ASIIN Seal & EUR-ACE® Label Accreditation Report

Bachelor's Degree Programme
Land Cadastre and Land Management
Ecology and Environmental Protection (water sector option)

Master's Degree Programme
Land Use and Land Resources Management
Environmental Protection (agriculture and water sector option)

Provided by
Tashkent Institute of Irrigation and Agricultural Mechanization Engineers – National Research University

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A About the Accreditation Process

Name of the degree programme (in original language)	(Official) English translation of the name	Labels applied for [1]	Previous accreditation (issuing agency, validity)	Involved Technical Committees (TC)[2]
Ер кадастри ва ер тузиш	Land Cadastre and Land Management	ASIIN, EUR-ACE® Label	State Inspectorate for Supervision of Quality in Education, until 2027	03, 11
Ер ресурсларидан фойдаланиш ва бошқариш	Land Use and Land Recourses Management	ASIIN, EUR-ACE® Label	State Inspectorate for Supervision of Quality in Education, until 2027	11
Экология ва атроф муҳит мухофазаси (хўжалигида)	Ecology and Environmental Protection (water sector option)	ASIIN, EUR-ACE® Label	State Inspectorate for Supervision of Quality in Education, until 2027	03, 11
Атроф муҳит мухофазаси (қишлоқ ва сув хўжалигида)	Environmental protection (agriculture and water sector option)	ASIIN, EUR-ACE® Label	State Inspectorate for Supervision of Quality in Education, until 2027	03, 11
Date of the contract: 11.04.2022 **Submission of the final version of the self-assessment report:** 15.09.2023 **Date of the onsite visit:** 24.–26.01.2024 **at:** Tashkent Campus				
Expert panel:				

[1] ASIIN Seal for degree programmes; EUR-ACE® Label: European Label for Engineering Programmes.
[2] TC: Technical Committee for the following subject areas: TC 03 - Civil Engineering, Geodesy and Architecture; TC 11 – Geosciences.

Prof. Dr. Wolfgang Kainz, University Vienna Prof. Dr. Hardy Lehmkühler, Technical University of Applied Sciences Stuttgart Prof. Dr. Renatus Widmann, University Duisburg-Essen Dr. Madina Khalmirzayeva, Nazar Business and Technology LLC Karimova Qizlarxon, master student at National University of Uzbekistan named after Mirzo Ulugbek	
Representative of the ASIIN headquarter: Andrea Kern	
Responsible decision-making committee: Accreditation Commission for Degree Programmes	
Criteria used: European Standards and Guidelines as of May 15, 2015 ASIIN General Criteria, as of December 10, 2015 Subject-Specific Criteria of Technical Committee 03 – Civil Engineering, Geodesy and Architecture as of September 28, 2012 Subject-Specific Criteria of Technical Committee 11 – Geosciences as of December 9, 2011	

B Characteristics of the Degree Programs

a) Name	Final degree (original/English translation)	b) Areas of Specialization	c) Corresponding level of the EQF[3]	d) Mode of Study	e) Double/Joint Degree	f) Duration	g) Credit points/unit	h) Intake rhythm & First time of offer
Land Cadaster and Land Management	йўналиши соҳасида инженерия ва технологиялар бакалаври / Bachelor of Science	Land Cadastre, Land Use Planning and Land Management	6	full time	-	8 semester	240 ECTS credits	September 1st, 1999
Land Use and Land Resources Management	фанлар магистри Master of Science	Land management, Land Cadastre Engineering Land Use Planning and Development of Territories	7	full time	-	4 semester	120 ECTS credits	September 1st 2007
Ecology and Environmental Protection (water sector option)	йўналиши соҳасида инженерия ва технологиялар бакалаври / Bachelor of Science	Environmental Engineering and Management, and Sustainable Development	6	full time	-	8 semester	240 ECTS credits	September 1st, 1999
Environmental Protection (agriculture and water sector option)	фанлар магистри Master of Science	Environmental Engineering and Management, and Sustainable Development	7	full time	-	4 semester	120 ECTS credits	September 1st, 2002

The Tashkent Institute of Irrigation and Agricultural Mechanization Engineers – National Research University (TIIAME; Uzbek: Toshkent Irrigatsiya va Qishloq Xo‘jaligini Mexanizatsiyalash Muhandislari Instituti - Milliy tadqiqot universiteti) was established as a faculty of the Turkistan State University in Tashkent in 1923. Its initial focus was on melioration and hydro-technical engineering to manage water resources in Central Asia. During the first half of the 20th century, the university continuously expanded adding new faculties on agricultural economics, land construction, mechanization of hydro-melioration works, hydro-

[3] EQF = The European Qualifications Framework for lifelong learning

energetic construction, technology of agricultural machines and general engineering. After the independence of Uzbekistan in 1991, the university started to implement Uzbek language into its study programs as the main language at the university but continued with its university study programs and research focus. TIIAME received its current name by the government of Uzbekistan in 2017, followed by the addition of National Research University in 2021. TIIAME is the only university in Uzbekistan holding the title of a National Research University, expressing its high profile in research.

TIIAME is currently organized in seven faculties offering 40 bachelor programs, 36 master programs, and 22 PhD programs. Next to its main campus in the Uzbek capital Tashkent, it operates campuses in Bukhara (Bukhara Institute of Natural Resources) and Karshi (Karshi Institute of Irrigation and Agrotechnology). In 2023, it employs 743 faculty staff members, who teach 5605 full time students as well as 1408 part-time students. Of those, the number of international students reaches almost 200.

During the last decade TIIAME strongly increased its position in various university rankings. Since 2021 TIIAME holds the position of the best university in Uzbekistan. According to the QS Asia university rankings, TIIAME has reached the number of 249 in 2024, and 9th position in Central Asia. Famous alumni of the university include the current president of Uzbekistan, Mirziyoyev Shavkat Miromonovich, as well as the former president of Tajikistan, Nabiev Rakhmon Nabievich, and the first president of the Academy of Sciences of the Republic of Uzbekistan, Tashmukhammad Niyazovich Kari-Niyazov. In addition, TIIAME is currently expanding its double-degree programs, for example with Wageningen University (Netherlands), Michigan University (USA) and Óbuda University (Hungary).

In TIIAME's vision, the university strives to become a world-class university characterized by excellence and contributions to society through education, advanced research and internationalization. It defines its mission as:

1. Pursuing and delivering academic excellence in every aspect of our endevors
2. Producing graduates to become future ready leaders through life-long learning experience
3. Developing the potential of water and agriculture, as well as improving the prestige of Central Asia in education, research and innovation in the global market.

TIIAME has a strong focus on research; it currently includes 29 international projects. The main collaboration partners regarding research publications are based in China, Russia, Germany, Kazakhstan, the United States, and India. Considering the percentage of research publications from entire Uzbekistan, 19.2% of all publications are associated with researchers at TIIAME. TIIAME collaborates with internationally-renowned academic and research

institutions through educational and research projects. For instance, the institute has successfully implemented projects with European Commission (e.g. Erasmus+, Erasmus Mundus, and TEMPUS), USAID, BMBF, and others. In addition to research collaborations with foreign and domestic universities, TIIAME organizes cooperations with industry partners. Next to working on various research projects, patents, projects and applications, industry partners also fund TIIAME's research and educational laboratories and equipment. This includes companies such as Festo, John Deere, Case New Holland, Huawei, and Felder KG. Recent efforts should further foster the entrepreneurial skills of the students and increase interests in innovation projects.

For the bachelor study program *Land Cadastre and Land Management*, the institution has presented the following profile in the self-assessment report:

"***Objects of professional activities*:** The bachelor's program aims to prepare graduates for several professional activities related to land management, land cadastres, and organizing land registration. This includes the ability to keep an accurate quantity and quality account of the land fund, develop innovative land development projects, study the deterioration of the condition and quality of land resources and degradation problems, and develop solutions for their elimination.

Land Management Facilities: The curriculum includes state registration of rights to land plots, land quantity, and quality accounting, soil audit and determining the regulatory value of land, state control over land use and protection, creation and maintenance of land cadastre information system, territory organization, and complex project related to development - includes an in-depth study of the processes of preparation of technical documents. Graduates will have practical experience and theoretical knowledge of land resources management, land cadastres, land management, digitization of cadastral information, and other necessary infrastructures.

Regulatory Legal Documents: Understanding the legal framework and regulatory aspects of land cadastre, land management, and land acquisition activities is essential for effective decision-making. The program introduces undergraduate students to the relevant regulations, policies, and recommendations that govern the relationships in maintaining land management, land cadastres, and implementing land settlement activities.

Educational Process: Graduates of this undergraduate program are prepared to contribute effectively to the educational process of higher education institutions and vocational colleges. They are prepared to work effectively in the enterprises and organizations of the

Cadastre Agency, the Ministry of Agriculture of the Republic of Uzbekistan, and organizations under its jurisdiction.

S**cientific and Technical Projects:** The program emphasizes developing research skills that enable students to participate in science and technology projects. By cooperating with research and development institutes, students will work on modern projects that will solve their current problems in the fields of land cadastre, land management, and land surveying."

For the master study program *Land Use and Land Resources Management*, the institutions has presented the following profile in the self-assessment report:

„**Objects of professional activities**: The Master's degree program aims to prepare graduates for professional activities related to Land Resource Use and Management. This includes understanding and addressing issues such as scarcity of irrigated lands, land quality assessment, and sustainable use of land resources.

Land resources management tools: The curriculum includes an in-depth study of Land Resource Use and Management. Graduates will gain practical experience and theoretical knowledge of other necessary infrastructures to use and manage land resources efficiently.

Regulatory Legal Documents: Understanding the legal framework and regulatory aspects of land resource use and management is critical to effective decision-making. The program introduces students to relevant regulations, policies, and guidelines governing land resource use, conservation, and protection.

Educational process: graduates of the Master's degree in the Cadastre Agency and its system, enterprises and organizations, the Ministry of Agriculture of the Republic of Uzbekistan and organizations under its jurisdiction, as well as scientific design institutes, related to the effective use and planning of land resources, protection of land resources and their quality improvement, as well as subjects related to the system of land resources management the teacher is prepared to work effectively in higher and secondary special, vocational education organizations.

Scientific and technical projects: The program aims to develop practical skills that enable students to participate in scientific and technical projects. Within the cooperation of the organizations of land structure design, students will work on modern projects aimed at solving real problems in the fields of land resource use and management."

For the bachelor study program *Ecology and Environmental Protection (water sector option)*, the institutions has presented the following profile in the self-assessment report:

"**Objects of Professional Activities**: The Bachelor's degree program aims to prepare graduates for various professional activities related to protecting and managing natural resources. It includes the ability to understand and solve problems related to environmental protection and sustainable environmental management under emerging uncertainties such as increasing anthropogenic and climate change impacts.

Environmental Management Facilities: The curriculum covers an in-depth study of various natural resource management facilities' design, operation, and management. Graduates gain practical experience and theoretical knowledge related to water treatment plants, sorting, logistics, waste disposal and recycling, and other necessary infrastructure for managing natural resources and reducing pollution of natural resources into the environment.

Regulatory Legal Documents: Understanding natural resource management's legal framework and regulatory aspects is crucial for effective decision-making. The program introduces students to relevant regulatory documents, policies, and guidelines governing natural resource use, conservation, and protection.

Educational Process: Graduates of this program are prepared to work effectively in the enterprises and organizations of the Ministry of Ecology, Environmental Protection and Climate Change, and other sectors such as the Ministries of Water Resources, Domestic and Communal Services, Agriculture, Transportation Agency, and others, and enterprises and organizations under their jurisdictions.

Scientific and Technical Projects: The program focuses on developing practical skills, allowing students to participate in scientific and technical projects. Cooperation with industrial organizations allows students to work on advanced projects to solve real environmental protection problems."

For the master study program *Environmental Protection (agriculture and water sector)* the institutions has presented the following profile in the self-assessment report:

"**Objects of Professional Activities**: The MSc program aims to prepare graduates for a range of professional activities related to environmental Protection (EP). Development of environmental protection measures, assessment of the environmental impact of planned activities of host plants, regulation of the relationship between nature and society in a non-governmental manner, protection of land, water and air, flora and fauna, underground and surface resources from pollution, and prevention of environmental pollution.

Environmental Management Facilities: The curriculum covers an in-depth study of various natural resource management facilities' design, operation, and management. Graduates gain practical experience and theoretical knowledge related to water treatment plants, sorting, logistics, waste disposal and recycling, and other necessary infrastructure for managing natural resources and reducing pollution of natural resources into the environment.

Regulatory Legal Documents: Understanding natural resource management's legal framework and regulatory aspects is crucial for effective decision-making. The program introduces students to relevant regulatory documents, policies, and guidelines governing natural resource use, conservation, and protection.

Educational Process: Graduates of this MSc program in Environmental Protection are well prepared to work effectively in scientific design institutes related to environmental impact assessment, planning and management, and sustainable development. They have the knowledge and skills to contribute effectively to the educational process of higher education universities, institutions, and vocational colleges. They are well-prepared to teach and mentor students pursuing water-environmental disciplines, passing on their expertise and experiences.

Scientific and Technical Projects: The program focuses on developing practical skills, allowing students to participate in scientific and technical projects. Thanks to cooperation with industrial organizations, students have the opportunity to work on advanced projects aimed at solving real problems in the field of environmental protection.”

C Expert Report for the ASIIN Seal[4]

1. The Degree Programme: Concept, Content & Implementation

Criterion 1.1 Objectives and Learning Outcomes of a Degree Programme (Intended Qualifications Profile)

Evidence:

- Self-assessment report
- Webpage TIIAME https://tiiame.uz/en
- Webpage Faculty of Land Resources and Cadastre http://lulc.tiiame.uz/en/page/yf-tarixi
- Webpage Department of Ecology and Water Resources Management https://tiiame.uz/en/content/department-ecology-and-water-resources-management
- Webpage Faculty of Ecology and Law https://tiiame.uz/en/content/faculty-mechanization-hydromeliorative-works-0
- Diploma Supplement
- University presentation during the on-site visit
- Objective-module matrix
- Discussion during the audit

Preliminary assessment and analysis of the experts:

After studying the submitted documents, the experts get an overview on the four study programs under review. According to the self-assessment report, TIIAME continues to improve its study programs by observing the trends in science and technology and considering the demands from society. Next to teaching technology and subject-specific skills, TIIAME follows the approach to include practical training as one objective in the students' education.

[4] This part of the report applies also for the assessment for the European subject-specific labels. After the conclusion of the procedure, the stated requirements and/or recommendations and the deadlines are equally valid for the ASIIN seal as well as for the sought subject-specific label.

TIIAME describes in its documents that the study program *Land Cadastre and Land Management* focuses on teaching the students modern knowledge in the fields of land cadaster, land registration, land management, and land development. This includes skills in data analysis, decision-making, and stakeholder engagement. According to the objectives, graduates are able to create innovative land development projects and keep records of the quantity and quality of land funds. Moreover, graduates are able to study the deterioration of the condition of quality of land resources and degradation problems and design solutions. Next to the technical processes, students are introduced to the legal framework and regulatory aspects.

TIIAME defined the following program learning outcomes (PLOs):

General competences

1. knowledge of current issues of state policy, ability to analyze socio-economic problems and processes independently;
2. to understand the essence of documents and works related to professional activity in one of the foreign languages, to have the necessary knowledge within the scope of professional activity in natural sciences and to use them in professional activity on a modern scientific basis;
3. to be able to use modern information technologies in his/her professional activities, to master the methods of collecting, storing, processing and using information, to be able to make independent decisions in his/her activities;
4. to have an ability to acquire new knowledge independently, improve his/her knowledge and scientifically organize his/her work;
5. to have an idea about a healthy lifestyle and the need to follow it.

