sup> Label**

## **Accreditation Report**

**Master's Degree Programmes**

***Cadastral***

***Land management***

Provided by

**Al Farabi Kazakh National University, Almaty**

Version: 23.03.2018

# Table of Content

<b>A About the Accreditation Process.....</b>	<b>3</b>
<b>B Characteristics of the Degree Programmes .....</b>	<b>5</b>
<b>C Peer Report for the ASIIN Seal .....</b>	<b>8</b>
1. The Degree Programme: Concept, content & implementation .....	8
2. The degree programme: structures, methods and implementation.....	14
3. Exams: System, concept and organisation.....	17
4. Resources .....	18
5. Transparency and documentation.....	20
6. Quality management: quality assessment and development .....	22
<b>D Additional Documents .....</b>	<b>23</b>
<b>E Comment of the Higher Education Institution.....</b>	<b>23</b>
<b>F Summary: Peer recommendations.....</b>	<b>23</b>
<b>G Comment of the Technical Committees .....</b>	<b>25</b>
<b>H Decision of the Accreditation Commission (31.03.2017) .....</b>	<b>26</b>
<b>I Fulfilment of Requirements (23.03.2018).....</b>	<b>27</b>
<b>Appendix: Programme Learning Outcomes and Curricula .....</b>	<b>29</b>

## A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for <sup>1</sup>	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC) <sup>2</sup>
Кадастр (kaz/rus)	Ma Cadastre	ASIIN	--	TC 03, TC 11
Жерге орналастыру (kaz) Землеустройство (rus)	Ma Land management	ASIIN	--	TC 03, TC 11
<p><b>Date of the contract:</b> 26.01.2016</p> <p><b>Submission of the final version of the self-assessment report:</b> 15.10.2016</p> <p><b>Date of the onsite visit:</b> 20.-21.12.2016</p> <p><b>at: Almaty</b></p>				
<p><b>Peer panel:</b></p> <p>Prof. Cornelia Bott, University of Applied Sciences Nuertingen-Geislingen;            Prof. Dr. Dietwald Gruehn, University of Technology Dortmund;            Dipl.-Ing. Torsten Hentschel, Independent Survey Engineer;            Tatiana Oitseva (Student), D. Serikbaev East Kazakhstan State Technical University            Prof. Dr. Gabi Troeger-Weiss, University of Technology Kaiserslautern</p>				
<p><b>Representatives of the ASIIN headquarter:</b> Dr. Michael Meyer</p>				
<p><b>Responsible decision-making committee:</b> Accreditation Commission for Degree Programmes</p>				
<p><b>Criteria used:</b></p>				

<sup>1</sup> ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes

<sup>2</sup> 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.

**A About the Accreditation Process**

---

<p>European Standards and Guidelines as of 10.05.20015</p> <p>ASIIN General Criteria, as of 28.06.2012</p> <p>Subject-Specific Criteria of Technical Committee 11 – Geosciences as of 09.12.2011 and Technical Committee 03 – Civil Engineering, Survey and Architecture</p>	
--	--

## B Characteristics of the Degree Programmes

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF <sup>3</sup>	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
6M090300-Cadastre	магистр в области услуг по специальности «Кадастр»/ Master in the field of Services in "Cadastrе"	-	Level 7	Full time	-	4 Semesters	120 ECTS	June 2015
6M090700-Land Management	магистр в области услуг по специальности «Землеустройство» / Master in the field of Services in "Land Management"	-Land Resource Management; - Geoinformation systems in land management	Level 7	Full time	-	4 Semesters	120 ECTS	June 2015

For the Master's degree programme in Cadastre the institution has presented the following profile in the diploma Supplement:

Graduates of the Master in Cadastre programme:

- have an understanding of the philosophy and methodology of land surveying and cadastral science, on the state and trends of the world's land and other types of cadastre system.
- know the basis of fundamental sciences, majoring in its respective and specialization, the mechanisms and patterns of development of the processes of land relations and land cadastre, main achievements and trends in the development of land cadastre in Kazakhstan and neighboring countries, modern methods of regulation of land relations and of reference of the land cadastre, economic aspects of sustainable land use, basics of industrial and university psychology and pedagogy.
- Have knowledge of basic sciences in their practical work to solve specific research, exploration, and methodological problems in various branches of the land cadastre, use of modern laboratory and of computer equipment in their work.

---

<sup>3</sup> EQF = The European Qualifications Framework for lifelong learning

## B Characteristics of the Degree Programmes

---

- Plan, organize and carry out scientific research, production work.
- Have advanced theoretical knowledge and proper scientific and research practice in the field of Cadastre.
- Are able to do analysis and interpretation of information from a variety of available sources as appropriate for unpredictable problem solution search.
- 
- Use knowledge of psychology and pedagogy of higher education in practical activities.
- Apply and use scientific research methods necessary for carrying out independent research and development works;
- Apply scientific research methods necessary for carrying out independent research and development works;
- Have the skills to use computer methods regarding collecting data, storing, processing and sales information;
- Are able to update their knowledge in the course of professional activity, providing active search and the use of new information;
- Have to be competent in scientific methodology and scientific-theoretical apparatus of land management science;
- Create and use models to describe and predict various processes and phenomena taking place with their qualitative and quantitative analysis and synthesis.
- Are able to justify relevant choice of research methods and to present results in oral, written and multimedia forms expressed in terms that are sound for the target audience;
- Have an understanding and adherence to professional and ethical standards;
- Are able to cooperate with colleagues and to work as a team leader in order to solve complex interdisciplinary problems;

For the Master's degree programme in Land management the institution has presented the following profile in the diploma Supplement:

Graduate of the program

- have an understanding of the philosophy and methodology of land surveying and cadastral science, on the state and trends of the world's land and other types of cadastre system.
- Know fundamentals of basic sciences appropriate to the specialty and specialization; mechanisms and patterns of development of the processes of land relations and land management; main achievements and trends in the development of land

- management in Kazakhstan and neighboring countries; modern methods of regulation of land relations and management of land; economic aspects of sustainable use of land; production bases and university psychology and pedagogy;
- Are aware of the relations between advanced theoretical knowledge and proper scientific and research practice in the field of Land Management.
  - Are able to do analysis and interpretation of information from a variety of available sources as appropriate for unpredictable problem solution search.
  - Are able to use knowledge of basic sciences in their practical work to solve specific research and survey, methodological problems in various branches of Land Management;
  - Use sophisticated laboratory and computer equipment in their work; plan, organize and carry out scientific research, production work; use knowledge of psychology and pedagogy of higher education in practice.
  - Use knowledge of psychology and pedagogy of higher education in practical activities.
  - Apply and use scientific research methods necessary for carrying out independent research and development works;
  - Are well trained in professional culture, including the culture of professional communication, citizenship, the formulation and solution of modern scientific and practical problems at the interface of science, teaching at universities, to successfully carry out research and administrative activity in a variety of land management enterprises and organizations;
  - Have fundamental knowledge at the interface of land, cadastre, economics, law guaranteeing their professional mobility in real developing world;
  - Have the skills of organizing and conducting research in the field of land management and land management, obtaining the necessary groundwork for the continuation of research in doctoral (PhD) studies;
  - Are able to self-improvement and self-development, the needs and skills of independent creative mastery of new knowledge throughout their active life;
  - Obtain the required minimum of knowledge in the field of university pedagogy and psychology and teaching experience in high school and post-secondary educational institutions.