Professional competences

6. to have the skills to search, analyze and use normative and legal documents in their professional activities;
7. to have the skills to optimize organizational structures, apply personnel management strategies, plan and implement events;
8. know how to conduct negotiations, meetings, business correspondence and
9. implement online communications;
10. knowledge of strategic and operational management tasks, modern technologies of work organization and management, leadership of a team of employees;
11. know how to introduce efficient and cost-effective technologies that meet the requirements of land cadaster and land use sectors;

12. the theory and technology of land monitoring, a general understanding of them, its content and tasks, the components and stages of land monitoring;
13. use of land monitoring system, guidelines, normative documents and methodical guidelines used in practice; selection of types of land ownership and land use, priority directions of their organizational and economic development; methods of obtaining, processing and analyzing land monitoring data in order to effectively conduct geodesy, cartography and cadastral works; ensure the use of modern information technologies in conducting land monitoring;
14. create an idea about the economic efficiency of land resources in agricultural production, intensification, economic analysis of the activities of agricultural enterprises;
15. to know the economic justification of the use of land resources in the land development projects, the characteristics of the market and agricultural production, the concentration, specialization and placement of agrarian production, and to ensure their use;
16. to know the basics of the state unified cadaster system, its structure and management;
17. to know and ensure the use of land resources management methods and their application;
18. to know the methods and their application in areas prone to erosion and to have the skills to ensure their use.

TIIAME introduces the master program *Land Use and Land Resources Management* in its self-assessment report. The study program focuses on fundamental scientific and practical training to improve their skills and knowledge in the field of management of land resources, protection and improvement of land resource quality, and other subjects in the system of land resources management. In addition, students receive a basic training in pedagogy, which allows them to work in vocational educational processes in this. The main objective of the master study program is conducting scientific research activities in the field of land use and land resources management addressing issues such as scarcity of irrigated lands, land quality assessment, and sustainable use and land resources. Advanced knowledge in the legal framework and regulatory processes is integrated in the study program to develop effective strategies. This involves understanding current issues of state policy as well as the ability to analyze social problems and processes.

TIIAME describes the following PLOs in its self-assessment report:

General Competences

1. possessing a comprehensive understanding of the scientific world system, fundamental methodological disciplines, the ability to independently analyze technological issues and processes;
2. demonstrating proficiency in interpreting documents and tasks related to professional activities in a foreign language, understanding the essence of scientific research and pedagogical methodology, and utilizing them in contemporary scientific and professional contexts;
3. acquiring new knowledge independently, working on and organizing labor activities on a scientifically grounded basis;
4. critically evaluating and analyzing acquired knowledge, applying it in scientific activities;
5. effectively utilizing legal and regulatory documents in one's professional activities, making independent decisions based on one's own professional judgment;
6. utilizing internet resources, mastering the fundamental methods and tools of information retrieval, processing, and reprocessing, and being proficient in working with computers as a means of managing information;
7. utilizing information technology, understanding the nature and significance of information technologies in the context of the information society, recognizing and responding to information leakage and threats, and possessing the ability to meet the fundamental requirements of information security.

Professional Competences

8. conducting scientific and practical research, reevaluating the results of experiments, and drawing scientifically-based conclusions from them, preparing and editing scientific articles, organizing and conducting scientific seminars, conferences, and symposiums, and possessing the skills to develop scientific projects;
9. utilizing information and pedagogical technologies in pedagogical activities;
10. understanding innovative approaches in improving the quality and effectiveness of education and development;
11. having the ability to prepare project proposals for participation in projects announced by both domestic and foreign institutions based on the results of scientific activities;
12. possessing the skills required for participation in projects announced by state, non-state, and non-commercial organizations
13. optimizing the organizational structure of institutions, enterprises, and their subdivisions, enhancing the professional competence of staff, organizing and managing, regulating effective use of labor potential, and contributing to the development of a system to enhance labor efficiency;

14. proficiency in applying economic risk management measures when producing goods and utilizing labor resources in enterprises in the context of branches and fields;
15. possessing the skills to create and apply secure mathematical, informational, and simulation models in theoretical and practical areas under development;
16. understanding economic risk factors affecting branches and fields, and conducting research and analysis to identify them, and having the ability to carry out analytical tasks aimed at ensuring technical security;
17. developing and implementing technical strategic plans in the fields and branches, creating conceptual and theoretical models of issues related to technical security, and having the knowledge to apply recommendations and solutions derived from scientific research and the results of academic studies.

The experts further examine the study program *Ecology and Environmental Protection (water sector option)* (henceforward: *Ecology and Environmental Protection*). According to the submitted documents, students in this bachelor program learn to understand and solve problems related to environmental protection and sustainable environmental management including emerging uncertainties such as increasing climate change impacts. The sturdy program includes introduction to various topics including water treatment plants, sorting, logistics, waste disposal and recycling, and other environmental management facilities. In order to be able to work with relevant regulatory documents, the students receive an introduction to policies, and guidelines governing national resource use, conservation, and protection.

According to the self-assessment report, the experts acknowledge the following PLOs for the study program:

General competences

1. Knowledge of topical issues of state policy, the ability to independently analyze socio-economic problems and processes;
2. understand the essence of documents and works related to professional activities in one of the foreign languages, have the necessary knowledge in the framework of professional activities in the field of natural sciences and be able to use them in professional activities on a modern scientific basis;
3. be able to use information technology in their professional activities, master the methods of collecting, storing, processing and using information, be able to make independent decisions in their activities;

4. is able to independently acquire new knowledge, work on himself and organize work on a scientific basis;
5. have an idea about a healthy lifestyle and the need to comply with it.

Professional competences

6. have the skills to search, analyze and use legal documents in their professional activities;
7. Knowledge of corporate information systems, preparation of statistical analyzes and reports, database maintenance;
8. know management tasks in the field, organization of work, management of a team of employees;
9. Knowledge of the tasks of strategic and operational management, modern technologies for organizing labor and management, managing a team of employees;
10. acquire the skills of strategic analysis, development and implementation of an organizational strategy aimed at ensuring competitiveness;
11. Application of intelligent engineering systems in the optimization of ecosystem services;
12. acquire skills in the formation and management of projects, contracts, coordination of the activities of performers;
13. acquire skills in the use of telematics in the use of ecosystem services and increase their efficiency;
14. acquire skills in modeling environmental processes;
15. acquire skills in environmental impact assessment, monitoring and environmental audit;
16. the purpose and subject of the strategic environmental impact assessment, principles and its organization, strategic assessment and national legislation,
17. have skills in applying the impacts of water sector option activities on the environment and ways to reduce them, consequences, measures to reduce the consequences;
18. have the skills to analyze and use advanced statistical data in the field;
19. be able to harmoniously use modern information and communication technologies and intelligent engineering systems in the organization of environmental safety.

TIIAME outlines in its self-assessment report the master program *Environmental Protection (agriculture and water sector option)* (henceforward: *Environmental Protection*). The main aim of the study program is to educate graduates, who are trained to develop technological, organizational and managerial concepts and research, especially in relation to basin-

level water resources planning and management. The training focuses on scientific research in association with scientific and innovative organizations of higher education in disciplines related to agroecology, remote sensing, GIS, environmental protection, climate change, efficient use of natural resources, management and planning, assessment of the negative impact on the environment, protection of the environmental components and their quality, as well as environmental monitoring. Further initiatives include environmental audits. Additional partners offering collaborative research include governmental agencies, the Research Institute of Environment and Nature Conservation Technologies or others.

TIIAME has published the following PLOs:

General competences

1. own the system of knowledge of the scientific worldview, know the basics of general methodological sciences, know the current issues of state policy, have the ability to independently analyze social problems and processes;
2. be able to independently analyze social problems and processes;
3. oral and written presentation of one's point of view on national spiritual and universal values, the essence of the main idea of the national idea "Building a free and prosperous Motherland, a free and prosperous life" with an understanding of the theoretical basis and knowledge of its proportionality and difference from the main ideas;

Professional competences

4. have a holistic view of the processes and events taking place in nature and society, have knowledge about the spiritual image of a person, be able to use them in life and professional activities, as well as in modern scientific research;
5. the ability to apply in their professional activities the legal and ethical norms that regulate the relationship of a person to people, society, and the environment;
6. able to independently acquire new knowledge, improve it and organize their work on a scientific basis;
7. understand and analyze problems of social and personal significance on the basis of their individual knowledge;
8. be able to use normative legal documents in their activities;
9. have a culture of thinking, a certain way of thinking, the ability to clearly express oral and written speech;
10. creative critical review and analysis of the acquired knowledge, the ability to use them in scientific activities;

11. formation of social responsibility aimed at feeling the results of scientific activity;
12. to use the basic laws of science learned in professional activity, to classify methods, to be able to use methodological principles in scientific activity;
13. - having mastered one of the foreign languages as a means of scientific communication and
14. exchange of professional skills;
15. mastering the methods of collecting, storing, processing and using information;
16. the ability to make informed independent decisions in their professional activities;
17. have the ability to distinguish information, knowledge, information from each other, be able to use information technology;
18. understand the essence and significance of information technologies in the modern information society, understand the risks and threats of information attacks, be able to comply with the basic requirements of information security;
19. own the basic methods and means of obtaining, storing and processing information from the Internet, have the skills to work with a computer as a means of information management;
20. be able to use of information and pedagogical technologies in pedagogical activity;
21. have an innovative approach to improving the quality and efficiency of education;
22. be able to preparation of a project for participation in projects announced in the state and abroad based on the results of scientific activities;
23. be able to prepare regulatory documents for obtaining a patent;
24. be able to participate in projects submitted by state, non-state and non-profit organizations, it is necessary to have a project preparation qualification.

In the discussion, the representatives of the rector's office explain that TIIAME works closely with employers to reach educational sustainability. Based on their collaborations with agencies and industries, TIIAME identifies the needs and demands of the market, which influence the development of the study programs. They further highlight that socio-ethnical competences are integrated in all study programs under review as well as communication skills. Additional influences are collected by comparing the curriculum with similar study programs at top global universities to identify new trends in the field. Feedback is further collected from students, who are regularly invited to participate in satisfaction surveys as well as joint events (see criterion 5). The teaching staff confirms that new programs are always developed in collaboration with external experts. They describe that a new study program is initially developed internally among their colleagues before it is send to the industry partners for feedback as well as to professors of other universities. Next to

questions on the content and single modules, these surveys contain questions on the balance of hard and soft skills. In addition, they consider the content of similar programs at internationally renowned intuitions to manage subjects and workload. Thus, TIIAME aims to match the needs of the industry with the expectations of the university. The experts appreciate TIIAME's effort to invite external and internal stakeholders to develop and improve their study programs.

The program coordinators describe to the experts that the master programs were recently restructured following the input from the European Commission TEMPUS capacity building project and TIIAME's main partner university in Slovenia and Sweden. In this project, the master program *Land Use and Land Resources Management* was initiated. Additions to the master program *Environmental Protection* were issues on sustainability, which includes knowledge to manage communities and understand climate change. In this case, a lecturer from TIIAME developed a module in collaboration with one lecturer from a partner institution.

Overall, the experts approve the high satisfaction of the students with their university and study programs. The students often choose TIIAME due to personal recommendations as well as its reputation as an excellent university and found their expectations met. The students consider the qualification profile of the study programs as adequate for the regional job market and continuing their higher education. They highlight their appreciation of internships, which allows them to visit various companies and agencies, which supports them in choosing their profession.

In the discussion with the representatives from the industry and governmental agencies, the experts learn that there is a good collaboration with TIIAME. The industry representatives are very satisfied with the skill and competences of the graduates they employed and of the students they receive during internships. They confirm to the experts that they are regularly asked to provide feedback on the study programs and the curricula. In the past, they suggested several additions to the curricula, varying from new content in existing modules, giving more credits to single modules to adding new content to the study programs. These suggestions were met by TIIAME. Thus, they consider that the collaboration between TIIAME and their companies and agencies is fruitful and that it is based on a good understanding to solve modern problems in their country. As examples for suggestions, they name the various specializations in the study program of the bachelor program *Ecology and Environmental Protection*, which now allows the students to become experts in air pollution, water pollution, waste management, climate change, and additional fields. Furthermore, they suggest developing a stronger focus on green technologies and green solutions, which TIIAME is currently expanding in the different study programs. Representatives from governmental agencies further approve that TIIAME provides environmental solution

on one side but introduces students on the other side to national and international legislations and rules to solve transboundary problems, for example regarding water resources.

The experts summarize that TIIAME describes objectives and learning outcomes (the intended competence profile) of the study programs concisely. They are transparently anchored and published and thus available to students, lecturers and interested third parties. Although the experts acknowledge that the PLOs mirror the content of the study programs, they emphasize that the high number of PLOs is not conclusive. They recommend TIIAME to define objectives and learning outcomes in a brief manner listing the main competences and skills of students at graduations as well as social and competences included in the qualification profile.

Nevertheless, the experts approve that the learning outcomes reflect the targeted academic qualification level; they are feasible and equivalent to the relevant exemplary learning outcomes specified in the applicable ASIIN subject-specific criteria. The experts are convinced that with the intended competence profile, a professional activity corresponding to the level of qualification (according to the European Qualifications Framework) can be taken up (professional classification). The experts confirm that TIIAME develops the objectives and learning outcomes considering labor market and society. Moreover, the experts see evidences for regular reviews of the study programs involving relevant stakeholders (in particular from higher education and professional practice).

In addition, the experts evaluate if the study programs qualify for receiving the EUR-ACE® label. The experts compare the learning outcomes of the study programs with the EUR-ACE® Framework Standards and Guidelines (EAFSG) for engineering programs. The EUR-ACE® Framework Standards and Guidelines requires that engineering programs cover the following seven competence areas: Knowledge and Understanding, Engineering Analysis, Engineering Design, Investigations, Engineering Practice, Making Judgements Communication and Team-working, and Lifelong Learning. After studying the submitted documentation and after completing the discussions during the on-site visit, the experts conclude that the study programs under review cover all the required competence areas. They consider that the intended learning outcomes of all four programs are aligned with the EUR-ACE® Framework Standards and Guidelines (EAFSG). Consequently, the experts recommend the four study programs to receive the EUR-ACE® label.

Criterion 1.2 Name of the Degree Programme

Evidence:

- Self-assessment report

- official Curriculum document of each study program
- official Qualification Requirements of each study program
- Diploma Certificate
- Diploma Supplement
- Qualification requirements of each study program
- Webpage TIIAME https://tiiame.uz/en
- Webpage Faculty of Land Resources and Cadastre http://lulc.tiiame.uz/en/page/yf-tarixi
- Webpage Department of Ecology and water resources management https://tiiame.uz/en/content/department-ecology-and-water-resources-management
- Webpage Faculty of Ecology and Law https://tiiame.uz/en/content/faculty-mechanization-hydromeliorative-works-0
- Discussion during the audit

Preliminary assessment and analysis of the experts:
TIIAME describes in its self-assessment report that it selected the names of the study programs following international standards in the community and a governmental regulations of Uzbekistan.

The experts notice that the submitted documents show an inconsistent use of the name of the study program *Land Cadastre and Land Management*. For example, the self-assessment report contains British as well as American spelling ("Land Cadastre and Land Management" as well as "Land Cadaster and Land Management"); in addition, the study program is named "Land management and land cadastre" on the Faculty's webpage. The problem of interchanged names is further evident in the submitted documents such as the official curriculum document approved by the ministry, the issued diploma, and the diploma supplement.

Likewise, variations appear concerning the study program *Land Use and Land Resources Management* which is also referred as "Land Use and Management" online or as "Land Use and Management of Land Resources" in the official curriculum document. These two names further appear in the diploma and diploma supplement. The program coordinators discuss that the names were selected considering the main employers of the graduates. Nevertheless, the experts consider the use of various names on official documents as problematic. In particular, it appears students receive diploma and diploma supplement listing two different study program names. The experts are aware that this might be an issue of

translation; however, they encourage TIIAME to strictly keep to one way of spelling in all related documents and online in order to avoid any misunderstandings in the future.

The experts could not confirm the consistent spelling of the study programs *"Ecology and Environmental Protection (water sector option)* or *Environmental Protection (agriculture and water sector option)* since both were not listed on the webpage of the Department of Ecology and Water Resource Management. Furthermore, the experts could not access the webpage of Faculty of Ecology and Law during the review process to verify the study programs' spelling online. Nevertheless, the names of the two study programs are consistently used in all submitted documents of this review. In the discussion with the program coordinators, the experts learn that some would prefer to call the program "Environmental Science" or "Ecology." However, the Ministry of Higher Education, Science and Innovation do not approve this name. Previously the program was called "Environmental Engineering" but they had to change the name to its current version due to governmental initiative. They admit that this might not be a word to work translation from the Uzbek study program name; however, it is in accordance with the Uzbek government and well accepted by the international community. They insist that the names should especially represent the local needs and the local market. The experts agree with these statements and approve the university's explanation. Furthermore, the experts learn that the additions of "water sector" and "water and agricultural sector" describe the distinctive focus of the study programs, which further distinguishes them from similar programs at other national universities.

In summary, the experts form the opinion that the titles of the study programs under review reflect the intended objectives and learning outcomes as well as the teaching and learning content. The experts insist that TIIAME needs to review its internal documentation and external presentation of the study programs to confirm that only one type of official translation is used for each study program, especially the study program *Land Cadastre and Land Management* and *Land Use and Land Resources Management*. This includes internal documentation as well as the online representation of the study programs at its webpage.

Criterion 1.3 Curriculum

Evidence:

- Self-assessment report
- Official curriculum overview of each study program
- Qualification requirements of each study program
- Module handbook of each study program

- Discussion during the audit

Preliminary assessment and analysis of the experts:

Structure of the programme

According to the self-assessment report, bachelor programs comprise different types of modules: (1) humanitarian and natural sciences disciplines of 76 ECTS credits, (2) general professional disciplines of 108 ECTS credits, and (3) profiling disciplines (specialization) awarding 51 ECTS credits. The first component contains various subjects such as “Modern history of Uzbekistan”, “Philosophy”, “Foreign language”, “Physical Education” and others. The basic specialty disciplines focus on the subject-specific basics while the profiling disciplines address the professional development of the students. In addition, at least 20 credit points are allocated to internships, which are designed to give the students an impression of enterprises, organizations and institutions as their future employers. Moreover, five ECTS credits are for preparing and defending the graduation project (final project or bachelor thesis). The bachelor study programs comprise a total amount of 240 ECTS credits.

TIIAME defines in its self-assessment report that the master study programs contain several components: (1) mandatory modules, (2) electives modules, (3) internship, research activities. The total amount of credits is 120 ECTS credits at graduation. In the master study programs, the mandatory modules account for 32 ECTS credit points, while electives represent 18 ECTS credits of the curriculum. The representatives of the rector’s office explain to the experts that this accounts for 70% mandatory courses and 30% elective courses. Research activities take an amount of 70 credit points (2100 academic hours), which includes the work and defense of the master’s thesis (32 credits or 40 credits). The students take part in a research internship (30 credits) next to pedagogical work and seminars with a volume of eight credits.

According to the program coordinators, mentors assist the students in selecting their elective modules at master and bachelor level. Students register for their elective modules in the TIIAME’s online system. A syllabus is available for the students online, which gives them information on the content of the course. The experts learn that for each study program, usually one electives is taught based on the majority voice of student. However, students can take courses also at other study programs if they match their interests. According to the program coordinators, students can choose their electives freely, including subjects outside of the focus of their study program.

The experts further inquire how the multiple teaching languages are managed at TIIAME. The program coordinators explain that students have to choose the teaching language at the beginning of the studies. Bachelor programs run in Russian and Uzbek. They add that students can change the language of their studies after submitting a request at the Office

of Academic Affairs. The program coordinators add that both master programs are in transition to be fully taught in English. To enter, students need to pass at least a B2 level exam to prove their English competences. The program coordinators state that it is easier for them to teach in the master program in English since there is a high number of advanced literature in English. They consider that many staff members have sufficient English proficiency to teach all courses. In the future, the master programs will be fully organized in English while the bachelor programs will still be offered in Uzbek and Russian. Nevertheless, they admit that the English test represented a challenge for students to enter the master programs in 2023.

Further discussion focuses on the integrated internships in the different study programs under review. The program coordinators describe to the experts that students in the master programs take part in a four month internship (30 ECTS credits). Students can take their internship at governmental agencies, research institutes, as well we private companies. The students mainly aim to get practical experience and improve their skills and collect data for their master thesis. The students positively mention that many companies offer salaries to the student. During the internship, the supervisor communicates with their students and the host of the internship on a weekly basis. In the master program *Environmental Protection*, students have to take two internships, the module "Research Internship" (30 ECTS credits) and "Professional internship" (eight ECTS credits). While the "Research Internship" provides the students time to conduct research for their master thesis, the "Professional Internship" allows them to receive professional training in their field of interest. In both cases, the students have to keep an internship diary and summarize a report at the end describing their tasks and results. In contrast, students in the master program *Land Use and Land Resources Management* have to complete one internship awarding 30 ECTS credits in the third and fourth semester. The students practice how to apply analyzing methods in their field of research of land use management, land use economics, territorial development or others.

Bachelor students have to take part in four internships during their studies. After the second semester, students are sent to governmental agencies associated with their study program (Introductory internship). After the fourth semester, students engage in another internship, which they can select based on their interests (Educational internship). After the sixth semester, the students should search for internships outside of Tashkent to understand regional perspectives (Qualification internship). In these internships, students start to collect data for their bachelor thesis. In the last internship in the eighth semester (pre-diploma work internship, five ECTS credits), students continue to focus on their final thesis. The representatives from the industry and governmental agencies confirm that they regularly receive students from TIIAME. They consider that the students from TIIAME can easily

adapt to the tasks and fulfill the requirements of the job. According to their experience, students excel at using software such as GIS, which is mandatory for working in their companies and agencies. The industry representatives add that their collaboration with TIIAME regarding internships is based on a Memorandum of Understanding. According to the regulations, each student is supervised by one staff member, who is responsible for the student during the entire internship. This allows them to interact with the students and identify their individual skills and interests. The agency/company then selects suitable task matching the students' profile. Each student keeps a diary listing each task they perform per day. The representatives confirm that each students receives an introduction before working in laboratories. They mention in addition that early internships during the bachelor studies follow a structured approach. In these cases, TIIAME and the host institution develop a program, which match their interests as well as the students' skills at their early level. Since the bachelor program offers several internships, the industry partners state their satisfaction to the experts in this regard. TIIAME verifies that the number of awarded credit points depends on the duration of the internship.

The experts observe that the curricula of the four study programs under review are build by modules, where each module represents a well-defined unit of teaching and learning. The experts consider that the structure of the curricula enables the students to acquire knowledge, skills and competences in each module. The order of the modules ensures that the learning outcomes can be achieved and that the programs can be completed within the standard period of study. The experts approve that TIIAME allows the students to develop their individual focal points and courses of study by selecting elective modules, taking part in internships and choosing the topic of their final thesis. However, the experts express concern regarding the transition to English in the two master programs under review. Considering the students skills and comments, the experts form the opinion that TIIAME should provide opportunities in the classroom to improve their English competences. This should include introducing bachelor students to subject-specific English terminology. This could be done by integrating slides and reading materials in English. The experts highlight that English appeared to be a main challenge in the last enrollment to the master programs. Thus, they encourage TIIAME to support the bachelor students to allow them to each the qualifications that allow them to transition to the master program.

Content

According to the official qualification requirements, the bachelor program *Land Cadastre and Land Management* (although named Land Cadaster and Land Use in the relevant document) integrates the "fields connected with land resources used in various sectors of the national economy, their distribution by land fund categories, infrastructure and enterprises

of the "Cadaster" agency, scientific design and research institutions in the field of land cadaster and land use, controlling and management of land use, land ownership, legal status, quantity and quality of land use description and status; control of real estate objects, including land plots within the boundaries of cities and settlements, their legal status, state registration, evaluation, and use; cadastral information systems; project - a set of tools, methods and methods of professional activity such as technical documents." Students gain experience in organization and management as well as analytical and research activities.

In the master program *Land Use and Land Resources Management* (named as "Land Resources Use and Management" in the qualification requirement document), students receive advanced training in regard to the management and development of various types of geodesy and cartography, irrigation system including basin administration, irrigation system administration and various forms of property, industry and business organization. Next to research activities, the study program involves knowledge on pedagogy to teach particularly in vocational schools. Research depends on the students' interest and involves activities related to the use of land resources (evaluation, protection, implementation) or the field of land construction and land cadaster. In addition, students build on their competences in the financial and economic sector including accounting, analysis and control activities on a scientific level, considering among others indicators for socio-economic processes and events to identify economic security, formation and implementation of control budget systems in land resource management and knowing the law and normative legal documents on safe management of finances and various governmental levels.

TIIAME describes in the qualification requirement document that the bachelor program *Ecology and Environmental Protection* teaches the students to understand environmentally safe implementation of socio-economic activities. The curriculum include modules on protection of natural environment using environmentally friendly technologies and methods. This includes developing strategies for environmental protection projects/operations, which require competences in the legal framework. Therefore, the program aims to integrate management, information and communication technologies in the field of ecology. Furthermore, the bachelor program includes research activities, such as collecting, processing, and analyzing data in a modern scientific and technological context.

According to the qualification requirement document, the master program *Environmental Protection* combines competences in the field of environmental protection. This includes assessment of the impact of the planned activities of economic facilities on the environment, legal regulation of relations between nature and society, land, water and protection of atmospheric air, flora and fauna, underground and surface resources from pollution, and development of measures to prevent pollution. In addition, students engage in research

activities with various partner institutions and receive training in pedagogy. The study program involves activities regarding production and technology as well as organization and management skills. This includes also competences required in consulting activities.

Concerning the bachelor program *Land Cadastre and Land Management*, the experts raise questions regarding different modules, such as “Land Cadastre”, “Land management / land use” and similar courses. The program coordinators explain that students first have to take a course in “State Cadastre” in the third semester, where they are introduced to the 20 different kinds of cadaster in Uzbekistan. In the following semesters, the students have to take additional courses on special cadasters, like “Land Cadastre.” In addition, students can select additional modules on cadaster as electives. Similarly, the experts are interested in the purpose of the modules “Management Psychology” and “Professional Psychology” within the bachelor program *Ecology and Environmental Protection*. The program coordinators explain that these are basic courses, which are mandatory due to governmental regulations. Each study program receives different basic modules from the Ministry of Higher Education, Science and Innovation, which cannot be changed. The students show a high understanding for these mandatory courses and consider them a useful addition to their subject-specific courses.

The experts acknowledge that the students appreciate the practical aspects of their studies. This includes internships as well as the practical content of modules, such as going to the field to learn how to work with equipment. The students appreciate the collaboration with the industry as it allows them to receive training on modern equipment, which they consider useful for their future occupations. The experts welcome the practical aspects of the curriculum as well. They confirm that the practical training is clearly listed in the module handbooks, which allows the students to prepare adequately for their lectures.

The students confirm to the experts that they consider themselves well informed about their study programs, including the curriculum and the mandatory modules of each semester. At the beginning of their studies, they receive an introduction to the university and their study program. During the introduction, they learn how to access information in the online university system, which contains a curricular overview and module descriptions. Further information is available on internships and study regulations.

The experts summarize that the curriculum enables the students to achieve the intended learning outcomes. The experts acknowledge that the learning outcomes are defined for each module, which, in total, enable the achievement of the overarching programme objectives. Nevertheless, the experts consider that the objectives and learning outcomes should be reviewed and presented briefly and in a precise manner (see criterion 4.1).

Student mobility

During the on-site visit, the experts are informed that the majority of international students comes from TIIAME's partner universities, in particular those from Hungary and Kazakhstan. These students usually spend an entire semester at TIIAME collection around 20 credits. Overall, student mobility consist of 40% incoming students and 60% outgoing students. The university management as well as the students confirm that TIIAME recognizes externally awarded credit points. These courses are usually substitute elective courses. When students spend one semester abroad and miss compulsory courses, these courses have to be completed at TIIAME in another semester.

The students confirm to the experts that they are aware of various scholarship opportunities to support them in their mobility. They consider that they receive sufficient support to apply to the various channels. Several of the students have already spend one semester abroad or have received approval to leave soon. They experts notice that students mainly spend time at TIIAME's partner universities in Hungary, Slovakia and the United States. According to the students, these universities were selected to match their specialization of the study programs and their interests. All of the students, who have spent time abroad previously, report to the experts that none of them has encountered any problems to transfer credit points to their studies. In addition, the students mention several opportunities to join summer schools. Other students mention that they have joined online lectures at foreign universities, which are organized in collaboration of the partner universities and TIIAME. The experts notice a high satisfaction of the students concerning their mobility opportunities. They conclude that TIIAME encourages and supports its students to take part in learning outside their university, which they consider as positive. In addition, the experts confirm that an appropriate framework is in place allowing the recognition of qualifications outside TIIAME. Moreover, support services are established to support the students.

Periodic Review of the Curriculum

The representatives of the rector's office summarize that improvements in the curriculum are first developed internally, before TIIAME asks the feedback of industries, agencies, private partners, and international partners from higher education. After their feedback was integrated, the university asks students and other stakeholders for their suggestions. Therefore, they ensure that the expectations of internal and external stakeholders are met.

The teaching staff explains to the experts that everyone can suggest changes in the curriculum, including new courses. The teachers confirm that they consider it as their responsibility to keep the curriculum up to date by improving the content to match the current standards in science and technology. The teaching staff names the module of "Ecological chemistry and ecotoxicology" in the master program *Environmental Protection* as one example. After one lecturer had proposed this module, it was initiated as one elective course;

since it became more important in the field, the module was made compulsory for all students. They mention that new courses require a proposal justifying the course as well as a documentation on available teaching capabilities of the responsible lecturer(s). The teaching staff confirms to the experts that several of them are working on such proposals to remain on top of their field. Furthermore, the teachers specify that changes in the content of the lectures can be made all the time; however, large updates of the curriculum take place every three years. In this interval, changes in mandatory/electives courses can be made. Likewise, changing the amount of credits per module is only possible in this three-year review process. This periodic curriculum review is organized by a methodological board, which is selected for each study program. New modules can also be requested by their industry partners; however, the implementation can only take place during the curriculum review.

The experts approve that the curricula of the four study programs under review are periodically reviewed and that curricular changes are documented and announced.

Criterion 1.4 Admission Requirements

Evidence:

- Self-assessment report
- Qualification requirements for all study programs
- Regulations on the procedure for admission
- Webpage TIIAME https://tiiame.uz/en
- Discussion during the audit

Preliminary assessment and analysis of the experts:

TIIAME explains to the experts that the qualification requirements of all study programs are developed in accordance with “National educational standards for higher education”, “Classificatory of majors and directions of Higher Education”, “National Qualification Framework of the Republic of Uzbekistan.”