## C Peer Report for the ASIIN Seal

### 1. The Degree Programme: Concept, content & implementation

<b>Criterion 1.1 Objectives and learning outcomes of a degree programme (intended qualifications profile)</b>
---

**Evidence:**

- Self-assessment report
- Webside of the faculty
- Diploma supplements provides detailed and subject specific information on the degree programmes
- Discussions with representatives of MUST management, programme coordinators, lecturers, business representatives, students

**Preliminary assessment and analysis of the peers:**

The University defined study aims and intended learning outcomes of both programmes at a level of higher education which corresponds to learning outcomes relevant to level 7 of the European Qualifications Framework. Learning outcomes are accessible to students, staff members, and all the other stakeholders on the faculty web site. Those objectives were discussed in staff meetings with the faculty team. Private companies and governmental institutions are involved in the development of the programmes by a certain council in the university. Additionally representatives of the labour market are involved in the further development of the programme via master theses of the students and the internships. Out of these involvements of the industry the university gets substantial feedbacks from the labour market about the objectives, contents and quality of the programmes. The panel welcomed the transparent way to public the objectives and the intention of the faculty to get a permanent feedback from representatives of the labour market.

The peers referred to the Subject-Specific Criteria (SSC) of the *Technical Committee Civil Engineering, Geodesy and Architecture* and *Technical Committee Geosciences* as a basis for judging whether the intended learning outcomes of the Master programmes as defined by Al-Farabi Kazakh National University correspond to the exemplary constituted learning outcomes of these Technical Committees. The auditors examined the areas of competence as set forth by the SSC.



Regarding the master's degree programme in cadastre the peers wondered at the establishment of such a specialised programme. In European programmes cadastre would be one part of a more wide programme in geodesy. A focus only on cadastre would limit the chances on the labour market significantly. But the peers learned that in Kazakhstan cadastre not only deals with land but also with the registration of several resources like minerals or water. Additionally the transition from state land to private owned land is still in progress. Therefore is a higher need in cadastre specialist on the labour market in Kazakhstan.

Comparing to the SSC the peers got the impression that the university seeks sufficient knowledge of fundamentals in mathematics and natural sciences for cadastre. Additionally the students should earn knowledge about the field specific fundamentals in cadastre and of certain aspects of geodesy. Further on it is foreseen to train personal skills like team work and communication abilities. With the profile sought by the university the graduates have good chances on the labour market in Kazakhstan. For the international labour market the specialisation on the Kazakh cadastre system probably would be too narrow. Nevertheless the peers found the areas of competence as set forth by the Subject-Specific Criteria of both Technical Committees met as far as it is meaningful for a programme specialised in cadastre as it is defined by the university.

Regarding the master's degree programme in land management the peers learned that the terms in use have different meaning in Kazakhstan and Europe. The programme focus on planning of rural areas while house or urban planning is not involved like it would be in Europe. The land management defined by the Al Farabi University handled the agricultural use of land including split of land plots and fertility of soils. As far as the peers understood land management in Kazakhstan mainly concentrates on the analysis of land and a kind of landscape planning for rational use in the agricultural sector. Territorial and Regional Planning which are dealing additionally with aspects regarding forests, water, minerals population or urbanisation are not main parts in the Kazakh land management. The peers determined that Kazakh land management is oriented more "architecturally" concentrating on the specific project of land use while in Europe a "realistic" approach is established including sociological and environmental aspects more intensively. Out of the discussion with the representatives of the labour market peers learned that sociological and environmental aspects are already implemented in land management in Kazakhstan as well. But from the point of view of the industry there is no need to include such aspects into the study programme because graduate will learn it during their practice on the job. The peers understood that moderation skills are not as important as in Germany because of the structure of planning processes. Citizens are not involved intensively as in Germany and the moderation with concerned people e.g. during resettlements are done by special social services.

With this understanding of Kazakh land management the peers assessed that the areas of competence as set forth by the Subject-Specific Criteria of the Technical Committees Geosciences are met as far as it is meaningful for a programme in land management as defined by the university.

The peers mentioned for both programmes that there is a different use of terms in Kazakhstan and Europe. Hence for European stakeholder it will be difficult to interpret correctly the objectives of the programmes. From the point of view of the peers the defined educational objectives and learning outcomes have to describe the different academic, subject-specific and professional classifications of the qualifications gained in both degree programmes.

### **Criterion 1.2 Name of the degree programme**

**Evidence:**

- Websites of the degree programmes
- Self-Assessment Report

**Preliminary assessment and analysis of the peers:**

The titles of the programmes are published on the subject specific webpages. The information about the programmes is published in Kazakh and Russian language and partly in English as well. The study programme is primarily carried out in Kazakh and Russian language.

As mentioned before (see chapter 1.1) the title of the master's degree programme in land management do not correspond completely with the European understanding of the term. From European point of view "Land Use" would be more correct. But the peers accepted the title of the programme because of the common understanding of land management by governmental institutions, private companies and universities in Kazakhstan.

For the master's degree programme in cadastre the peers confirmed that the name reflect the programme objectives and intended learning outcomes appropriately.

### **Criterion 1.3 Curriculum**

**Evidence:**

- The study regulations define the curriculum and the single modules.
- The module descriptions inform about the aims and content of the single modules.
- Objective-Matrices provided in the Self-Assessment Report

- Discussions with representatives of Al Farabi management, programme coordinators, lecturers, business representatives, students

**Preliminary assessment and analysis of the peers:**

As outlined under criterion 1.1, the auditors could see that the intended learning outcomes are in line with the Subject-Specific Criteria (SSC) of the Technical Committees “Civil Engineering, Geodesy and Architecture” as well as “Geosciences”. The peers based their assessment as to whether the curricula of the programmes are designed in a way to achieve the intended learning outcomes according to the module descriptions and the Objectives-Module-Matrix.

The curriculum of the master’s degree programme in land management includes compulsory state modules (History and Philosophy of Science, Foreign language, Pedagogic and Psychology) and compulsory professional modules (organisation and planning of research projects, economic mechanism of rational use and protection of land, theoretical and methodological basis of land use regulation and tradition and innovation in higher education). Afterwards students select one of the specialisations in Land resource Management or Geoinformation Systems in Land Management. Within both specialisations there are compulsory and elective modules. Additionally students absolve several practice modules as internships in companies or in pedagogical institutions. Climatology and meteorology are not included because these aspects were handled in the bachelor programme.

Although the peers learned about the different understanding of land management it would be eligible from their point of view to give students a more wide perspective on land management i.e. by sensitising them for the impacts of large infrastructure projects. In this context it seemed to be helpful to strengthen the planning, developing and moderating abilities of the students as well and to add biotic and abiotic aspects in the curriculum. Further on the peers could follow the wish of the students to become more familiar with environmental aspects which are quite topical in Kazakhstan.

The curriculum of the master’s degree programme in cadastre includes compulsory state modules (History and Philosophy of Science, Foreign language, Pedagogic and Psychology) and compulsory professional modules (organisation and planning of research projects, tradition and innovation in higher education, Basics of land cadastre in foreign countries and Cadastre, assessment and evaluation of real estate). Additionally students absolve five field specific elective modules and several practice modules as internships in companies or in pedagogical institutions.

The peers understood that the quantity of state compulsory modules could not be changed in both programmes by the university and they followed the argumentation of the univer-

sity that these courses also are helpful for the development of the personalities of the students. But perhaps these modules could be more field specific oriented. For example history could be taught regarding to planning activities and psychology could involve moderation aspects.