According to the self-assessment report, TIIAME can accept people who completed at least a secondary general education or comparable school for its bachelor programs. Acceptance of national applicants is based on the results of the national exam (written examination), which is organized nationwide by the State Testing Center. TIIAME describes that admission is based on uniform admission rules based on single competition for all applicants. Students receiving state grants based on their achievements in the admission tests receive priority admission. TIIAME admits the remaining students based on their test results within the fee-

contract quota. Special admission regulations are in place for women, people with disabilities and children from low-income families, which receive specific state grants supporting diversity. Admission quotas are posted on the website of the State Testing Center when the relevant decision is announced. During the admission test, students can choose up to five undergraduate programs of their interest. Based on the selection of their study programs, the application system will select related questions suitable for the desired qualification. The application usually takes place at the end of June, beginning of July. Students have to pay a fee to take part in state admission test. TIIAME further presents evidence regulating student transfers.

After studying the submitted documents, the experts observe that the admission to the master programs is regulated by the State Commission for Admission to Educational Institutions of the Republic of Uzbekistan, which also considers the results of the entrance tests and previous studies. The competition is held separated according to the master's specialty, language, and form of teaching. According to the different regions, variations in the schedule occur. Scholarship are also available for master students.

The experts learn that TIIAME bases the acceptance of master students primarily on the graded point average (GPA) of the student as well as their competences in English. The program coordinators explain that the Ministry of Higher Education, Science and Innovations has to approve list of study programs, which qualify the students to continue their master programs at TIIAME. Members of TIIAME prepare this list and submit it to the ministry for inspections. This process is repeated annually to allow the university to make adjustments in their decision. However, they explain that exceptions can be made in single cases after additional consultation. Similarly, international applications are processed. For example, ten different bachelor programs are accepted for the master program in *Land Use and Land Resources Management* whereas graduates of seven bachelor programs are accepted to the master program *Environmental Protection*. The university adds that students apply online for their master studies in a joint platform; on this platform, each applicant can access the information about which university they can continue their higher education. The program coordinators add that in the master program *Land Use and Land Resources Management*, around 70% of the applicants have completed their bachelor studies at TIIAME. In contrast, most applicants for the master program *Environmental Protection* enter TIIAME at this stage.

The experts confirm that admission information is available on TIIAME'S webpage. They consider that TIIAME follows national regulations in the admission processes for both bachelor and master study programs. These regulations are transparent and binding and follow equal opportunities principles. TIIAME further provides rules for the recognition of qualifications achieved externally (e.g. at other higher education institutions or outside the higher

education sector). The experts further observe that the admission regulations are annually evaluated.

Criterion 1.5 Workload and Credits

Evidence:

- Self-assessment report
- Official curriculum document of each study program
- Module handbook of each study program
- Discussion during the audit

Preliminary assessment and analysis of the experts:
After studying the documents, the experts acknowledge that the study programs under review are completely organized using the European Credit Transfer and Accumulation System (ECTS). The representatives of the rector's office explain that TIIAME has recently implemented the credit point system. They have started with pilot projects before it was expanded to all study programs of TIIAME. Their motivation was to facilitate their international partnerships including exchange programs. The use of ECTS credits also distinguishes TIIAME from most other universities in Uzbekistan.

TIIAME describes in its self-assessment report that the workload of one ECTS credit points represents 30 academic hours. During the discussion with the teaching staff, the experts learn that the current definition of one academic hour at TIIAME accounts for 40 minutes; however, plans to increase it to 50 minutes are already drafted. Detailed descriptions of the workload in hours are included in the module handbooks, which divide the total working hours into contact hours, practical lessons and self-learning. Each academic year consists of two semesters representing in total 30 weeks of theoretical and practical training. Bachelor students take part in internships at the end of the second, fourth and sixth semester as well as within the eight semesters. All internships are credited and part of the curriculum.

The students show high satisfaction with the workload in their study programs. The students confirm to the experts that they did not experience mismatches between the listed and real workload of their modules. Therefore, they could manage their studies without structural overload. This includes also the internships. The students explain to the experts that they are working with at 4+2 or 5+1 system at TIIAME. This allows them to study at the university (5 or 4) and send one or two days at the industry. The students acknowledge that

this allows them to gain practical experience and continue their studies according to the proposed study schedule.

In conclusion, the experts confirm that TIIAME has implemented a credit point system based on the student workload. The workload includes contact hours and self-study time. According to the presented evidence, the experts confirm that all compulsory components of the study programme are included. Credits are awarded for every module based on the respective workload. The experts observed that all involved parties consider the estimated workload is realistic and well-founded, so that the study programs can be completed in the standard period of study.

The experts approve that TIIAME is monitoring whether the credits awarded for each module correspond to the actual student workload and whether the distribution of the workload across all semesters enables graduation within the standard period of study. The experts confirm that students are involved in these processes. If adjustments are made, TIIAME documents and announces these changes.

Criterion 1.6 Didactic and Teaching Methodology

Evidence:

- Self-assessment report
- Module handbook of each study program
- Discussion during the audit

Preliminary assessment and analysis of the experts:

TIIAME describes in its self-assessment report that it applies teaching methods to support the development of the students' characters in regard to be professionally competent, competitive, and culturally developed. TIIAME employs modern concepts and innovative modules of education in the four study programs under review, including proactive training. The didactic concept of each study program takes the demands of qualification profiles into account to use them as guidelines for selecting skills necessary to solve professional problems, to improve the current status and to conduct self-flection and self-education. In principle, lectures comprise an introduction to the topic, the main part of the lecture followed by a period of questions and answers as well as conclusion. Practical lessons follow a different structure. They start with an introduction to the tasks and purpose of the training to confirm that the students have all necessary knowledge and/or explain missing skills. Afterwards, students receive an assignment to work on, followed by a conclusion of the lesson evaluating the students' results.

In the discussion with the teaching staff, the experts inquire more information on the various teaching methods included in their lectures. The members of the teaching staff describe to the experts that they integrate interactive content in their lectures. This includes discussion with and among students as well as questions to confront the students with the content. Several lectures ask for feedback during the lectures to ensure that there are no open questions or issues. In other courses, students are divided into small groups to improve their team working skills. If the topic allows it, these teams are encouraged to compete in finding solutions to problems. Lecturers also give pre-reading tasks to the students. In these cases, students have to prepare before the lecture by reading three to four research articles and develop their questions for discussion in the classroom. Such discussions also take place in English, depending on the topic and level of the students. The teaching staff confirms to the experts that they have learned many new teaching skills during their international collaboration projects. Teams of lecturers spend time abroad, e.g. in Europe, focusing on learning new didactic methods. After returning to TIIAME, they conducted workshops to introduce these new approaches to their colleagues. After each workshop, the lecturers started to test new teaching methods in their modules, which were gradually integrated in the majority of lectures.

The experts are interested in how lecturers support the students to develop their academic skills. The teaching staff describes that they primarily give assignment to students working on case studies. The students receive a topic and are guided by the lecturers towards applying the most appropriate research methodology to solve the issue. At the bachelor level, students receive simpler problems than in the master studies. The teaching staff mentions that TIIAME organizes international conferences each year, where students are invited to present their research works. The teaching staff emphasizes that students working in externally funded research projects are provided with the opportunities to conduct research at collaborating institutions.

After studying the submitted documents and the informative discussion during the on-site visit, the experts form the opinion that TIIAME includes variety of teaching methods and didactic means in their study programs to achieve the learning outcomes. The experts review the amount of contact hours and self-study time and consider them well balanced. The experts additionally acknowledge that students receive sufficient introduction to scientific work to match the level of their education. Furthermore, the experts approve that TIIAME is continuously developing their teaching methods, developing new concepts in collaborations with its partner universities. Thus, the experts are convinced that appropriate teaching methods are integrated in the four study programs under review.

2. Exams: System, Concept and Organization

Criterion 2 Exams: System, Concept and Organization

Evidence:

- Self-assessment report
- Official curriculum document of each study program
- Module handbook of each study program
- Regulations on exams
- Examples of final exams provided during the on-site visit
- Examples of bachelor and master thesis
- Discussion during the audit

Preliminary assessment and analysis of the experts:

Module assessment

The final examination of most of the modules is organized as a written examination lasting two academic hours (80 minutes) or in rare cases three academic hours (120 minutes). The teachers can take up to three days to correct the exams and publish the grades in the university online system. In case of oral examinations, the students receive time to develop the answer to their questions. Afterwards, they need to explain the answers verbally. TIIAME describes that is puts a high value on transparency. Therefore, teachers usually develop a catalogue of examination questions, distinguishing between complex, average and simple questions. TIIAME's computer system will then select questions of each level to compile a test ticket (usually with four questions). For one examination, various questionnaires will be prepared based on this computer selection, which will then be distributed among the students. Therefore, the teachers are unaware of which questions the students receive. Regulations are in place if students cannot attend the exam in case of illness if the reasons are indicated. The students can take the exam together with another group. A grade point average (GPA) is calculated for each student.

TIIAME describe in its self-assessment report that it uses the following grading scale:

The "5 scores" grading system	100 points evaluation system	GPA average
"5"	90-100	4,46-5,0
"4"	70-89,9	3,46-4,45
"3"	60-69,9	3,0-3,45
"2"	0-59,9	0-2,99

The experts are curious to receive more information on the use of tickets in the final examinations. The program coordinators explain that the teachers prepare different versions of exam questions on so-called tickets. When entering the room of the examination, each student has to take one ticket, which lists four exam questions. Therefore, the students receive different, but comparable questions. It is getting more common to give the students first time to work on their questions before they orally have to explain their answer. In addition to the final exam, the teachers also prepare quizzes and assignments, which will be considered in the final grade. The final grade considers 20 points for working in the classroom, 20 points for the mid-term exam, 20 points for self-study tasks and 40 points for the final examination.

In the discussion with the teaching staff, the experts receive additional information regarding the assessment methods. The teachers highlight that the questions in the final exams always contain questions on different level. Grading of examinations follows a SWOT approach by considering the knowledge of information, information requiring definitions as well as new information for and against one solution.

The experts identify that the exam regulations limit the time of appeal to exam results to only one day after the announcement. The experts consider this a very strict regulation and ask for TIIAME's motivation. The representatives of the rector's office explain that this is based on governmental regulations and therefore cannot be changed. The experts accept the regulations of the Ministry of Higher Education, Science and Innovation.

After their review, the experts confirm that the assessment methods are in line with the defined learning outcomes of each study program. The experts observe that the exam questions relate to the specific modules. The students receive feedback on their competences and have the right to appeal their results.

Although the experts can already see evidences that various types of examinations are used during the study process, the experts encourage TIIAME to continue applying different assessment methods. The experts acknowledge that all students are well informed about the different assessment methods of each module. The number and distribution of exams ensure an adequate workload as well as sufficient time for preparation. In addition, the experts notice that the organization of the exams is well-managed. In addition, the experts see that the examination questions are regularly reviewed whether the exams can adequately determine the achievement of the learning objectives, whether the requirements are appropriate to the level of the study program and whether students have sufficient time for preparing and conducting the exams.

<u>Final thesis</u>

After studying the documents, the experts observe that the bachelor thesis accounts for five ECTS credits in the eight semester. The program coordinators add that the five ECTS only account for writing the thesis, while the module "Pre-diploma internship" accounts for additional five ECTS credits and allows the students to collect and analyze data for their thesis. Therefore, in total, ten ECTS credits are devoted to the mandatory bachelor thesis. The program coordinators justify that students are able to write the thesis in approximately five weeks. However, they emphasize that the collection of initial data starts already between the sixth and seventh semester (third internship) and continues during their fourth academic year. Therefore, lecturers encourage the students to decide on their bachelor thesis topic during the sixth semester.

According to the program coordinators, master students need to select the topic of their master thesis in the first semester. This allows them to start to develop their individual profile early and supports them to finish their studies on time. The curriculum allocates time for research in different semester (module "Master's thesis and research work"), which allows the students to continuously work towards finishing their thesis. The total workload in four semester is 40 ECTS credits for the master program *Land Use and Land Resources Management.* According the curricular overview of the master program *Environmental Protection*, the module "Research work and master's thesis preparation" takes place in each semester only accounting for 40 ECTS credits in total. Based on the topic of their master thesis, the students spend their internships at agencies or companies matching their topic to collect research data, conduct experiments and perform research as part of their thesis ("Research and Pedagogical Internship"; 30 ECTS credits). The master program *Land Use and Land Resources Management* includes the module "Research and Pedagogical Internship", which is split between the second semester (ten ECTS credits) and the fourth semester (20 credits). In contrast, the curriculum of the master program *Environmental Protection* contains two different modules for internships. The module "Scientific Internship" (30 ECTS in total) takes place in second (180 hours), third (600 hours), and fourth semester (420 hours) and is accompanied by the "Professional Internship" (eight ECTS credits in total), which is divided into 60 hours in the second semester, 60 hours in the third semester and 120 hours in the fourth semester. The experts appreciate that the students have various internships and time allocated to work on their master thesis.

The experts are informed that students receive sufficient training in academic writing at both bachelor and master level. This includes the modules "Research Methodology" in the first and second semester of the master program *Land Use and Land Resources Management* as well as "Research Methodology in Environmental Sciences" in the first and second semester of the master program *Environmental Protection*. While master students are increasingly using English for their master thesis, bachelor students currently continue to

write their bachelor thesis in Uzbek or Russian. The students describe to the experts that they often selected their bachelor thesis after gaining first practical experience during their internships. According to their interest, they are free to approach any teachers to become their supervisors. In collaboration, they develop and define the thesis topic and consider future internships for suitable data collection. Master students confirm that they need to select their thesis topic during the first semester. They approach their desired supervisor based on their personal interest. In discussion, they search for matching interests and ask if the lecturer has sufficient capacities to supervise new students. In some cases, the students were referred to another teacher due to their subject of interest. The students are convinced that the research of the master thesis allows them to address important modern issues and solve modern national problems. Representatives of the industry and governmental agencies state to the experts that they are regularly invited to join the defense of master thesis at TIIAME. They further confirm their involvement in research projects and acknowledge students' data collection during their internship. The industry representatives as well as teaching staff explain that they usually collect suitable topics for master thesis, which they offer to students. Therefore, students have the possibility to conduct research in different fields as well as industry related problems. The teaching staff adds that it is cautious in developing with research activities, especially for setting boundaries in order to avoid that the projects takes up too much time. Students have to present the process of their thesis project at monthly meetings with their supervisors, where they address challenges and the next steps in their research. The teaching staff mentions to the experts that each lecturer has two to three master students on average.

The experts confirm that each study program under review has a final thesis (bachelor or master thesis). According to the presented thesis, the experts see that the students demonstrate that they are able to work independently on a task at the intended level of the degree programme. In case of collaborative theses, TIIAME assumes full responsibility for their content and for suitable conditions in the respective company or organization.

3. Resources

Criterion 3.1 Staff and Staff Development

Evidence:

- Self-assessment report
- Staff handbook
- Discussion during the audit

Preliminary assessment and analysis of the experts:

TIIAME's staff involved in teaching the bachelor program *Land Cadastre and Land Management* and the master program *Land Use and Land Resources Management* are associated with the Department of "Land Resources Management" in the Faculty of Land Resources and Cadastre. Within the faculty, there are currently 56 members, who are involved in teaching the study programs. The Department of "Ecology and Water Resources Management" manages the bachelor program *Ecology and Environmental Protection* as well as the master program *Environmental Protection* associated with the Faculty of Ecology and Law. There, currently 45 faculty members are employed.