In general the peers confirmed that the overall objectives and intended learning outcomes for the degree programmes are systematically substantiated in the modules and that the curricula enable students to achieve the intended learning outcomes in order to obtain the degree.

#### **Criterion 1.4 Admission requirements**

##### **Evidence:**

- Self-Assessment Report
- admission rule (#109 since January 19, 2012) developed by the Ministry of Education and Science
- Academic Policies: The main provisions of the academic policy of Al-Farabi Kazakh National University

##### **Preliminary assessment and analysis of the peers:**

Only applicants out of Bachelor's degree programmes from a similar scientific background are allowed to be admitted in the programmes. Additionally applicants have to pass a national exam covering a second language and another programme specific written exam. Retake of these exams is not allowed. National scholarships set for each subject are offered to those with the best results. International students can apply for the Higher Education Institutes by taking the complex test (Bachelor degree) and University entrance exams.

The auditors confirmed that the requirements and procedures for admission are transparent and clear. All applicants are treated according to the same standards and regulations. According to the peers, especially the programme specific exam- supported the students in achieving the learning outcomes.

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

With its comments on the report the university send further explanations to the objectives of the programmes.

For the master's degree programme in cadastre the university explained that "the modern state land cadastre in the Republic of Kazakhstan is a system of information about the natural and economic status of the lands of the Republic of Kazakhstan, location, target use,

size and boundaries of land plots, their qualitative characteristics, land use accounting and cadastral value of land plots. Cadastre specialists are involved in cadastre and land monitoring, automated information system of the state land cadastre (AIS), control over the use and protection of lands, zoning of the territory for tax purposes, cadastral and market valuation of real estate, make land management projects, perform geodetic surveys using the latest high-precision optical and laser instruments, electronic total stations, computer technology and photogrammetric equipment.”

[...]

“The main purpose of the educational activities is to develop basic professional competencies of future Cadastre specialists, creation of preconditions for self-exploration and research activities undergraduates as part of an experiment in all its phases, teach regulating land and property relations as a part of government agencies, conducting enforcement activities to establish property rights, lease and control over the use of land and other real estate.”

Additionally, the university added the vocational fields graduates should be employed like cadastral engineer, urban planner, technician surveyor, specialist CSC, specialists of administrative departments or appraisers.

For the master’s degree programme in land management the university explained that “the concept of land management includes activities to study the state of land, planning and management of rational use of land and their protection. On the basis of land management, land is distributed between sectors of the national economy, between landowners and land users, the allocation of land for industrial, energy, civil and housing construction, for the formation of new and expansion of existing settlements. Land users are engaged in drafting land management, land reclamation, monitoring and inventory of land, conducting geodetic surveys using the latest high-precision instruments and computer technology. [...]

The main objective of the educational activities is to develop basic professional competences of future specialists of Land use Planning, the creation of prerequisites for self-exploration and research activities undergraduates as part of the experiment at all its stages, teach the regulation of land and property relations as a part of public bodies to carry out enforcement activities on the establishment of property rights, rent and control over the use of land and other real estate.

For the peers the meaning of land management and cadastre in Kazakhstan became clearer by the additional explanation of the university and now they understood the construction of the curricula much better. Nevertheless they found it necessary that this orientation has to be reflected in the objectives of the programmes and the intended knowledge, abilities

and competences of the students which is not done yet. Therefore the peers confirmed a requirement to rewrite the objectives and learning outcomes of both programmes.

The peers welcomed warmly the announced additional components regarding moderation and infrastructural impacts. Because the university could not implement these new components into the module descriptions the peers confirmed their former assessment and suggested appropriate recommendations.

Further on the peers welcomed the consideration of the university to rename the land management programme into land use planning

Summarising the peers assessed the criterion widely fulfilled.

## 2. The degree programme: structures, methods and implementation

### Criterion 2.1 Structure and modules

#### Evidence:

- Self Assessment Report
- Module descriptions:
- Discussions with representatives of Al farabi management, programme coordinators, lecturers, students

#### Preliminary assessment and analysis of the peers:

The peers assessed that the degree programme is divided into modules and its structure is clearly outlined on the subject specific website. Each module is a sum of teaching and learning whose contents are concerted. With its choice of modules, the structure ensures that the learning outcomes can be reached and allows students to define an individual focus and course of study.

In general the module structure with its elective courses allows students to absolve studies abroad without any structural conditioned loss of time. But the peers got the impression that in practice the sequence of the modules in the first semester bars students from going abroad. The state compulsory courses in the first semesters let only a few space for field specific modules. Therefore students do not have the field specific fundamentals when they want to study abroad during the first two years. A better mix of state compulsory courses and field specific elective courses in the first semesters could promote the academic mobility of the students.

To facilitate the mobility of the students the university has defined rules for the recognition of credits acquired at other higher education institutions based on the competences of the students. Prerequisite for the recognition is an accreditation of the foreign programmes.

### **Criterion 2.2 Work load and credits**

#### **Evidence:**

- Self-Assessment Report
- ECTS users' guide of Al-Farabi Kazakh National University
- Module Handbooks for both degree programmes
- Discussions with representatives of the management of the university, programme coordinators, lecturers, students

#### **Preliminary assessment and analysis of the peers:**

The peers understood that the university uses on the one side a Kazakh national credit point system based on contact hours and on the other side ECTS credit points based on the student workload. The university defined the curricula with 30 ECTS points per semester on average and 30 hours of student workload per ECTS point.

Considering the named ECTS points for the single modules the peers assessed the estimated time budgets as realistic to enable students to complete the degree without exceeding the regular course duration. Structure-related peaks in the workload have been avoided by the university. The students confirmed this assessment of the peers.

### **Criterion 2.3 Teaching methodology**

#### **Evidence:**

- Self Assessment Report
- Module descriptions:
- Discussions with representatives of MUST management, programme coordinators, lecturers, business representatives, students

#### **Preliminary assessment and analysis of the peers:**

The programmes under review are full-time programmes with classroom, structured and self-study activities. The single courses are offered either in Kazakh or Russian language depending of the student majority. Some modules are offered in both languages and there are modules in English language as well.

The staff members apply various teaching and learning methods (such as lectures, computer training and classroom and lab exercises, field practice, individual and group assign-

ments, seminars and projects). Structured activities include tutorial, homework, assignment and practical activities. Group project assignments are also given in some courses to develop students' skill in teamwork and communication. The peers welcomed that the faculty tries actually to change to more project oriented teaching methods. Students are involved in the research activities of the lecturers during their master theses.

The peers concluded also with reference to the remarks of the students that the teaching methods and instruments support the students in achieving the learning outcomes. The degree programme is -balanced between attendance-based learning and self-study and students become familiar with academic writing methods.

#### **Criterion 2.4 Support and assistance**

##### **Evidence:**

- Self Assessment Report
- Discussions with representatives of management of the university, programme coordinators, lecturers, business representatives, students

##### **Preliminary assessment and analysis of the peers:**

The peers welcomed the concept of an academic advisor. Each year of students has a special lecturer as advisor in field specific questions and as well as for administration problems. Usually, the academic advisor is available for any consultation a student may need, even for problems beyond academic matters. The students confirm that the academic advisors normally try to be very supportive to students.

Additionally there are several centralized institutions at Al Farabi University for the general support of students. The peers underlined that the allocated advice and guidance, namely the academic advisor assisted the students in achieving the learning outcomes and in completing the course within the scheduled time.

The peers learned as well that the university gives support for the students to find companies or institutions for the internship. This support is focussed on bachelor students because students in master's degree programmes already have experiences from their internship during the bachelor studies. The university has defined criteria which companies have to fulfil if they are offering internships for students.