TIIAME presents the following staff statistics in their self-assessment report:

Table 1. Quantitative representation of teaching staff divided by rank in the Faculty of Land Resources Management and Land Cadastre (source: self-assessment report)

Land Cadastre and Land Management and *Land Use and Land Resources Management*					
Academic year	Total staff number (incl. part-time)	Doctor of Science	PhD and Candidate of Science	Senior Lecturer	Lecturers
2018/2019	51	10	22	11	10
2019/2020	52	10	23	9	12
2020/2021	54	11	23	10	10
2021/2022	54	11	24	9	10
2022/2023	56	13	26	8	9

TIIAME adds that in the Faculty of Land Resources management, there are currently 13 professors as well as 34 associate professors, each holding a PhD or equivalent.

Table .2 Quantitative representation of teaching staff divided by rank in the Faculty of Ecology and Law (source: self-assessment report)

Ecology and Environmental Protection and *Environmental Protection*					
Academic year	Total staff number (incl. part-time)	Doctor of Science	PhD and Candidate of Science	Senior Lecturer	Lecturers
2018/2019	46	8	19	16	3

2019/2020	49	7	20	17	5
2020/2021	49	7	19	15	7
2021/2022	48	8	19	16	5
2022/2023	45	7	18	16	4

The experts learn that in the Faculty of Ecology and Law, seven members of the teaching staff hold the title of a professor next to 34 associate professors.

According to TIIAME's hiring strategy, TIIAME seeks to employ highly qualified personnel on a competitive basis considering their work experience, professional training, research experience and the degree matching the job opening. Job vacancies are announced online on TIIAME's webpage and are open to all matching the qualification requirements. In addition, representatives from industry and governmental agencies are invited as part-time lecturers at TIIAME. In addition, international professors join TIIAME as guest lecturers.

TIIAME describes in its self-assessment report that it has implemented an effective strategy for developing its human resources. This includes supporting its staff members in professional training and qualifications. Therefore, lectures receive training in pedagogy and professional development at least on a three-year basis. The experts acknowledge the numbers on staff development TIIAME has provided in its self-assessment report. According to this data, between eight to fourteen lecturers involved in the study programs under review has participated in advanced training one a year (during the last five years). This represents around 20–30% of the staff every year.

The experts discuss with the lecturers their mandatory tasks at TIIAME. They inform the experts that each lecturer is required to teach at least 400 hours each year, which includes lectures and practical lessons. In their opinion, this gives them enough time to conduct and publish research next to their teaching load. Although the government requires a minimum time in the classroom, the arrangement of their lectures during the academic year is up to the discussion with the head of the study program. For example, one can choose to teach more (or all) courses in one semester and devote their time for research in the following semester. As mentioned by several teachers in the discussion, the teaching load can also exceed 400 hours. Lower teaching load occurs with professors and people in leading positions (e.g. head of the department or dean). The teaching staff specifies that the head of each department develops the teaching schedule at the beginning of the academic year. This schedule is proposed to each lecturer, who has the option to agree to this plan or refuse it. The teaching staff specifies that the teaching load is based on the Uzbek calculation of 40 min for one academic hour. Furthermore, the teaching staff explains to the experts that they are not involved in administrative tasks. Overall, it considers that 30–50%

of their workload is dedicated to research (writing research publications, going to the field, training young researchers, etc.). Although the individual schedules are flexible, most spend three days a week on teaching, two days a week on research and spend one day on mentoring students and staff. The teaching staff further describes that there is also a revision of their teaching schedule each year. This includes additionally targets in research, especially concerning project proposals and publications. This review is conducted by the head of the department.

The experts are further interested in how the university supports its staff in their research activities. The representatives of the rector's office describe that TIIAME offers incentives for all research activities; this include, for example, a higher salary for those who publish their research in international journals. Additionally, TIIAME provides scholarships for young researchers, whereas all academic staff receives support in writing proposal for research grants. Furthermore, TIIAME is supportive if lecturers want to get experience time abroad. These includes spending time at foreign universities in joint projects as well as attending conferences and workshops to update their knowledge and get familiar with new equipment. New staff further receives support from the social and professional perspective. For example, TIIAME coverts all logistics and searches for suitable housing in Tashkent but also provides mentoring in their staff special staff program. Young staff members are further encouraged to continue their higher education.

The experts raise the topic of staff mobility at TIIAME. The teaching staff confirms that the university management is supportive to spend time outside TIIAME. Initially, they have to successfully receive external grants to support their time abroad financially. This could be international grants as well as funding from the ministry in Uzbekistan. Support for attending conferences or other short-term exchange could alternatively be provided by TIIAME. The teaching staff confirms that TIIAME will continue to pay their salary while being abroad. Nevertheless, they need to arrange their teaching load to match their travel schedule. For example, if someone plans to spend six months outside TIIAME, they need to complete their teaching in the remaining six months. Still, a high number of teachers confirm to the experts that they have taken part in international exchange programs to intensify the collaboration with their partner institutions. As a result, they are often applying for joint projects, including Erasmus projects or projects at the European Commission. The teaching staff adds that, in return, TIIAME also invites international staff to spend time in Tashkent.

The academic staff highlights that TIIAME offers sufficient time to perform their research and work on publications. The experts notice that the academic staff often engages in writing books and other educational materials. The staff explains that the number of subject-specific literature is still limited in Uzbek; therefore, they often have to prepare their own reading materials in their field of expertise. While they aim to offer a significant number of

literature in Uzbek in the bachelor programs, they suggest further reading material in English during the master studies. Upon the experts' question, the teaching staff further confirms that TIIAME also supports them in their research publications by covering costs to publish their research articles as open access.

The representatives of the rector's office further mention to the experts that each lecturer needs to participate in a course on didactics every three years. In addition, they are encouraged to spend time in the industry to gain understanding in their problems and research initiatives. The students confirm to the experts that they consider the skills and competences of the teaching staff as very good. According to them, the teachers are creating a positive atmosphere to learn and encouraging them to improve their skills. The students have sufficient opportunities to approach the staff outside of the classroom to ask questions. In their experience, the teaching staff is unhesitant to create new opportunities once approached, including possibilities to join research projects.

During the on-site visit, the experts are informed that the government of Uzbekistan demands to implement English as the main language in all master programs across the country. The representatives of the rector's office state that TIIAME has enough professors who studied abroad and are therefore able to teach classes fully in English. In addition, TIIAME's staff consists of 10% international personnel. TIIAME further invites visiting professors and people from their partner universities to compensate missing competences. However, they acknowledge that some members of the teaching staff lack English proficiency. For those, TIIAME offers courses in collaboration with the British Council. The teaching staff approves these opportunities and mentions to the experts that they are taking part in these courses to improve their English skills. During the discussion, the experts notice that several members of the teaching staff show distinguished skills in English while others preferred to speak in Uzbek/Russian. In addition, the representatives from the Industry are aware of the regulations regarding language. They confirm to the experts that their organization can also meet the government regulations regarding English competences during internships and guest lectureship. However, the experts consider that TIIAME should increase its support for its staff to ensure that government regulation can easily be fulfilled after this transition period. In the option of the experts, the teaching in master study programs require fluent English skills as well as professional use of the correct English terminology. Therefore, TIIAME needs to ensure that the personal skills are adequate next to the competences in the subject-specific field of the researcher.

In summary, the experts consider the composition, professional orientation and qualification of the teaching staff suitable for successfully delivering the study programs under review. The experts are convinced that the research and development of the teaching staff

contributes to the desired level of education. Moreover, they appreciate that TIIAME provides opportunities to further develop their professional and didactic skills and supports them in using corresponding offers.

Criterion 3.2 Funds and equipment

Evidence:

- Self-assessment report
- Visitation of the campus facilities
- Discussion during the audit

Preliminary assessment and analysis of the experts:
According to the presentation of the rector at the beginning of the audit, 26% of the financial income allocates to governmental funding. The main source of include in based on tuition fees (30.3%), followed by 19.6% of external grant funds. Internal grant funds produce 12.2% of TIIAME's finances next to 11.9% is based on training courses, consulting services and others activities. Since 2021, the financial indicators of externally and internally generated funding was increasing with more than 50%. The numbers given in the self-assessment report further documents this statement. TIIAME describes that it issues financial and administrative policies with their strategic plan to ensure the quality of the study programs. TIIAME describes that the increase in financial means allowed them to modernize equipment and facilities on campus. This includes fully equipped classrooms and laboratories, recreational areas, modern sports facilities and dormitories for students and international visitors. In addition, it points out that it provides various programs to support students on campus. This includes a scholarship for students from low-income families as well as students with disabilities.

TIIAME explains that is manages several specialized laboratories, which are integrated in the four study programs under review. This includes a laboratory of Integrated Water Resource Management, Remote water-resource management laboratory, Irrigation and land reclamation laboratory, the inter-departmental water structures laboratory, the EcoGIS analytical laboratory and an UNECO Chair "Water and Environmental Lab." Additionally, TIIAME offers practical training classrooms and preparatory rooms as well as several computer labs, including a full GIS laboratory.

Due to the limited information in the self-assessment report, the experts request information on their geodetic equipment during the on-site visit. The program coordinators state that TIIAME has sufficient equipment including laser scanners, GPS and GNSS survey

equipment, total stations and others. Older equipment includes theodolites. They add that new materials is usually purchased in research projects, although they recognized an increasing support from the industry. Since many studies continue to work in the industry, several companies started to offer materials in order to train students for their future occupations. Recently, they receives also drones due to their collaboration with Huawei, which they now bring to field with students. The program coordinators state that most equipment in all laboratories of TIIAME originates from joint projects or external funds and foundations. According to governmental regulations, 30% of each nationally funded project should be allocated to laboratories and equipment. The experts approve also the high satisfaction of the students regarding the equipment involved in their studies. The students confirm to the experts that sufficient materials are available in the laboratories to get experience with the different tools as well as in the laboratories. The students state that they further can get access to the laboratories after asking permission for the lecturers. This involves also access to tools and materials for conducting research and personal training on equipment. This is supported by the industry representatives. They add that students are also taking part in lectures in their laboratories if the suitable equipment is not available on campus. The industry partners confirm to the experts that they welcome this collaboration. In addition, the experts approve TIIAME's Innovation and Science Center as well as the entrepreneurial center supporting students, including programs for young women who want to create start-ups.

The experts continue to discuss the library as well as the availability of books and access to digital literature. After studying the self-assessment report, the experts notice that TIIAME has a high number of books in Uzbek and Russian, but comparably lower numbers in English reading materials. The program coordinators identify here a misunderstanding about one table in the self-assessment report. They describe that there is a section in the main library on this topic offering books to students and staff. There are additional libraries in departments and dormitories, offering mainly hard copy book in Uzbek and Russian. The Joint Research Center for Geoinformatics has also a library focusing on English books. In addition, they offer access to various digital libraries and books including a high number of English literature. The program coordinators specify that the highest number of hard copy books still related to Russian, since the selection of subject-specific literature in Uzbek is still low in comparison. They emphasize that books have to be provided in the selected language of study for all bachelor students. Nevertheless, they consider that TIIAME offers sufficient reading materials for students and staff. The students confirm that they do not have troubles to access hard copies in their desired language or digital literature. They emphasize that they approve the new university library as it gives them much space for learning and group work. In addition, the students are aware how to use the library and how to access

collaborating university libraries via the e-library. This allows them to access international libraries as well as the main scientific journals needed for their studies. In addition, the students present in the discussion are not aware of any shortages in hard copy books, including English books. They state to the experts that reading materials for courses are usually provided online by the lecturers. TIIAME explains that staff and students have access to the university's educational portal, which interacts with other information systems of universities. Integrated libraries include the libraries of Vytautas Magnus University of Lithuania and Turin Polytechnic University in Tashkent.

The experts further inquire which software is provided to students during their studies. The program coordinators explain that they use ArcGIS in their studies with a purchased license. They further include ERDAS in the study programs, as well as SuperMap and QGIS. They specify that they licenses are purchased within projects or through the university or connections to companies. The students mention that they mainly use software like ArcGIS on the university computers but use the free software QGIS on their personal laptops. If such software is required for their final projects, they receive licensed versions from international partners, who also supported them during the installation process. The students confirm that TIIAME provides them with adequate skills concerning the various software. Although the experts notice that TIIAME offers students and staff access to various software in their field, they identify that less subject-specific software is offered in the programs of *Ecology and Environmental Protection* as well as *Environmental Protection*. The experts highlight the that a stronger focus in these disciplines should be laid on provided suitable software and skills to students matching competences required on the job market (e.g. in air pollution, water pollution, modelling etc.).

During the discussions and the visitation of the laboratories, the experts notice that the offered software mainly supports the bachelor *Land Cadastre and Land Management* and the master program *Land Use and Land Resources Management*. Although they are very satisfied with the software offered in these two programs, they identify the need to expand the included software option in the bachelor program *Ecology and Environmental Protection* as well as the master program *Environmental Protection*.

The experts conclude that that TIIMAE offers sufficient financial resources and the available equipment to create a sustainable basis for delivering the study programs. This includes secure funding and reliable financial planning, sufficient infrastructure in terms of both quantity and quality and binding regulation of internal and external cooperation.

4. Transparency and Documentation

Criterion 4.1 Module Descriptions

Evidence:

- Self-assessment report
- Module handbook of each study program
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The experts confirm that the provided module handbooks contain sufficient information on the modules of each study program. This include the name and code of the modules, the person(s) responsible for each module, the teaching language and if the course is mandatory or elective. TIIAME gives clear information on the workload of each module and related credit points. The module description contain the objectives/intended learning outcomes and assessment formats and requirements. In addition, there each lecturer developed a reading list.

After reviewing the submitted documentation, the experts notice that the module description in some cases could be improved in the English version of the module handbooks. The experts acknowledge that the issue might originate from problems in the translation; however, improvements are necessary regarding the description/content. In particular, the objectives of each modules should be stated more concisely and clearly. The experts notice further that all module contain the same information regarding their teaching method(s). The experts wonder if the given information might be accurate since the stated methods in the teaching methods are in some cases also not in line with the discussion during the on-site visit. Finally, the experts notice, that the amount of English literature is still low, including the master programs. Here, the module handbooks continue to mention Uzbek and Russian main teaching languages in all modules. The experts acknowledge that this might still be accurate before the master's programs switch completely to English.

The program coordinators explain that the original version of the module description was done in Uzbek because it requires an official signature by the rector and the Office of Academic Affairs. Students access the module descriptions online in the university system using their student log-in. The English translation was provided because of the accreditation process. They note that students usually work with a more expansive syllabus instead of the prepared module handbooks. The syllabus provides several additional information, especially on the content of the modules.

Furthermore, the experts recommend to add information of the date of last amendment made, which allows the responsible person to keep track on recent updates.

Criterion 4.2 Diploma and Diploma Supplement

Evidence:

- Self-assessment report
- Examples Diploma
- Examples Diploma Supplement

Preliminary assessment and analysis of the experts:
TIIAME provides several examples of Diploma and Diploma Supplements to the experts for review. The experts observe that the Diploma is issued bilingual (in Uzbek/Russian and English). It clearly states the completed study program, level as well as the students' qualification. It is accompanied by a Diploma Supplement, which gives more details on the study programs and the reached qualifications, including the program learning outcomes. The Diploma Supplement further contains a transcript of records, giving information in the number of credits of each module as well as the awarded grade as well as the total GPA of the student. Information on the grading system is attached next to information on the Uzbekistan Higher Education System. The experts notice that the title of the bachelor or master thesis is not included in the Diploma Supplement.