The peers confirmed that there are enough resources available to provide individual assistance, advice and support for all students and that the allocated advice and guidance assist the students in achieving the learning outcomes and in completing the course within the scheduled time.



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

Regarding the sequence of the state compulsory modules the university referred in its comment to the governmental regulations. The peers understood that it would not be easy for the university to change such structures. Nevertheless they found it wishful with regard to the mobility of the students to rearrange the structure of the programmes. Therefore they confirmed their former assessment and suggested an appropriate recommendation.

In general the peers assessed the criterion as fulfilled.

### **3. Exams: System, concept and organisation**

<b>Criterion 3 Exams: System, concept and organisation</b>
--

**Evidence:**

- Self Assessment Report
- Module descriptions
- Discussions with representatives of management of the university, programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

The peers comprehended that for each module a midterm, an end-of-term and a final examination is foreseen. Exams are module-related and offer students continuous feedback on their progress in developing competences. Midterm and end-of-term control is held in the form of quizzes, tests, presentations, essays, class discussions, roundtables, simulations and other assignments. The exact form of regular and interim control is determined by a lecturer depending on specifics of a concrete module; it is determined in the syllables they get at the beginning of the semester. Final examinations can be oral, written, in the form of tests, or take a combined form (oral-written or written-testing). The form of a final examination is suggested by a lecturer and must be approved by the department's Academic Board.

The number and distribution of the exams ensure that both the exam load and preparation times are adequate. All exams are organised in a way which avoids delays to student progression caused by deadlines, exam correction times, re-sits etc. All exams are marked using transparent criteria. There are mechanisms in place which ensure that exams marked by different examiners are comparable. Failed exams can be repeated as often as students like to do but they have to pay credit fees for the repetition.

Students are allowed to carry out their final thesis outside the University. Most lecturers maintain close connections to private companies or governmental institutions to support students finding a cooperating partner. The first supervisor had to be the staff member from Al-Farabi Kazakh National University, but the project could also be co-supervised by an expert from industry.

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

The university did not give any comment on this chapter. Hence the peers confirmed their former assessment without any changes. The saw the criterion completely fulfilled.

## 4. Resources

### Criterion 4.1 Staff

**Evidence:**

- Self Assessment Report
- Staff handbook
- Discussions with representatives of management of the university, programme coordinators, lecturers,

**Preliminary assessment and analysis of the peers:**

In general the peers noticed that the composition, scientific orientation and qualification of the teaching staff team are suitable for sustaining the degree. Most of the younger lecturers studied abroad and speak English while the older lecturers mostly grown up with the Russian system and only stood abroad in Russian speaking countries.

The auditors noticed that the self-assessment report provided a detailed overview of the research activities carried out in the last years. Most of the research projects were placed in Kazakhstan or Russia but also in European countries like Germany. The funds are coming from governmental institutions, private companies and also international institutions. Al-Farabi Kazakh National University highlighted that research funding is playing an increasingly important role with regard to the overall budget of the University and the upgrading of research equipment.

### Criterion 4.2 Staff development

**Evidence:**

- Self Assessment Report

- Discussions with representatives of Al Farabi management, programme coordinators, lecturers,

**Preliminary assessment and analysis of the peers:**

The university explained that there were several concepts to enhance the didactical competences of staff members. For the didactical further education the “Institute of qualification improvement” which is an integral part of the University’s structure offers a wide offer of special courses. Staff members who wish to further develop their professional skills can participate in international conferences, seminars, etc. During the onsite visit the members of the teaching staff expressed their general satisfaction with their opportunities to further improve their teaching and professional skills. The peers welcomed the additional offer of the university to train lecturers in English language because not all lecturers who met the peers speak English fluently.

In summary, the auditors confirm that Al-Farabi Kazakh National University offers sufficient support mechanisms and opportunities for members of the teaching staff who wish to further develop their professional and teaching skills.

<b>Criterion 4.3 Funds and equipment</b>
--

**Evidence:**

- Self Assessment Report
- Onsite visit of the institution and laboratories
- Discussions with representatives of management of the university, programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

The peers learned that financial sources for Al Farabi University originated from tuition fees, government funding and private funding of companies. The operational funds were distributed to the Faculties and Schools of the university based on a specific formula depending on the number of students. The peers were convinced that the financial sources were sufficient and secured for the timeframe of the accreditation.

The peers inspected the classrooms, library and laboratories in order to assess the quality of the infrastructure and the technical equipment. They found out that students get access to international literature by online libraries but most of them prefer literature in Kazakh language. Regarding the technical equipment especially in the field of GIS which is involved in most programmes of the faculty (geodesy, geography, cadastre and land management) they learned that the university do not have enough licenses for modern software. The existing licences mostly are reserved for the research activities of the lecturers. Therefore

students become familiar with computer applications during their internship in private companies or governmental institutions. For this the university has cooperation agreements with certain companies and institutions to ensure that students have the opportunity to get to know actual GIS software. The peers observed that this approach would be sufficient for the students to become able to apply the software. But they are assured that students will not learn in the companies the theoretical backgrounds for the use of GIS software. From their point of view it would be necessary to get the needed licenses by the university itself.

During their inspection of the institution the peers saw only a few workplaces for the self-studies of students or for group work. Students confirm that there are poor opportunities to do group work inside the university. Therefore the peers recommended to offer more workplaces for the individual work of the students.

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

Regarding the working places for individual work of students the peers registered the remark of the university to the new library. Due to the fact that the library is used by students of all departments there still is not much space for the individual work of students. Hence they confirmed the recommendation to offer more workplaces for the individual work of the students.

Further on the peers welcomed that the university already started to update the computer hardware and software especially in the field of GIS and recommended to go on.

In general the peers assessed the criterion fulfilled.

## 5. Transparency and documentation

<b>Criterion 5.1 Module descriptions</b>
--

**Evidence:**

- Module descriptions

**Preliminary assessment and analysis of the peers:**

The peers positively noted that the full set of modules descriptions is published for the degree programme under review. Hence, the module descriptions are available for all interested stakeholders. The peers examined the module descriptions and noted that the modules have comprehensible names and identification codes, that responsible persons are named, the teaching methods are specified and the workload is defined in connection

with the credit points for each module. Additionally the contents and objectives of the modules are described, their admission and examination requirements as well as the forms of assessments. The peers only marked that there is no literature recommended in the descriptions. From their point of view such additional information would be helpful for the self studies of the students.

### **Criterion 5.2 Diploma and Diploma Supplement**

**Evidence:**

- Examples of the Diploma Supplements

**Preliminary assessment and analysis of the peers:**

After graduation a certificate in Russian and Kazakh language is issued together with a Diploma Supplement in English language. The Diploma Supplements contain information in detail about the educational objectives, intended learning outcomes, the structure and the academic level of the degree programmes as well as about the individual performance of the student and give an overview about the Kazakh education system. Furthermore it would be wishful to include statistical data in addition to the final mark as set forth in the ECTS User's Guide to allow readers to categorize the individual result of the student. But the peers missed in addition to the final mark, statistical data as set forth in the ECTS User's Guide to allow readers to categorise the individual degree. They saw the need to add this information to the Diploma Supplements.

### **Criterion 5.3 Relevant rules**

**Evidence:**

- Self-Assessment Report
- Academic policy of Al-Farabi Kazakh National University
- Standard rules for current progress control, midterm and final attestation of students in higher educational institutions

**Preliminary assessment and analysis of the peers:**

The peers confirmed that the rights and duties of the University, lecturers and students are clearly defined in documents related to academic policy, academic council, quality management system and normative documents on academic processes. All relevant course-related information is available in Kazakh and Russian language and accessible for anyone in the intranet of the university. The subject specific websites provide only limited information on the different degree programmes. The peers underlined that it would be helpful if all relevant information would be made available on the specific websites of the programmes.

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

Regarding the statistical data about the final grade the peers explained, that this information should enable stakeholders to categorise the final grades by knowing how many of the graduates get the best grade, the second best or the worst grade.

The peers assessed the criterion widely fulfilled.

## **6. Quality management: quality assessment and development**

### **Criterion 6 Quality management: quality assessment and development**

**Evidence:**

- Self Assessment Report
- Academic policy of Al-Farabi Kazakh National University
- Discussions with representatives of management of universities, programme coordinators, lecturers, students

**Preliminary assessment and analysis of the peers:**

The auditors were explained that the university applied two types of quality assurance systems, namely the Internal Quality Assurance and External Quality Assurance systems. The Internal Quality Assurance encompasses all activities focused on the improvement of teaching and learning quality within the university. The internal quality regulations based on the European Standards and Guidelines as well as on eastern European frameworks and national standards. The External Quality Assurance focused on both national and international accreditation while round 80% of the programmes were accredited by international agencies listed by EQAR.

The internal teaching evaluation takes place each semester for each course. Feedback loops to the head of department, the head of university and to the students are defined. The results of the evaluation could influence the decision of further employment of the single lecturer.

The peers confirm that the programmes are subject to regular internal quality assessment procedures aiming at continuous improvement. For the purposes of continued development responsibilities and mechanisms are defined. Collected data is suitable for the purpose and used to continue improving the degree programme, especially with a view to identifying and resolving weaknesses. Students and other stakeholders take part in the

## F Summary: Peer recommendations

---

quality assurance process. The results of the teaching evaluations are published in the intranet of the university.

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

The university did not give a comment to this criterion. Hence the peers confirmed their former assessment. The criterion was completely fulfilled.

## D Additional Documents

No additional documents needed

## E Comment of the Higher Education Institution

The university commented the report of the peers in detail and added different new documents about the objectives of the programmes, the curricula and the modules.

## F Summary: Peer recommendations

The peers recommend the award of the seals as follows:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ma Cadastre	With requirements for one year	--	2022
Ma Landmanagement	With requirements for one year	--	2022

### Requirements

- A 1. (ASIIN 1.1) Draft the educational objectives/learning outcomes in a way that they describe the different academic, subject-specific and professional classification of the qualifications gained in both degree programmes.
- A 2. (ASIIN 5.2) Provide statistical data according to the ECTS-Users' guide in addition to the final grade.

## **Recommendations**

### **For both programmes**

- E 1. (ASIIN 1.3) It is recommended to orientate the compulsory state modules more intensively on field specific aspects.
- E 2. (ASIIN 2.1) It is recommended to offer a better mix of compulsory and elective courses in the first year and/or reduce the mandatory parts of philosophy, Kazakh language, pedagogic in order to increase the academic mobility of the students.
- E 3. (ASIIN 4.3) It is recommended to finance licences for actual GIS software in the quantity needed for the in house education of the students.
- E 4. (ASIIN 4.3) It is recommended to offer more workplaces for the individual work of the students.
- E 5. (ASIIN 5.1) It is recommended to provide an adequate list of relevant literature references in the module descriptions.

### **For the Master Landmanagement**

- E 6. (ASIIN 1.3) It is recommended to include instrumental aspects and to strengthen the planning, developing and moderating abilities of the students.
- E 7. (ASIIN 1.3) It is recommended to sensitise students for the impacts of large infrastructure projects.
- E 8. (ASIIN 1.3) It is recommended to add biotic and abiotic aspects in the curriculum.



## G Comment of the Technical Committees

### Technical Committee 03 – Civil Engineering, Geodesy and Architecture (13.03.2017)

*Assessment and analysis for the award of the ASIIN seal:*

The Technical Committee discussed the report and followed the assessment of the peers without any changes.

The Technical Committee 03 – Civil Engineering, Geodesy, Architecture recommends the award of the seals as follows subject to the final assessment of the peers:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ma Cadastre	With requirements for one year	--	2022
Ma Landmanagement	With requirements for one year	--	2022

### Technical Committee 11 - Geosciences (20.03.2017)

*Assessment and analysis for the award of the ASIIN seal:*

The Technical Committee discussed the report and followed the assessment of the peers without any changes.

The Technical Committee 11 – Geosciences recommends the award of the seals as follows subject to the final assessment of the peers:

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ma Cadastre	With requirements for one year	--	2022
Ma Landmanagement	With requirements for one year	--	2022

## H Decision of the Accreditation Commission (31.03.2017)

The Accreditation Committee discussed the procedure and made some editorial changes to clarify the requirements and recommendations. Further on the Committee followed the assessments of the peers and the Technical Committees involved without any additional changes

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

Degree Programme	ASIIN-seal	Subject-specific label	Maximum duration of accreditation
Ma Cadastre	With requirements for one year	--	2022
Ma Landmanagement	With requirements for one year	--	2022

### Requirements

A 1. (ASIIN 1.1) Rewrite the educational objectives/learning outcomes in a way that they describe the different academic, subject-specific and professional classification of the qualifications gained in both degree programmes.

A 2. (ASIIN 5.2) Provide statistical data according to the ECTS-Users' guide in addition to the final grade.

### Recommendations

#### For both programmes

E 1. (ASIIN 1.3) It is recommended to focus the mandatory State-modules more intensively on field specific aspects.

E 2. (ASIIN 2.1) It is recommended to offer a better mix of compulsory and elective courses in the first year and/or reduce the mandatory parts of philosophy, Kazakh language, pedagogic in order to increase the academic mobility of the students.

E 3. (ASIIN 4.3) It is recommended to finance licences for up to date GIS software in the quantity needed for the in house education of the students.

E 4. (ASIIN 4.3) It is recommended to offer more workplaces for the individual work of the students.

E 5. (ASIIN 5.1) It is recommended to provide an adequate list of relevant literature references in the module descriptions.

**For the Master Landmanagement**

E 6. (ASIIN 1.3) It is recommended to strengthen the planning, developing and moderation abilities of the students.

E 7. (ASIIN 1.3) It is recommended to raise awareness of the students for the impacts of large infrastructure projects.

E 8. (ASIIN 1.3) It is recommended to add biotic and abiotic aspects in the curriculum.

## **I Fulfilment of Requirements (23.03.2018)**

### **Requirements**

**For all degree programmes**

A 3. (ASIIN 1.1) Rewrite the educational objectives/learning outcomes in a way that they describe the different academic, subject-specific and professional classification of the qualifications gained in both degree programmes.

<b>Initial Treatment</b>	
Peers	Fulfilled Vote unanimous Justification: The University defined new objectives which describe the different academic, subject-specific and professional classification of the qualifications
TC 03	fulfilled Vote: unanimous Justification: The Technical Committee followed the assessment of the peers without any changes.

A 4. (ASIIN 5.2) Provide statistical data according to the ECTS-Users' guide in addition to the final grade.

**I Fulfilment of Requirements (23.03.2018)**

<b>Initial Treatment</b>	
Peers	Fulfilled Vote unanimous Justification: The University provide statistical data corresponding to the final grade corresponding to the ECTS Users Guide.
TC 03	fulfilled Vote: unanimous Justification: The Technical Committee followed the assessment of the peers without any changes.

**Decision the Accreditation Commission on 23.03.2018:**

<b>Degree programme</b>	<b>ASIIN-label</b>	<b>Subject-specific label</b>	<b>Accreditation until max.</b>
Ma Cadastre	All requirements fulfilled	--	30.09.2022
Ma Landmanagement	All requirements fulfilled	--	30.09.2022

## Appendix: Programme Learning Outcomes and Curricula

According to self report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master degree programme in Cadastre:

The Master's Programme Cadastre serves to train specialists in land management and inventory that are required both in government agencies and commercial firms, mainly design and construction. Collects and analyzes data for the projects and schemes of land management, urban planning and settlements, it takes a primary justification for the technical feasibility of the development of an object, develops design and technical documentation on land management and cadastre and develop the following general key competences:

- mental skills (reflection, abstraction, independent further education)
- social skills (cooperation, communication)
- technical skills (research, use of technical equipment)

Detailed educational goals are the acquisition and development of the following competences:

- safe use of expression in the working languages;
- methodical and theoretical knowledge for targeted problem-solving in terms of editing,
- ability to independently develop a scientific or practical problem with subject-specific and/or job-related emphasis;
- knowledge of the cultural contexts and characteristics relevant for translation and interpretation;
- knowledge of current professional work equipment and digital technologies.

Qualification profile: cadastre specialists located itself in a large range of activities: the work of the Committee for Land Resources Management, scientific organizations, land surveying firms, enterprises and in the construction business, in organizations for supervision and control over land resources, etc.

Subject-specific skills:

Basic Cadastre skills. Perform works on surveying land; to study of land used in the various sectors of the economy; their distribution by categories, land tenure and land users; legal

regime of land use; real estate; analysis and generalization of scientific and technical information in the field of land management and land cadastre; development of technical specifications for the design and implementation of the cadastre and monitoring activities; carry out feasibility studies for the calculations and develop projects and land management schemes.

Skills in Land Cadastre. The implementation of the work on improving the system of land use and ownership, creating the conditions for sustainable and economically sound management of areas of state land cadastre, registration and assessment of land and property, state control over land use and protection of land resources in monitoring the implementation, participated in the development of design and working documentation for land management and cadastre, spatial planning, development areas and actions with a single object Real Estate, the implementation of accounting and valuation, monitoring of land and real estate.

Skills in Geoinformation systems in Cadastre: To collect, integrate, visualize cartographically diverse spatial information; process and analyze spatial information with sophisticated software and hardware; create and use geographic information systems, databases and data and knowledge bases for various applications, content and geographical coverage, and spatial data infrastructure.

As a result of the passage of industrial practice the master student should acquire the following skills, abilities, versatile and professional competences: know the preparations for the creation of the Civil Code; ability to carry out the planning of environmental activities in the city; own compilation of graphics applications to legal and corporate documents.

The following **curriculum** is presented:

*4.3.4 Master Degree Template for Teaching Hours and ECTS Workload*

1st Semester											
a/a	Courses	Teaching hours				Total in weeks	Workload				ECTS
		Theory	Practice - Exer-	Labora- tory	Total		Theory	Practice - Exercises	Laboratory	Total	
	Core courses										
1	Pedagogic Compulsory State Modules	1	1	0	2		1	1			2
2	Psychology Compulsory State Modules	1	1	0			1	1			2
3	Organization and planning of scientific research Compulsory Professional Module 1	2	1	0			6	1			7
4	Basics of land cadastre in foreign countries - Compulsory Professional Module 2	2	1	0			6	1			7
5	Ecological-economic evaluation of land resources - Elective module 1	1	1	0			3	1			4

## 0 Appendix: Programme Learning Outcomes and Curricula

6	Evaluation of land and property - Elective module 2	1	1	0			3	1			4
7	Development of the land market in the Republic of Kazakhstan – Specialization Disciplines	1	1	0			3	1			4
	Research Seminar I	120 hours					3				3
7	Evaluation of land and property	1									33
	<b>2nd Semester</b>										
a/a	Courses	Teaching hours					Workload				
		Theory	Practice - Exer-	Labora- tory	Total	Total in weeks	Theory	Practice - Exercises	Laboratory	Total	ECTS
1	History and Philosophy of Science Compulsory State Modules	1	1	0			1	1			2
2	Foreign language (Professional) (in English language) - Compulsory State Modules	0	2	0			0	2			2
3	Cadastre, assessment and evaluation of real estate Compulsory Professional Module 3	2	1	0			6	1			7
4	Tradition and Innovation in Higher Education Compulsory Professional Module 4	2	1	0			6	1			7
5	Geoinformation systems and mapping - Elective module 2	1	1	0			3	1			4
6	Modern information systems in the cadastre - Elective module 3	1	1	0			3	1			4
8	Research Internship 1	60 hours					2				2
9	Research Seminar II	120 hours					3				3
											31
	<b>3rd Semester</b>										
a/a	Courses	Teaching hours					Workload				
		Theory	Practice - Exer-	Labora- tory	Total	Total in weeks	Theory	Practice - Exercises	Laboratory	Total	ECTS
1	Digital technology in the cadastre - Elective module 3	1	1	0			3	1			4
2	Organization of geodesic works using sensing of Earth - Elective module 4	1	1	0			3	1			4
3	Land protection and using Remote Sensing - Elective module 4	2	1	0			6	1			7
4	Landscape design in land management and mathematical methods - Elective module 5	2	1	0			6	1			7

## 0 Appendix: Programme Learning Outcomes and Curricula

5	Landscape design and modeling - Elective module 5	1	1	0				3	1				4
													26
4th Semester													
a/a	Courses	Teaching hours					Workload						
		Theory	Practice - Exer-	Labora- tory	Total	Total in weeks	Theory	Practice - Exercises	Laboratory	Total	ECTS		
1	Research Internship	360 hours					3						
2	Pedagogic internship	210 hours					7						
3	Research Seminars	270 hours					9						
4	Thesis Writing and Defense	180 hours					6						
5	Complex Exam	120 hours					4						
							29						
Overall internship workload													
a/a	Courses	Teaching hours					Workload						
		Theory	Practice - Exer-	Labora- tory	Total	Total in weeks	Theory	Practice - Exercises	Laboratory	Total	ECTS		
1	Research Internship	150 hours					5						
2	Pedagogic internship	210 hours					7						
3	Research Seminars	420 hours					14						
4	Thesis Writing and Defense	180 hours					6						
5	Complex Exam	120 hours					4						
												84/36	

According to self report the following **objectives** and **learning outcomes (intended qualifications profile)** shall be achieved by the Master degree programme in Land management:

Educational objective: The Master's Programme Land Management serves to train as land surveyor designer and prospector, surveyor, specialist companies and organizations, agencies of Committee on Land Resources Management, committees, departments and land inspections of local executive bodies at all levels and develop the following general key competences:.

- mental skills (reflection, abstraction, independent further education)
- social skills (cooperation, communication)
- technical skills (research, use of technical equipment)



Detailed educational goals are the acquisition and development of the following competences:

- safe use of expression in the working languages;
- methodical and theoretical knowledge for targeted problem-solving in terms of editing, analysis and interpretation;
- ability to independently develop a scientific or practical problem with subject-specific and/or job-related emphasis;
- knowledge of the cultural contexts and characteristics relevant for translation and interpretation;
- knowledge of current professional work equipment and digital technologies.