In conclusion, the experts confirm that TIIAME issues a diploma (degree certificate) and Diploma Supplement shortly after graduation, which give sufficient information on the students' qualification and achievements for third parties.

Criterion 4.3 Relevant Rules

Evidence:

- Self-assessment report
- Webpage TIIAME https://tiiame.uz/en
- Regulations within the qualification requirements
- Discussion during the audit

Preliminary assessment and analysis of the experts:
The experts acknowledge that TIIAME has rules and regulations in place, which are based on morals and ethical behavior ("Code of honor"). These include obligations and regulations for students and the university. In also gives information on good scientific practice and emphasizes the risk of plagiarism for assignments, especially regarding the final thesis. Students and staff have access to relevant documents via the university intranet, but are not available for third parties.

The experts notice that TIIAME has issued documents on the rights and duties of both the higher education institution and students. These documents are clearly defined and binding (guidelines, statutes etc.). However, the experts encounter difficulties to access relevant rules and regulations. In particular this refers to problems in navigation of the webpage. On one hand, the navigation does not give clear information on the university and its structure. This applies to a missing overview of all offered study programs (all levels) as well as accessing essential regulation documents. The experts acknowledge that confidential documents are shared internally only, however, they highlight that TIIAME should provide sufficient information online for third parties. This should also include potential (international) students and collaboration partners. The experts recommend developing a download area, which gives access to the main regulations and guidelines. Furthermore, user-friendly documents such as students' handbooks should be provided to everyone interested in TIIAME. Therefore, the experts consider it useful to provide English translations to all main documents.

5. Quality management: quality assessment and development

Criterion 5 Quality management: quality assessment and development

Evidence:

- Self-assessment report
- Survey results
- Discussion during the audit

Preliminary assessment and analysis of the experts:
TIIAME acknowledges in its self-assessment report that it integrates a working quality assurance system is essential to improve the quality of the study programs and remain competitive. The representatives of the rector's office explain that the quality management at TIIAME operates at the level of the university as well as the level of the study programs.

At university level, the Department of Quality Assurance develops questionnaires for various surveys. This department is also responsible for analyzing the data and transferring them to the head of the departments, deans or the university management including the rector. At the program level, students are invited to participate in surveys each semester at the end of their courses. These surveys are anonymous and conducted online in the university system. The results of these students will be announced and remain accessible for everyone online. The program coordinators add that these surveys are open during the entire semester, but only at the end of the semester, they continue with the evaluation of the data. In addition, surveys in paper form are distributed at the end of the semester to collect more information. Students confirm to the experts that they take part in these surveys and that they are certain, that these surveys are anonymous. They appreciate the platform to post direct comments in particular. All parties explain to the experts that they consider their feedback is implemented in the improvement of the study programs. Nevertheless, the students mention that they prefer to address problems in person to find solutions quickly. For example, the students state their interest to include more interactive discussions in the course. After issuing this request, the lecturer started to integrate more discussions in the following lecture. Similarly, students do not hesitate to approach their lecturers to solve misunderstanding or receive additional information if course content was not presented conclusively. Moreover, the students highlight that TIIAME holds monthly meetings between the vice-rector and students to listen to their complaints and proposals. The students have participated in these meetings to directly raise topics for improvement. In their experience, students actively engage in these discussions with the university representatives and received feedback to their ideas. Students state that members of the Organization of the Youth Union of Uzbekistan are directly involved in improving the educational processes at TIIAME. Although not alumni were present in the discussions during the on-site visit, the experts receive evidence at graduates receive invitations to take part in surveys to observe their level of satisfaction with the quality of their education.

The experts learn from the industry representatives that TIIAME also holds annual meetings to discuss the study programs and curricula. In these meetings, representatives from industry, companies as well as the government are present. When they identify room for improvement, they usually address it within these personal events. Examples were recent improvement of equipment and new content to the curriculum, which TIIAME accepted. In addition, several representatives present stated to the experts that they work directly with the deans or the head of the departments to solve small issues. If they encounter major problems, they will address it to the rector directly by sending him an official letter. TIIAME additional gives information that it directly contact employers of graduates to collect feedback on their satisfaction.

Moreover, the teaching staff informs the experts that satisfaction surveys are conducted annually. These questionnaires contain questions on the individual workload.

According to the self-assessment report, TIIAME consider all feedback in the development and improvement of its study programs, lecturers, equipment and facilities. All data is discussed in meetings of the Academic Council and at the university faculties' educational and methodological councils. Issues identified in the last surveys identified the need to update the capacity of their staff and upgrade the laboratories and learning materials. This lead to recent adjustments made in 2023 by hiring new staff and expanding the laboratories with modern equipment.

Next to data on stakeholder satisfaction, TIIAME also monitors the study progress of its students. TIIAME provides the following data on enrolled and graduated students.

Table 3. Quantitative data on the number of enrolled and graduated students during the last 5 years (source: self-assessment report).

Academic year	Enrolled	Graduated
60813100- "Land cadastre and land management"(BSc)		
2018	131	103
2019	112	108
2020	109	123
2021	99	169
2022	77	89
60710400 - Ecology and Environmental protection(water sector option) (BSc)		
2018	60	51
2019	60	50
2020	60	51
2021	50	46
2022	35	30

Thus, TIIAME notices that the number of drop-out students per each ranges between three to four. In addition, eight to ten students transfer from full-time to part-time (usually during the 1st and 2nd year).

Table 4. Number of drop-out students in the four study programs under review (source: self-assessment report).

	60813100 - Land cadastre and land management" (BSc)	Curriculum «6070400 – Ecology and Environmental Protection(water sector option)» (BSc)	70810601 – "Land Resource use and management" (MSc)	70710401 Environmental Protection (agriculture and water sector option) (MSc)
2018-2019	10	0	1	0
2019-2020	13	0	0	0
2020-2021	9	1	0	1
2021-2022	9	4	1	1
2022-2023	10	6	2	1

After studying the submitted documents and insightful discussions during the on-site visit, the experts acknowledge that TIIAME has implemented a quality assurance system to evaluate and improve its study programs. This internal quality assurances takes place each semester (modules) and annually (meetings, satisfaction surveys, feedback from the industry) and includes internal and external stakeholders. The experts saw evidence that the results of these processes are incorporated into the continuous development of the programs as well as the campus facilities. The experts notice that TIIAME collects various data and formats. The results of surveys are announce and can be access via the university online system, including students.

D Additional Documents

No additional documents needed.

E Comment of the Higher Education Institution (20.02.2024)

The institution provided a statement as well as the following additional documents:

- Curriculum: Environmental Protection (agriculture and water sector option)
- Module handbook: Environmental Protection (agriculture and water sector option)

All passages in the report were corrected following the suggestions given in the statement.

TIIAME's statement contains the following comments:

Tashkent Institute of Irrigation and Agricultural Mechanization Engineers–National Research University (TIIAME-NRU)

FINAL STATEMENT for
ASIIN Seal & EUR-ACE Label Accreditation Report

Bachelor's Degree Programs:
Land Cadastre and Land Management
Ecology and Environmental protection (water sector option)
Master's Degree Programs:
Land Use and Land Resources Management
Environmental Protection (water and agriculture sector option)

The Tashkent Institute of Irrigation and Agricultural Mechanization Engineers–National Research University has read ASIIN experts' report and noted the material's detailed structuring and valuable recommendations.
At the same time, TIIAME-NRU makes essential clarifications regarding the structure of Master's programs - Land Use and Land Resources Management and Environmental Protection (water and agriculture sector option)

The report of ASIIN experts on page 9 states, "Educational Process: Graduates of this bachelor's program will be ready to contribute effectively to the educational process of higher educational institutions, institutes, and professional colleges. They will be well prepared to teach and mentor students studying water-related disciplines, passing on their knowledge and experience".

We recommend replacing this text with the "Educational Process: Graduates of this program are prepared to work effectively in the enterprises and organizations of the Ministry of Ecology, Environmental Protection and Climate Change, and other sectors such as the Ministries of Water Resources, Domestic and Communal Services, Agriculture, Transportation Agency, and others, and enterprises and organizations under their jurisdictions" according to explanations provided by the representatives of the rector's office and program coordinators during the interview.

The report of ASIIN experts on page 10 states that "Educational Process: Graduates of this MSc program will be equipped with the knowledge and skills to contribute effectively to the educational process of higher education universities, institutions, and vocational colleges. They will be well-prepared to teach and mentor students pursuing water-related disciplines, passing on their expertise and experiences".
We recommend replacing this text with the "Educational Process: "Graduates of this MSc program in Environmental Protection are well prepared to work effectively in scientific design institutes related to environmental impact assessment, planning and management, and sustainable development. They have the knowledge and skills to contribute effectively to the educational process of higher education universities, institutions, and vocational colleges. They are well-prepared to teach and mentor students pursuing water-environmental disciplines, passing on their expertise and experiences." according to explanations provided by the representatives of the rector's office and program coordinators during the interview.

The report of ASIIN experts on page 36 states that «According the curricular overview of the master program Environmental Protection, the module "Research work and master's thesis preparation" takes place in the third and fourth semester only accounting for 32 ECTS credits in total".

The structure of the Master's degree programs explains the following:

The total workload of Master's degree programs is 120 credits. The final attestation of graduates of Master's degree programs takes place in the 4th semester. In the 4th semester, the mastering of 2 modules is provided - the module "Research and Pedagogical Internship" and the module "Research Work and Masters Thesis" - a total of 30 credits (the curriculum is attached).
The final certification of Master's degree programs is the development and defense (public presentation) of a master's thesis within the framework of master-

ing the Module "Research work and masters thesis". Completing a master's thesis is mandatory for all students. At the same time, the student begins to engage in research work from the 1st year. Therefore, the Module "Research work and masters thesis" is conducted in 1,2,3 and 4 semesters, and the workload is 40 credits, of which ten credits are in the 4th semester (Attached).
Each student develops an individual master's thesis. To collect material, conduct experiments, and perform the research part of the Master's thesis, the student masters the Module "Research and Pedagogical Internship," which is organized directly in scientific organizations and institutes. The Module "Research and Pedagogical Internship" workload is 30 credits, of which 20 credits are in the 4th semester (attached).
The defense of the Master's thesis is carried out by presenting the project results at a meeting of the State Attestation Commission, which includes leading university scientists in this field and representatives of enterprises of the relevant industry. The assessment of the quality of each student's Master's thesis is carried out collectively by making an assessment.

We attach the curricula of the master's degree educational programs, a description of the modules "Research and Pedagogical Internship" and "Research Work and Master's Thesis" of the Master's degree program.

As part of the accreditation procedure, the university will make every effort to implement the recommendation of the ASIIN expert group.

20.02.2024

F Summary: Expert recommendations (01.03.2024)

Taking into account the additional information and the comments given by five the experts summarize their analysis and **final assessment** for the award of the seals as follows:

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Land Cadastre and Land Management	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Ma Land Use and Land Resources Management	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Ba Ecology and Environmental Protection (water sector option)	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Ma Environmental Protection (agriculture and water sector option)	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029

Requirements

For all degree programs

A 1. (ASIIN 4.1) Ensure that the module handbooks are reviewed to present the content, objectives and learning outcomes clearly and concisely. All information needs to be up-to-date and represent the conditions in practice.

For the Bachelor's degree program Land Cadastre and Land Management and the Master's degree program Land Use and Land Resources Management

A 2. (ASIIN 1.2) TIIAME needs to verify that only one version of the English translation of the study program names appears in all official documents as well as online.

Recommendations

For all degree programs

E 1. (ASIIN 1.1) It is recommended to define a short list of precisely defined objectives and program learning outcomes for each study program.

E 2. (ASIIN 1.3) It is recommended to encourage the lecturers to introduce students to subject-specific English terminology.

E 3. (ASIIN 3.1) It is recommended that TIIAME increases its support for improving the English competences of the staff to allow them to fluently teach using modern English terminology.

E 4. (ASIIN 4.3) It is recommended to improve the online representation of TIIAME. This should include an adequate overview of the study programs in English as well as access to main regulations and guidelines in English language.

For the Bachelor's degree program Ecology and Environmental Protection (water sector option) and the Master's degree program Environmental Protection (agriculture and water sector option)

E 5. (ASIIN 3.2) It is recommended to increase the number of offered software programs in the study programs.

G Comment of the Technical Committees

Technical Committee 03 – Civil Engineering, Geodesy and Architecture (11.03.2024)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the accrediting procedure and follows the assessment of the experts without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programs do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 03 – Civil Engineering, Geodesy and Architecture.

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

Degree Programme	ASIIN Seal	Maximum duration of accreditation	Subject-specific label	Maximum duration of accreditation
Ba Land Cadastre and Land Management	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Ba Ecology and Environmental Protection (water sector option)	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Environmental Protection (agriculture and water sector option)	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029

Requirements

For all degree programs

A 1. (ASIIN 4.1) Ensure that the module handbooks are reviewed to present the content, objectives and learning outcomes clearly and concisely. All information needs to be up-to-date and represent the conditions in practice.

For the Bachelor's degree program Land Cadastre and Land Management and the Master's degree program Land Use and Land Resources Management

A 2. (ASIIN 1.2) TIIAME needs to verify that only one version of the English translation of the study program names appears in all official documents as well as online.

Recommendations

For all degree programs

E 1. (ASIIN 1.1) It is recommended to define a short list of precisely defined objectives and program learning outcomes for each study program.

E 2. (ASIIN 1.3) It is recommended to encourage the lecturers to introduce students to subject-specific English terminology.

E 3. (ASIIN 3.1) It is recommended that TIIAME increases its support for improving the English competences of the staff to allow them to fluently teach using modern English terminology.

E 4. (ASIIN 4.3) It is recommended to improve the online representation of TIIAME. This should include an adequate overview of the study programs in English as well as access to main regulations and guidelines in English language.

For the Bachelor's degree program Ecology and Environmental Protection (water sector option) and the Master's degree program Environmental Protection (water and agriculture sector option)

E 5. (ASIIN 3.2) It is recommended to increase the number of offered software programs in the study programs.

Technical Committee 11 – Geosciences (in circulation)

Assessment and analysis for the award of the ASIIN seal:

The Technical Committee discusses the accrediting procedure and follows the assessment of the experts without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Technical Committee deems that the intended learning outcomes of the degree programs do comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committee 11 – Geosciences.

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

Degree Programme	**ASIIN Seal**	**Maximum duration of accreditation**	**Subject-specific label**	**Maximum duration of accreditation**
Ba Land Cadastre and Land Management	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Ba Ecology and Environmental Protection (water sector option)	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Ma Land Use and Land Resources Management	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Environmental Protection (agriculture and water sector option)	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029

Requirements

For all degree programs

A 1. (ASIIN 4.1) Ensure that the module handbooks are reviewed to present the content, objectives and learning outcomes clearly and concisely. All information needs to be up-to-date and represent the conditions in practice.

For the Bachelor's degree program Land Cadastre and Land Management and the Master's degree program Land Use and Land Resources Management

A 2. (ASIIN 1.2) TIIAME needs to verify that only one version of the English translation of the study program names appears in all official documents as well as online.

Recommendations

For all degree programs

E 1. (ASIIN 1.1) It is recommended to define a short list of precisely defined objectives and program learning outcomes for each study program.

E 2. (ASIIN 1.3) It is recommended to encourage the lecturers to introduce students to subject-specific English terminology.

E 3. (ASIIN 3.1) It is recommended that TIIAME increases its support for improving the English competences of the staff to allow them to fluently teach using modern English terminology.

E 4. (ASIIN 4.3) It is recommended to improve the online representation of TIIAME. This should include an adequate overview of the study programs in English as well as access to main regulations and guidelines in English language.

For the Bachelor's degree program Ecology and Environmental Protection (water sector option) and the Master's degree program Environmental Protection (agriculture and water sector option)

E 5. (ASIIN 3.2) It is recommended to increase the number of offered software programs in the study programs.

H Decision of the Accreditation Commission (22.03.2024)

Assessment and analysis for the award of the subject-specific ASIIN seal:

The Accreditation Commission discussion the procedure and follows the experts and the Technical Committees without any changes.

Assessment and analysis for the award of the EUR-ACE® Label:

The Accreditation Commission deems that the intended learning outcomes of the degree programmes comply with the engineering specific parts of Subject-Specific Criteria of the Technical Committees 03 and 11.

The Accreditation Commission decides to award the following seals:

Degree Program	**ASIIN Seal**	**Maximum duration of accreditation**	**Subject-specific label***	**Maximum duration of accreditation**
Ba Land Cadastre and Land Management	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Ba Ecology and Environmental Protection (water sector option)	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Ma Land Use and Land Resources Management	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029
Environmental Protection (agriculture and water sector option)	With requirements for one year	30.09.2029	EUR-ACE®	30.09.2029

*Subject to the approval of the ENAEE Administrative Council

Requirements

For all degree programs

A 1. (ASIIN 4.1) Ensure that the module handbooks are reviewed to present the content, objectives and learning outcomes clearly and concisely. All information needs to be up-to-date and represent the conditions in practice.

For the Bachelor's degree program Land Cadastre and Land Management and the Master's degree program Land Use and Land Resources Management

A 2. (ASIIN 1.2) TIIAME needs to verify that only one version of the English translation of the study program names appears in all official documents as well as online.

Recommendations

For all degree programs

E 1. (ASIIN 1.1) It is recommended to define a short list of precisely defined objectives and program learning outcomes for each study program.

E 2. (ASIIN 1.3) It is recommended to encourage the lecturers to introduce students to subject-specific English terminology.

E 3. (ASIIN 3.1) It is recommended that TIIAME increases its support for improving the English competences of the staff to allow them to fluently teach using modern English terminology.

E 4. (ASIIN 4.3) It is recommended to improve the online representation of TIIAME. This should include an adequate overview of the study programs in English as well as access to main regulations and guidelines in English language.

For the Bachelor's degree program Ecology and Environmental Protection (water sector option) and the Master's degree program Environmental Protection (agriculture and water sector option)

E 5. (ASIIN 3.2) It is recommended to increase the number of offered software programs in the study programs.

Appendix: Programme Learning Outcomes and Curricula

According to the Qualification Requirement, the following **program learning outcomes (intended qualifications profile)** shall be achieved by the bachelor program *Land cadastre and Land Management*:

General competences

1. knowledge of current issues of state policy, ability to analyze socio-economic problems and processes independently;
2. to understand the essence of documents and works related to professional activity in one of the foreign languages, to have the necessary knowledge within the scope of professional activity in natural sciences and to use them in professional activity on a modern scientific basis;
3. to be able to use modern information technologies in his/her professional activities, to master the methods of collecting, storing, processing and using information, to be able to make independent decisions in his/her activities;
4. to have an ability to acquire new knowledge independently, improve his/her knowledge and scientifically organize his/her work;
5. to have an idea about a healthy lifestyle and the need to follow it.

Professional competences

6. to have the skills to search, analyze and use normative and legal documents in their professional activities;
7. to have the skills to optimize organizational structures, apply personnel management strategies, plan and implement events;
8. know how to conduct negotiations, meetings, business correspondence and
9. implement online communications;
10. knowledge of strategic and operational management tasks, modern technologies of work organization and management, leadership of a team of employees;
11. know how to introduce efficient and cost-effective technologies that meet the requirements of land cadaster and land use sectors;
12. the theory and technology of land monitoring, a general understanding of them, its content and tasks, the components and stages of land monitoring;

13. use of land monitoring system, guidelines, normative documents and methodical guidelines used in practice; selection of types of land ownership and land use, priority directions of their organizational and economic development; methods of obtaining, processing and analyzing land monitoring data in order to effectively conduct geodesy, cartography and cadastral works; ensure the use of modern information technologies in conducting land monitoring;
14. create an idea about the economic efficiency of land resources in agricultural production, intensification, economic analysis of the activities of agricultural enterprises;
15. to know the economic justification of the use of land resources in the land development projects, the characteristics of the market and agricultural production, the concentration, specialization and placement of agrarian production, and to ensure their use;
16. to know the basics of the state unified cadaster system, its structure and management;
17. to know and ensure the use of land resources management methods and their application;
18. to know the methods and their application in areas prone to erosion and to have the skills to ensure their use.

The following **curriculum** is presented:

STAGE	CODE	The name of the subject	Credit	Hours	Auditorium hours					Course work/project	Intenship	Self-study
					Total	Lecture	Practical	Laboratory	Seminar			
The first stage	1 semester (15 weeks)											
	XT1114	Foreign language	5	150	60		60					90
	MAT1114	Advanced mathematics	6	180	70	30	40					110
	FIZ1106	Physics	6	180	80	30	30	20				100
	OYT1105	The Newest history of Uzbekistan	5	150	60	40			20			90
	GEO1110	Geodesy	5	150	60	30	30					90
	JTS1102	Physical education and sports	2	60	30		30					30
		Total for semester:	**29**	**870**	**360**							**510**

CODE	The name of the subject	Credit	Hours	Auditorium hours					Course work/project	Intenship	Self-study
				Total	Lecture	Practical	Laboratory	Seminar			
2 semester (15 weeks)											
XT1114	Foreign language	9	270	120		120					150
MAT1114	Advanced mathematics	8	240	90	30	60					150
TIL1104	Uzbek (Russian) language	4	120	60		60					60
GEO1110	Geodesy	5	150	60	20	40					90
KD1103	Cartographic design	3	90	30	10	20					60
PR1102	Internship	2	60							60	
	Total for semester:	**31**	**930**	**360**						**60**	**510**
	Total for the academic year:	**60**	**1800**	**720**						**60**	**1020**

	3 semester (15 weeks)											
The second stage	FAL2105	Philosophy	5	150	60	40			20			90
	KAR2105	Carthography	5	150	60	30	30					90
	DKA2105	Introduction to state cadastres	5	150	60	30	30					90
	TD2105	Soil and plant sciences	5	150	60	30	20	10				90
	AJM2106	Information technologies and mathematical modeling of processes	6	180	80	40	30	10				100
		Elective subject №1	***3***	***90***	***40***							***50***
	YFA2203	*Introduction to land resources use*	*3*	*90*	*40*	*20*	*20*					*50*
	KGE2203	*Spece geodezy*	*3*	*90*	*40*	*20*	*20*					*50*
	FG2203	*Photogrametrics*	*3*	*90*	*40*	*20*	*20*					*50*
		Total for semester:	**29**	**870**	**360**							**510**

	4 semester (15 weeks)										
YRB2105	Land resources management	5	150	60	30	30					90
YTA2105	Introduction to land management	5	150	60	30	30					90
GTT2105	Geoinformation system and technologies	5	150	60	30	30					90
YEK2110	Land cadastre	5	150	60	30	30					90
	Elective subject №2	***5***	***150***	***60***							***90***
YFI2205	*Economic of land resources use*	*5*	*150*	*60*	*30*	*30*					*90*
TDE2205	*Soil degredation*	*5*	*150*	*60*	*30*	*30*					*90*
HMJ2205	*Engineering equipment of territories*	*5*	*150*	*60*	*30*	*30*					*90*
	Elective subject №3	***4***	***120***	***60***							***60***
YAT2204	*Land information systems*	*4*	*120*	*60*	*30*	*30*					*60*
MZ2204	*Remote sensing*	*4*	*120*	*60*	*30*	*30*					*60*
TRK2204	*Cadastr of natural resources*	*4*	*120*	*60*	*30*	*30*					*60*
PR2106	Internship	6	180							180	
	Total for semester:	**35**	**1050**	**360**						**180**	**510**
	Total for the academic year:	**64**	**1920**	**720**						**180**	**1020**

The third stage	**5 semester (15 weeks)**											
	YEK3110	Land cadastre	5	150	60	30	30					90
	APK3105	Human settelement lands cadaster	5	150	60	30	30					90
	YTL3105	Land tenure development	5	150	60	30	30			c/p		90
	YH31105	Land lagislation	5	150	60	30	30					90
		Elective subject №4	***5***	***150***	***60***							***90***
	YGI3205	*Geodezic works in land development*	*5*	*150*	*60*	*30*	*30*					*90*
	MYR3205	*Land reclaiming and reclamation*	*5*	*150*	*60*	*30*	*30*					*90*
	ZGA3205	*Modern geodezic tools*	*5*	*150*	*60*	*30*	*30*					*90*
		Elective subject №5	***4***	***120***	***60***							***60***
	BIK3204	*State cadaster of buildings*	*4*	*120*	*60*	*30*	*30*					*60*
	KIT3204	*Organization of land development and land cadastr works*	*4*	*120*	*60*	*30*	*30*					*60*
	YBA3204	*Information supply in land development*	*4*	*120*	*60*	*30*	*30*					*60*
		Total for semester:	**29**	**870**	**360**							**510**

	6 semester (15 weeks)										
YFE3106	Land use ecology	6	180	80	40	40					100
YFP3106	Prognosis of land tenure	6	180	80	40	40					100
QYK3106	Cadastre of agricultural land	6	180	80	40	40					100
	Elective subject №6	***5***	***150***	***60***							***90***
YKG3205	*Computer grafics in land management*	*5*	*150*	*60*	*30*	*30*					*90*
HK3205	*Cadaster of territories*	*5*	*150*	*60*	*30*	*30*					*90*
YFI3205	*Economics of land development*	*5*	*150*	*60*	*30*	*30*					*90*
	Elective subject №7	***5***	***150***	***60***							***90***
LYT3205	*Landshaft land development*	*5*	*150*	*60*	*30*	*30*					*90*
YKT3205	*Organization of land development and land cadastr works*	*5*	*150*	*60*	*30*	*30*					*90*
DSK3205	*Cadastr in urban development*	*5*	*150*	*60*	*30*	*30*					*90*
PR3108	Internship	8	240							240	
	Total for semester:	**36**	**1080**	**360**						**240**	**480**
	Total for the academic year:	**65**	**1950**	**720**						**240**	**990**

		7 semester (15 weeks)										
The fourth stage	YEM4105	Land monitoring	5	150	60	20	40					90
	NXK4106	Cadastre of non-agricultural land	6	180	80	40	40			c/p		100
	DYN4105	Government land regulation	5	150	60	30	30			c/p		90
		Elective subject № 8	***5***	***150***	***60***							***90***
	SI4205	*Artificial Intelect*	*5*	*150*	*60*	*30*	*30*					*90*
	RYK4205	*Digital land cadastre*	*5*	*150*	*60*	*30*	*30*					*90*
		Elective subject № 9	***5***	***150***	***60***							***90***
	BIQ4205	*Bioeconomics*	*5*	*150*	*60*	*30*	*30*					*90*
	RI4205	*Digital economics*	*5*	*150*	*60*	*30*	*30*					*90*
	YBT4205	*Land market and its infrastructure*	*5*	*150*	*60*	*30*	*30*					*90*
		Total for semester:	**26**	**780**	**320**							**460**

8 semester (15 weeks)											
YTT4105	Automated systems in land cadaster and land management	5	150	60	20	40					90
	Elective subject № 10	***5***	***150***	***60***							***90***
XIN4205	*Foreign investment*	*5*	*150*	*60*	*30*	*30*					*90*
YFI4205	*Land use economics*	*5*	*150*	*60*	*30*	*30*					*90*
	Elective subject № 11	***5***	***150***	***60***							***90***
DMB4205	*Database of state cadastre*	*5*	*150*	*60*	*30*	*30*					*90*
DOK4205	*State forest cadastre*	*5*	*150*	*60*	*30*	*30*					*90*
HFX4205	*Life savety*	*5*	*150*	*60*	*30*	*30*					*90*
BMI4105	Internship	5	150							150	
DA4105	Thesis	5	150								150
	Total for semester:	**25**	**750**	**180**						**150**	**420**
	Total for the academic year:	**51**	**1530**	**500**						**150**	**880**
	Total:	**240**	**7200**	**2660**						**630**	**3910**

According to the Qualification Requirement, the following **program learning outcomes (intended qualifications profile)** shall be achieved by the master program *Land Use and Land Resources Management*:

General Competences

1. possessing a comprehensive understanding of the scientific world system, fundamental methodological disciplines, the ability to independently analyze technological issues and processes;
2. demonstrating proficiency in interpreting documents and tasks related to professional activities in a foreign language, understanding the essence of scientific research and pedagogical methodology, and utilizing them in contemporary scientific and professional contexts;
3. acquiring new knowledge independently, working on and organizing labor activities on a scientifically grounded basis;
4. critically evaluating and analyzing acquired knowledge, applying it in scientific activities;
5. effectively utilizing legal and regulatory documents in one's professional activities, making independent decisions based on one's own professional judgment;
6. utilizing internet resources, mastering the fundamental methods and tools of information retrieval, processing, and reprocessing, and being proficient in working with computers as a means of managing information;

7. utilizing information technology, understanding the nature and significance of information technologies in the context of the information society, recognizing and responding to information leakage and threats, and possessing the ability to meet the fundamental requirements of information security.

Professional Competences

8. conducting scientific and practical research, reevaluating the results of experiments, and drawing scientifically-based conclusions from them, preparing and editing scientific articles, organizing and conducting scientific seminars, conferences, and symposiums, and possessing the skills to develop scientific projects;
9. utilizing information and pedagogical technologies in pedagogical activities;
10. understanding innovative approaches in improving the quality and effectiveness of education and development;
11. having the ability to prepare project proposals for participation in projects announced by both domestic and foreign institutions based on the results of scientific activities;
12. possessing the skills required for participation in projects announced by state, non-state, and non-commercial organizations
13. optimizing the organizational structure of institutions, enterprises, and their subdivisions, enhancing the professional competence of staff, organizing and managing, regulating effective use of labor potential, and contributing to the development of a system to enhance labor efficiency;
14. proficiency in applying economic risk management measures when producing goods and utilizing labor resources in enterprises in the context of branches and fields;
15. possessing the skills to create and apply secure mathematical, informational, and simulation models in theoretical and practical areas under development;
16. understanding economic risk factors affecting branches and fields, and conducting research and analysis to identify them, and having the ability to carry out analytical tasks aimed at ensuring technical security;
17. developing and implementing technical strategic plans in the fields and branches, creating conceptual and theoretical models of issues related to technical security, and having the knowledge to apply recommendations and solutions derived from scientific research and the results of academic studies.