Qualification profile: Activities land surveyor ? is working with the application of knowledge about the basic directions of development of land use and land management techniques of land management works, how to develop and improve the land system of anti-erosion measures, legislation on nature protection.

Subject-specific skills:

Basic Land management skills. Have common competencies include the ability to understand the nature and the social significance of their future profession, to show her sustained interest. Organize their own activities, choose the standard methods and ways to perform professional tasks, evaluate their efficiency and quality, make decisions in standard and non-standard situations and take responsibility for them. Search for and use information necessary for the effective performance of professional tasks, professional and personal development, use of information and communication technologies in professional activity.

Skills in Land Resource Management. Knowledge of characteristics of the land as an object of land relations, the goals and purpose of assessment of land, commonly used methods of assessment, the use of the best equipment and the efficient use of land. The study of the structure and content of work on the monitoring of land and real estate. Development of methods and means of obtaining the necessary information in the management of land monitoring.

Skills in Geoinformation systems in land management. To collect, integrate, visualize cartographically diverse spatial information; process and analyze spatial information with sophisticated software and hardware; create and use geographic information systems, databases and data and knowledge bases for various applications, content and geographical coverage, and spatial data infrastructure.

## 0 Appendix: Programme Learning Outcomes and Curricula

In practice, the future land surveyor using modern surveying instruments, e. g. aerial photography. Exploring the land, it was his plan, and it reflects all the important features. If the site has any structure, it measures their area and carefully records the data. Studies compiled intra and inter-farm land management projects. This takes into account the requirements of environmental and land legislation.

The following **curriculum** is presented:

БІЛІМ БЕРУ КОМПОНЕНТІ / ОБРАЗОВАТЕЛЬНЫЙ КОМПОНЕНТ / TAUGHT COMPONENT						
1. БАЗАЛЫҚ ПӘНДЕР/БАЗОВЫЕ ДИСЦИПЛИНЫ/FUNDAMENTAL DISCIPLINES						
Модуль коды Код модуля Module Code	Пәндер мен жұмыстың түрлері Наименование дисциплин и видов деятельности Disciplines and activities	Кред. саны Кол. кред. Credits	семестрлер/семестры/semesters			
			Лек+пр+лаб /Лек+пр+лаб/L+P+Lb			
			I	II	III	IV
<b>1.1. МЕМЛЕКЕТТІК МІНДЕТТІ МОДУЛЬДЕР / ОБЯЗАТЕЛЬНЫЕ ГОСУДАРСТВЕННЫЕ МОДУЛИ / COMPULSORY STATE MODULES (8 кредит/8 кредитов/ 8 credits)</b>						
GTF5201 IFN 5201 HPhS5201	Ғылымдар тарихы және философиясы История и философия науки History and Philosophy of Science	2	1+1+0			
ShT(k)5202 IYa(p)5202 FL(p)5202	Шет тілі(кәсіби) Иностранный язык (профессиональный) Foreign language (Professional)	2	0+2+0			
Ped 5203	Педагогика/Педагогика/Pedagogics	2		1+1+0		
Psy 5204	Психология/Психология/Psychology	2		1+1+0		
<b>1.2. МІНДЕТТІ МАМАНДАНДЫРУ МОДУЛЬДЕРІ / ОБЯЗАТЕЛЬНЫЕ ПРОФЕССИОНАЛЬНЫЕ МОДУЛИ / COMPULSORY PROFESSIONAL MODULES (12 кредит/12 кредитов/12 credits)</b>						
<b>Міндетті мамандандыру модулі 1 / Обязательный профессиональный модуль 1 / Compulsory Professional Module 1</b>						
GZhUZh 5205 OPNI 5205 OPRP 5205	Ғылыми жобаларды ұйымдастыру мен жоспарлау Организация и планирование научных проектов Organization and planning of research projects	3	2+1+0			
<b>Міндетті мамандандыру модулі 2 / Обязательный профессиональный модуль 2 / Compulsory Professional</b>						

## 0 Appendix: Programme Learning Outcomes and Curricula

Module 2		3	2+1+0			
ZTPKET5206 EMRIOZ 5206 EMRUL5206	Жерді тиімді пайдалану мен қорғаудың экономикалық тетігі Экономический механизм рационального использования и охраны земель Economic mechanism of rational use and protection of lands					
Міндетті мамандандыру модулі 3 / Обязательный профессиональный модуль 3 / Compulsory Professional Module 3						
ZPRTMN5207 TMORZ 5207 TMLUR5207	Жерді пайдалануды реттеудің теориялық-методологиялық негіздері Теоретико-методологические основы регулирования землепользования Theoretical and methodological basis of land use regulation	3		2+1+0		
Міндетті мамандандыру модулі 4 / Обязательный профессиональный модуль 4 / Compulsory Professional Module 4						
ZhBBDI5208 TIYO 5208 TIHE 5208	Жоғарғы білім берудегі дәстүрлер мен инновациялар Традиции и инновации в высшем образовании Tradition and Innovation in Higher Education	3		2+1+0		
<b>2.ПРОФИЛЬДІК ПӘНДЕР / ПРОФИЛИРУЮЩИЕ ДИСЦИПЛИНЫ / SPECIALIZATION DISCIPLINES</b>						
ZOZRB 5301 ZUZR 5301 LMLRM 5301	Жерге орналастыру және жер ресурстарын басқару Землеустройство и управление земельными ресурсами Land management and land resources management	2	1+1+0			
<b>2.1. ЖЕКЕ БІЛІМ АЛУ БАҒЫТТАРДЫҢ МОДУЛЬДЕРІ / МОДУЛИ ИНДИВИДУАЛЬНЫХ ОБРАЗОВАТЕЛЬНЫХ ТРАЕКТОРИЙ / 1.2.MODULES OF INDIVIDUAL EDUCATIONAL PATHS (20 кредит/20 кредитов/20 credits)</b>						
Жеке білім алу бағыты 1 – Жер ресурстарын басқару Индивидуальная образовательная траектория 1 - Управление земельными ресурсами Individual Educational Path 1 - Land Resource Management	Жеке білім алу бағыты 2 – Жерге орналастырудағы геоақпараттық жүйелер Индивидуальная образовательная траектория 2 - Геоинформационные системы в землеустройстве Individual Educational Path 2 - Geoinformation systems in land management	Кред.саны Кол.кред. Credits  20	семестраер/семестры/semesters			
			Лек+пр+лаб /Лек+пр+лаб/L+P+Lb			
			I	II	III	IV

Модуль 1- Жер мониторингі жүйесі Модуль 1- Система мониторинга земель Module 1- Land monitoring system		Модуль 1- Жерді қорғау және арақашықтықтан зерделеу Модуль 1- Охрана земель и дистанционное зондирование Module 1- Land Protection and remote sensing					
AZNMZ 5302 SMZPDZZ 5302 LMSURS 5302	Арақашықтықтан зерделеу негізіндегі жер мониторингі жүйесі Система мониторинга земель с применением дистанционного зондирования Land monitoring system using remote sensing	AZAKAZK 5302 OZIMDZZ 5302 PLURSM 5302	Арақашықтықтан зерделеу әдістерін қолдану арқылы жерді қорғау Охрана земель с использованием методов дистанционного зондирования Protection of land using remote sensing methods	3	2+1+0		
Модуль 2-Жер ресурстарын оңтайлы бөлуін экономикалық негіздері Модуль 2-Экономические основы оптимизации распределения земельных ресурсов Module 2-Economic fundamentals optimize the allocation of land resources		Модуль 2-Геоақпараттық жүйелер және картографиялау Модуль 2- Геоинформационные системы и картографирование Module 2- Geoinformation systems and mapping					
ZROBEN 5303 EOORZR 5303 EROALR 5303	Жер ресурстарын оңтайлы бөлуін экономикалық негіздері Экономические основы оптимизации распределения земельных ресурсов Economic fundamentals optimize the allocation of land resources	GAKMB K 5303 OIGSBD 5303 OSGDC 5303	ГАЖ ашық көздері және мәліметтер базасын құру Открытые источники ГИС и составление базы данных Open source GIS and database compilation	3		2+1+0	
ZRAB 5304 RUZR 5304 TRMLM 5304	Жер ресурстарын аймақтық басқару Региональное управление земельными ресурсами The regional management of land resources	CG 5304 CG 5304 CG 5304	Картография және геовизуализация Картография и геовизуализация Cartography of and geovisualization	2		1+1+0	

## 0 Appendix: Programme Learning Outcomes and Curricula

<b>Модуль 3-Жерге орналастыру жұмысындағы жаңа ГАЖ технологиялар</b> <b>Модуль 3-Новые ГИС технологии в землеустроительных работах</b> <b>Module 3-New GIS technology in land management works</b>		<b>Модуль 3- Жерге орналастырудағы қазіргі сандық технологиялар</b> <b>Модуль 3-Современные цифровые технологии в землеустройстве</b> <b>Module 3-Modern digital technology in land management</b>					
ZRBZAZh 6305 ZISUZR 6305 LISLRM 6305	Жер ресурстарын басқарудағы жер-ақпараттық жүйелер Земельно-информационные системы в управлении земельными ресурсами Land -information systems in land resources management	ZRBAZ 6305 ASUZR 6305 ASLRM 6305	Жер ресурстарын басқарудың автоматтандырылған жүйелері Автоматизированные системы управления земельными ресурсами Automated systems for land resources management	3			2+1+0
ZOZZGT 6306 NGTZR 6306 NGTLMW 6306	Жерге орналастыру жұмыстарындағы жаңа ГАЖ технологиялар Новые ГИС технологии в землеустроительных работах New GIS technology in land management works	ZOZST 6306 CSTZ 6306 MDTLM 6306	Жерге орналастырудағы заманауи сандық технологиялар Современные цифровые технологии в землеустройстве Modern digital technology in land management	3			2+1+0
<b>Модуль 4-Жерге орналастырудағы ландшафттық жобалау және математикалық әдістер</b> <b>Модуль 4-Ландшафтное проектирование в землеустройстве и математические методы</b> <b>Module 4-Landscape design in land management and mathematical methods</b>		<b>Модуль 4-Жерге орналастырудағы ландшафттық жобалау мен үлгілеу</b> <b>Модуль 4-Ландшафтное проектирование и моделирование в землеустройстве</b> <b>Module 4-Landscape design and modeling in Land Management</b>					

ZPLEZ 6307 LEPZ 6307 LEDLM 6307	Жерді пайдалануды ландшафттық-экологиялық жобалау Ландшафтно-экологическое проектирование землестроения Landscape-ecological design of land use	LLZ 6307 LLP 6307 LSLD 6307	Ландшафттану және ландшафттық жобалау Ландшафтоведение и ландшафтно проектирование Landscape science and landscape design	3			2+1+0
ZOEMA 6308 EMMZ 6308 EMMLM 6308	Жерге орналастырудағы экономикалық-математикалық әдістер Экономико-математические методы в землеустройстве Economic-mathematical methods in land management	ZOU 6308 MZ 6308 MLM 6308	Жерге орналастырудағы үлгілеу Моделирование в землеустройстве Modeling in land management	3			2+1+0
<b>ОКУДЫҢ ҚОСЫМША ТҮРЛЕРІ / ДОПОЛНИТЕЛЬНЫЕ ВИДЫ ОБУЧЕНИЯ / ADDITIONAL TYPES OF TRAINING</b>							
<b>3. КӘСІБИ ТӘЖІРІБЕ / ПРОФЕССИОНАЛЬНАЯ ПРАКТИКА / PROFESSIONAL PRACTICE</b> (6 кредит/6 кредитов/6 credits)							
PT/PP/PP	Педагогикалық тәжірибе / Педагогическая практика/ Pedagogical Practice			3			3
ZT/TP/RP	Зерттеу тәжірибесі 1/ Исследовательская практика 1/ Research practice 1					1	
ZT/TP/RP	Зерттеу тәжірибесі 2/ Исследовательская практика 2/ Research practice 2			3			2
<b>4. МАГИСТРАНТТЫҢ ҒЫЛЫМИ-ЗЕРТТЕУ ЖҰМЫСЫ ЖӘНЕ ДИССЕРТАЦИЯНЫ ОРЫНДАУ / НАУЧНО-ИССЛЕДОВАТЕЛЬСКАЯ РАБОТА МАГИСТРАНТА И ВЫПОЛНЕНИЕ ДИССЕРТАЦИИ / MASTER STUDENT'S RESEARCH WORK AND PREPARATION OF DISSERTATION</b> (7 кредит/7 кредитов/7 credits)							
DGZZhI/NIRD I/RWPD I	Ғылыми семинар I /Научный семинар I/Research Seminar I			1	1		
DGZZII/NIRDII/RWPDII	Ғылыми семинар II /Научный семинар II/Research Seminar II			1		1	
DGZZIII/NIRDIII/RWPDIII	Ғылыми семинар III /Научный семинар III/Research Seminar III			1			1
DGZZIV/NIRDIV/RWPDIV	Ғылыми семинар IV /Научный семинар IV/Research Seminar IV			4			4
<b>5. ҚОРЫТЫНДЫ АТТЕСТАТТАУ / ИТОГОВАЯ АТТЕСТАЦИЯ / FINAL ATTESTATION (4 кредитов / 4 кредитов / 4 credits)</b>							

## 0 Appendix: Programme Learning Outcomes and Curricula

5.1	Кешенді емтихан / Комплексный экзамен / Complex Examination	1				1
5.2	Диссертацияны рәсімдеу және қорғау / Оформление и защита диссертации / Dissertation Preparation and Defence	3				3
БАРЛЫҒЫ / ИТОГО / TOTAL		59	16	17	16	10

География және табиғатты пайдалану факультеттің Ғылыми Кеңесінің мәжілісінде бекітілген.

2015 ж. \_\_\_\_\_ № \_\_\_\_\_ хаттама.

Факультет деканы

Кафедра меңгерушісі

ЖООКББИ директоры

Құрастырған

Сальникова В.Г.

Нүсіпова Г.Н.

Мухидинова Т.М.

Нүсіпова Г.Н.  
Токбергенова А.А.

Утверждено на заседании Ученого Совета факультета географии и природопользования.

Протокол № \_\_\_\_\_ от \_\_\_\_\_ 2015 г.

Декан факультета

Зав. кафедрой

Директор ИПО

Разработчики

Сальникова В.Г.

Нюсупова Г.Н.

Мухидинова Т.М.

Нюсупова Г.Н.  
Токбергенова А.А.

Approved at the meeting of the Academic Council of the Faculty of Geography and Environmental Sciences.

Minutes number № \_\_\_\_\_ of \_\_\_\_\_, 2015.

Dean

Head of Department

Director of the IPE

Developed by

V.G.Salnikov

G.N. Nyussupova

T.M. Mukhitdinova

G.N. Nyussupova  
A.A. Tokbergenova