The following **curriculum** is presented:

II. CURRICULUM

No	Code of discipline	Name of discipline and scientific activities	Total		The study load of undergraduates (hours)																		
					1 year												2 year						
					1 semester 15 weeks						2 semester 15 weeks						3 semester 15 weeks						4 semester
			Credit	Hours	Lecture	Practice	Laboratory activities	Final course paper (Project, work)	Additional training	Research activity	Lecture	Practice	Laboratory activities	Final course paper (Project, work)	Additional training	Research activity	Lecture	Practice	Laboratory activities	Final course paper (Project, work)	Additional training	Research activity	Research activity
	1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1		**Mandatory disciplines**	**32**	**960**	**110**	**100**			**210**		**90**	**90**		**1 c/p 1 c/w**	**180**		**40**	**50**			**90**		
1.01	ITM5102	Research methodology	2	60	20	10			30														
1.02	YFB5108	Integrated in land use management	8	240	30	30			60		30	30		c/p	60								
1.03	IIR5108	Development of territories	8	240	30	30			60		30	30			60								
1.04	YFI5108	Economics of land use	8	240	30	30			60		30	30		c/w	60								
1.05	YBA6104	Legal basis of land resources management	4	120													30	30			60		
1.07	MFO6102	Methodology of teaching special subjects	2	60													10	20			30		
2		*Elective disciplines*	*18*	*540*	*40*	*50*			*90*								*90*	*90*			*180*		
		Elective discipline 1 1. Patent studies, licensing and certification 2. Geoinformation cartography	4	120	30	30			60														

		3. Database and architecture																				
		Elective discipline 2 1. Pedagogical technologies and pedagogical skills 2. Speech culture 3. Information systems	2	60	10	20			30													
		Elective discipline 3 1. Formation of land plots 2. Regulation of land relations 3. Planning and development of territories	4	120												30	30			60		
		Elective discipline 4 1. Land information system 2. Scientific basis of geoinformation systems 3. Geoinformation systems and technologies	4	120												30	30			60		
		Elective discipline 5 1. GIS in management and use of land resources 2. Assessment of land resources 3. Remote sensing of land	4	120												30	30			60		
		Total:	**50**	**1500**	**150**	**150**			**300**		**90**	**90**		**1 c/p 1 c/w**	**180**		**130**	**140**			**270**		
3		**Scientific activity**	**70**	**2100**						**300**						**540**						**360**	**900**
3.01	IMD5340	Master Thesis and Research Work	40	1200						300						240						360	300
3.02	IPS5330	Research and Pedagogical Internship	30	900												300							600
		Total	**120**	**3600**	**150**	**150**			**300**	**300**	**90**	**90**		**1 c/p 1 c/w**	**180**	**540**	**130**	**140**			**270**	**360**	**900**

State Attestation:
Master's thesis defence

According to the Qualification Requirement, the following **learning outcomes (intended qualifications profile)** shall be achieved by the bachelor program *Ecology and Environmental Protection (water sector option)*:

General competences

1. Knowledge of topical issues of state policy, the ability to independently analyze socio-economic problems and processes;
2. understand the essence of documents and works related to professional activities in one of the foreign languages, have the necessary knowledge in the framework of professional activities in the field of natural sciences and be able to use them in professional activities on a modern scientific basis;
3. be able to use information technology in their professional activities, master the methods of collecting, storing, processing and using information, be able to make independent decisions in their activities;

4. is able to independently acquire new knowledge, work on himself and organize work on a scientific basis;
5. have an idea about a healthy lifestyle and the need to comply with it.

Professional competences

6. have the skills to search, analyze and use legal documents in their professional activities;
7. Knowledge of corporate information systems, preparation of statistical analyzes and reports, database maintenance;
8. know management tasks in the field, organization of work, management of a team of employees;
9. Knowledge of the tasks of strategic and operational management, modern technologies for organizing labor and management, managing a team of employees;
10. acquire the skills of strategic analysis, development and implementation of an organizational strategy aimed at ensuring competitiveness;
11. Application of intelligent engineering systems in the optimization of ecosystem services;
12. acquire skills in the formation and management of projects, contracts, coordination of the activities of performers;
13. acquire skills in the use of telematics in the use of ecosystem services and increase their efficiency;
14. acquire skills in modeling environmental processes;
15. acquire skills in environmental impact assessment, monitoring and environmental audit;
16. the purpose and subject of the strategic environmental impact assessment, principles and its organization, strategic assessment and national legislation,
17. have skills in applying the impacts of water sector option activities on the environment and ways to reduce them, consequences, measures to reduce the consequences;
18. have the skills to analyze and use advanced statistical data in the field;
19. be able to harmoniously use modern information and communication technologies and intelligent engineering systems in the organization of environmental safety.

The following **curriculum** is presented:

STAGE	CODE	The name of the subject	Credit	Hours	Auditorium hours					Course work/project	Internship	Self-study
					Total	Lecture	Practical	Laboratory	Seminar			
The first stage	1 semester (15 weeks)											
	XT1115	Foreign Language	8	240	90		90					150
	OYT1105	The newest history of Uzbekistan	5	150	60	40			20			90
	MG1105	Engineering and computer graphics	5	150	60	20	40					90
	AFK1104	Analytical and Physcolloid Chemistry	4	120	60	30	20	10				60
	FIZ1104	Physics	4	120	60	30	10	20				60
	MK1103	Introduction to specialty	3	90	30	10	20					60
		Total for semester:	29	870	360							510

CODE	The name of the subject	Credit	Hours	Auditorium hours					Course work/project	Internship	Self-study
				Total	Lecture	Practical	Laboratory	Seminar			
2 semester (15 weeks)											
XT1115	Foreign Language	7	210	90		90					120
MAT1109	Higher mathematics	9	270	120	60	60					150
TIL1105	Uzbek (Russian) language	5	150	60	20	40					90
FAL1105	Philosophy	5	150	60	30	30					90
JTS1102	Physical education and sports	2	60	30		30					30
PR1102	Internship	2	60							60	
	Total for semester:	30	900	360						60	480
	Total for the academic year:	59	1770	720						60	990

The second stage	3 semester (15 weeks)											
	EAM2105	Ecology and environmental protection	5	150	60	30	20	10				90
	AJM2105	Information technologies and mathematical modeling of processes	5	150	60	20	30	10				90
	TUP2105	Soil science	5	150	60	20	20	20				90
	AMB2105	Environmental biotechnology	5	150	60	20	30	10				90
	GID2105	Hydraulics	5	150	60	30	10		20			90
		Elective subject №1	*4*	*120*	*60*							*60*
	BMB2204	*Biology and microbiology*										
	UT2204	*Basics of toxicology*										
	ETJ2204	*Basics of energy saving*										
		Total for semester:	**29**	**870**	**360**							**510**

4 semester (15 weeks)											
IG2105	Engineering geodesy	5	150	60	20	30	10				90
IMI2105	Engineering structures and nature conservation facilities	5	150	60	20	30	10				90
EMI2105	Assessment of the strength and reliability of ecological objects	5	150	60	20	30	10				90
GG2104	Geology and hydrogeology	4	120	60	20	20	20				60
QMI2105	Hydrology, meteorology and basic climatology	5	150	60	20	30	10				90
	Elective subject №2	*5*	*150*	*60*							*90*
ACD2205	*AutoCAD*										
CGR2205	*Computer graphics (3D)*										
LD2205	*Landscape design*										
PR2106	Internship	6	180							180	
	Total for semester:	**35**	**1050**	**360**						**180**	**510**
	Total for the academic year:	**64**	**1920**	**720**						**180**	**1020**

The third stage	5 semester (15 weeks)											
	EH3105	Environmental lagislation	5	150	60	30	30					90
	GAT3105	Basics of geoinformation systems	5	150	60	30	30					90
	IST3105	Drinking water supply	5	150	60	30	30					90
	SFM3104	Multi-purpose water resources use and protection	4	120	60	30	30			c/w		60
		Elective subject №3	*5*	*150*	*60*							*90*
	KPS3205	*Psychology of the profession*										
	BPS3205	*Psychology of management*										
	IJS3205	*Engineering psychology*										
		Elective subject №4	*5*	*150*	*60*							*90*
	ABS3205	*Environmental management*										
	XM3205	*Enternational management*										
	SM3205	*Strategic management*										
		Total for semester:	**29**	**870**	**360**							**510**

6 semester (15 weeks)											
EKM3105	Environmental monitoring	5	150	60	30	30			c/w		90
CHB3105	Waste management	5	150	60	30	30			c/w		90
TIU3104	Instrumental methods of analysis	4	120	60	30	20	10				60
KOS3104	Sewage and wastewater treatment	4	120	60	30	30					60
	Elective subject №5	*5*	*150*	*60*							*90*
EMO3205	*Modeling of environmental processes*										
MM3205	*Mathematical modeling*										
MML3205	*Mathematical models and methods*										
	Elective subject №6	*5*	*150*	*60*							*90*
GME3205	*Hydrometry*										
MYR3205	*Land reclamation, reclamation and protection*										
PR3108	Internship	8	240							240	
	Total for semester:	**36**	**1080**	**360**						**240**	**480**
	Total for the academic year:	**65**	**1950**	**720**						**240**	**990**

	7 semester (15 weeks)											
The fourth stage	AMT4110	Environmental impact assessment	5	150	60	30	30					90
	TMQ4106	Environmental protection	6	180	80	30	50					100
	IM4106	Irrigation and land reclamation	6	180	80	30	50					100
		Elective subject № 7	*5*	*150*	*60*							**90**
	HFX4205	*Safety of life*										
	IFX4205	*Safety of work*										
	FFX4205	*Safety of civilians*										
		Elective subject № 8	*5*	*150*	*60*							**90**
	YIQ4205	*Green economy*										
	ARI4205	*Environmental economics*										
	REI4205	*Resource economics*										
		Total for semester:	**27**	**810**	**340**							**470**

8 semester (15 weeks)											
AMT4110	Environmental impact assessment	5	150	60	30	30			c/w		90
	Elective subject № 9	*5*	*150*	*60*							**90**
EAU4205	*Environmental audit*										
ERB4205	*Environmental risk assessment*										
EX4205	*Environmental safety*										
	Elective subject № 10	*5*	*150*	*60*							**90**
SRB4205	*Water resources management*										
HSB4205	*Basin water resources management*										
SIR4205	*Integrated water resources management*										
BMI4110	*Internship*	5	150							150	
DA4105	Diploma project	5	150								150
	Total for semester:	**25**	**750**	**180**						**150**	**420**
	Total for the academic year:	**52**	**1560**	**520**						**150**	**890**
	Total:	**240**	**7200**	**2680**						**630**	**3890**

According to the Qualification Requirement, the following **learning outcomes (intended qualifications profile)** shall be achieved by the master program *Environmental Protection (agriculture and water sector option)*:

General competences

1. own the system of knowledge of the scientific worldview, know the basics of general methodological sciences, know the current issues of state policy, have the ability to independently analyze social problems and processes;
2. be able to independently analyze social problems and processes;
3. oral and written presentation of one's point of view on national spiritual and universal values, the essence of the main idea of the national idea "Building a free and prosperous Motherland, a free and prosperous life" with an understanding of the theoretical basis and knowledge of its proportionality and difference from the main ideas;

Professional competences

4. have a holistic view of the processes and events taking place in nature and society, have knowledge about the spiritual image of a person, be able to use them in life and professional activities, as well as in modern scientific research;
5. the ability to apply in their professional activities the legal and ethical norms that regulate the relationship of a person to people, society, and the environment;
6. able to independently acquire new knowledge, improve it and organize their work on a scientific basis;
7. understand and analyze problems of social and personal significance on the basis of their individual knowledge;
8. be able to use normative legal documents in their activities;
9. have a culture of thinking, a certain way of thinking, the ability to clearly express oral and written speech;
10. creative critical review and analysis of the acquired knowledge, the ability to use them in scientific activities;
11. formation of social responsibility aimed at feeling the results of scientific activity;
12. to use the basic laws of science learned in professional activity, to classify methods, to be able to use methodological principles in scientific activity;
13. - having mastered one of the foreign languages as a means of scientific communication and
14. exchange of professional skills;
15. mastering the methods of collecting, storing, processing and using information;
16. the ability to make informed independent decisions in their professional activities;
17. have the ability to distinguish information, knowledge, information from each other, be able to use information technology;

18. understand the essence and significance of information technologies in the modern information society, understand the risks and threats of information attacks, be able to comply with the basic requirements of information security;
19. own the basic methods and means of obtaining, storing and processing information from the Internet, have the skills to work with a computer as a means of information management;
20. be able to use of information and pedagogical technologies in pedagogical activity;
21. have an innovative approach to improving the quality and efficiency of education;
22. be able to preparation of a project for participation in projects announced in the state and abroad based on the results of scientific activities;
23. - be able to prepare regulatory documents for obtaining a patent;
24. - be able to participate in projects submitted by state, non-state and non-profit organizations, it is necessary to have a project preparation qualification.

The following **curriculum** is presented:

No.	CODE	The name of academic subject (course) or type of scientific activity	Total academic load		The Master student's load on semesters and types of educational work (in hours)																			
					1st course												2nd course							
					1st semester (15 weeks)						2nd semester (15 weeks)						3rd semester (15 weeks)						4th semester (15 weeks)	
					Auditorium hours						Auditorium hours						Auditorium hours							
			Credit	Hours %	Lecture	Practical (seminar)	Laboratory	Course work/project	Scientific activity	Self-study	Lecture	Practical (se.inar)	Laboratory	Course work/project	Scientific activity	Seelf-study	Lecture	Practical (se.inar)	Laboratory	Course work/project	Scientific activity	Seelf-study	Scientific activity	
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
1.00		**Mandatory courses**	**32**	**960**	**100**	**230**		**2c/p**		**330**	**50**	**100**				**150**								
1.01	AIT-5106	Research methodology in Environmental Sciences	6	180	20	70				90														
1.02	GAT-5106	Geoinformation systems	6	180	20	70		1c/p		90														
1.03	AE-5106	Agroecology	4	120	30	30		1c/p		60														
1.04	GEK-5104	Hydroecology	6	180	30	60				90														
1.05	EKE-6106	Ecological chemistry and ecotoxicology	4	120							30	30				60								
1.06	SS-6106	Water quality	6	180							20	70				90								
2.00		**Elective courses**	**18**	**540**							**20**	**70**				**90**	**80**	**100**		**2c/p**		**180**		
2.01		*Elective course 1*	6	180							20	70				90								
	AMM N-6206	*Theoretical foundations of Environmental protection*																						
	GIO'-6206	*Global climate change*																						
	BRT-6206	*Principles of sustainable development*																						

2.02		*Elective course 2*	4	120												20	40		1c/p		60		
	CHB-6206	*Waste management*																					
	KCHB-6206	*Municipal waste management*																					
	QCHB-6206	*Agricultural waste management*																					
2.03		*Elective course 3*	4	120												30	30				60		
	GK-6206	*Gidrochemistry*																					
	MOLE-6206	*Landscape Ecology of Central Asia*																					
	EA-6206	*Ecological audit*																					
2.04		*Elective course 4*	4	120												30	30		1c/p		60		
	ERB-6206	*Analysis of environmental risks*																					
	AMTB-6206	*Environmental impact assessment*																					
	EE-6206	*Ecological expertise*																					
		Total:	**50**	**1500**	**100**	**230**		**2c/p**		**330**	**70**	**170**				**240**	**80**	**100**		**2c/p**		**180**	
3.00		**Scientific activity**	**70**	**2100**						**240**						**420**							**540**	**900**
1	2	3	4	5	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
3.01	IMD-51342	Research work and master's thesis preparation	32	960												60								900
3.02	ILM-5236	Scientific internship	30	900						180						300							420	
3.03	MAL-52312	Professional internship	8	240						60						60							120	
		TOTAL:	**120**	**3600**	**100**	**230**		**2cp**		**630**	**50**	**100**			**216**	**450**	**100**	**170**		**2cp**		**270**	**600**	**900**

STATE ATTESTATION:
Defense of Master's thesis

Comment: