

MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

STATE BIOTECHNOLOGICAL UNIVERSITY

EDUCATIONAL AND PROFESSIONAL PROGRAMME «LAND MANAGEMENT AND CADASTRE»

HIGHER EDUCATION LEVEL – Second

HIGHER EDUCATION DEGREE – Master's degree

SPECIALITY – 193 Geodesy and land management

FIELD OF KNOWLEDGE – 19 Architecture and construction

EDUCATIONAL QUALIFICATIONS – Master's degree in geodesy and land management

APPROVED BY THE ACADEMIC COUNCIL

of the State Biotechnological University (protocol No. 11 dated 26 April 2024) and shall come into force on 1 September 2024.

Acting rector	
	/ Andriy Kudryashov /

FOREWORD

Developed by a project (working) group consisting of:

- 1. Head of the Department of Land Resources Management, Geodesy and Cadastre, Professor, Doctor of Economics *Iryna Vitaliivna Koshkalda*;
- 2. Associate Professor of the Department of Land Resources Management, Geodesy and Cadastre, Candidate of Economic Sciences, *Olena Anatoliivna Dombrovska*;
- 3. Associate Professor of the Department of Land Resources Management, Geodesy and Cadastre, Candidate of Economic Sciences, *Serhii Oleksandrovych Vynohradenko*;
- 4. Associate Professor of the Department of Land Resources Management, Geodesy and Cadastre, Candidate of Economic Sciences *Tetiana Volodymyrivna Anopriyenko*;
- 5. Stakeholder, Individual Entrepreneur Artur Bondarenko, Certified Land Surveyor *Artur Viktorovych Bondarenko*;
- 6. Graduate of the second (master's) level of higher education OP 'Land Management and Cadastre', V. V. Dokuchaev Kharkiv National Agrarian University and OP 'Geoinformation Technologies' O. M. Beketov Kharkiv National University of Municipal Economy, Chief Specialist of the Department of Spatial Planning, Architecture and Urban Cadastre of the Department of Urban Development and Architecture of the Kharkiv Regional State Administration, *Anna Yuriivna Fedorova*.
- 7. First-year full-time student of the second (master's) level of higher education in the educational programme 'Land Management and Cadastre' in the specialty 193 'Geodesy and Land Management' *Kirill Romanovych Shatiyov*.

Reviews and Feedback from External Stakeholders:

Levkovska L. V. – Doctor of Economics, Professor, Head of the Department of Natural Resources and Environmental Security, Institute for Demography and Quality of Life Problems, National Academy of Sciences of Ukraine, Kyiv.

Pryimak S. M. – Individual Entrepreneur, Certified Land Surveyor and Appraiser, Dnipro.

Maiboroda O. O. – Individual Entrepreneur, Certified Land Surveyor and Appraiser, Kharkiv.

The reviews and feedback from external stakeholders are attached.

Profile of the Educational Program "Land Management and Cadastre" within the Specialty 193 "Geodesy and Land Management"

Full name of the higher education institution and structural unit Level of higher education and title of qualification in the original language Official name of the educational programme Type of diploma and scope of the education status Accreditation status Cycle/level Cycle/level Prerequisites Type of the education of the education of the educational programme Accreditation status Cycle/level	1– General information									
Faculty of Forestry, Wood Processing Technologies, and Land Management Faculty of Forestry, Wood Processing Technologies, and Land Management Faculty of Forestry, Wood Processing Technologies, and Land Management Master's degree. Master of Science in Geodesy and Land Management Mater of Science in Geodesy and Land Management Mater of Science in Geodesy and Land Management Educational and Professional Program "La Management and Cadastre" of the second (master level of higher education in the field of knowledge "Architecture and Construction", specialty I "Geodesy and Land Management" Type of diploma and scope of the educational programme Accreditation status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Ukrainian language, English language Internet address of the permanent location of the https://biotechuniv.edu.ua/pro-universitet/osvitny diyalnist/osvitni-programi/	Full name of the									
and Land Management Level of higher education and title original language Official name of the educational programme Type of diploma and scope of the educational programme Accreditation status Accreditation tatus Accreditation tatus Accreditation tatus Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate — UD No. 210057 Accredited until July 1, 2025. Cycle/level An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of instruction Duration of the education of the permanent location of the higher education, language (state) and science of Ukraine — level 7, FQ-EHEA — second cycle, EQF-L— level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Ukrainian language, English language Internet address of the permanent location of the higher education, language (state) and specialist (state)		j								
Level of higher education and title of qualification in the original language Official name of the educational programme Difficial name of the educational programme Figure 1										
Level of higher education and title of qualification in the original language Official name of the educational programme Programme Type of diploma and scope of the educational programme Accreditation status Accreditation status Accreditation status Accreditation commission of the Ministry of Educational programme Accreditation status Accreditation Commission of the Ministry of Educational programme Accreditation Commission of the Ministry of Educational programme Accreditation Commission of the Ministry of Educational programme Accreditation Commission of the Ministry of Educational Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L — level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Ukrainian language, English language Internet address of the permanent location of the https://biotechuniv.edu.ua/pro-universitet/osvitned diyalnist/osvitni-programi/		and Land Management								
Master of Science in Geodesy and Land Management of qualification in the original language Official name of the educational programme Educational level of higher education in the field of knowledge "Architecture and Construction", specialty "Geodesy and Land Management" Type of diploma and scope of the educational programme Accreditation status Accreditation status Accreditation Commission of the Ministry of Educational Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) instruction Duration of the education of the permanent location of the permanent location of the permanent location of the divalingtive interprogrami/ https://biotechuniv.edu.ua/pro-universitet/osvitnythipprogrami/	Structural unit									
Master of Science in Geodesy and Land Management of qualification in the original language Official name of the educational programme Educational level of higher education in the field of knowledge "Architecture and Construction", specialty "Geodesy and Land Management" Type of diploma and scope of the educational programme Accreditation status Accreditation status Accreditation Commission of the Ministry of Educational Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) instruction Duration of the education of the permanent location of the permanent location of the permanent location of the divalingtive interprogrami/ https://biotechuniv.edu.ua/pro-universitet/osvitnythipprogrami/	Level of higher	Master's degree								
of qualification in the original language Official name of the educational programme Difficial name of the educational programme Educational programme Official name of the educational programme Management and Cadastre" of the second (master level of higher education in the field of knowledge "Architecture and Construction", specialty "Geodesy and Land Management" Type of diploma Master's Degree Diploma, single cycloparamme Accreditation status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of instruction Duration of the educational programme Internet address of the permanent location of the permanent location of the permanent location of the location location of the location location location of the location locati										
the original language Official name of the educational programme Programme Official name of the educational programme Official name of the educational programme Programme Official name of the educational programme Internet address of the permanent location of the education of the programme Education of the education of the education of the programme Internet address of the education of the programme Octation of the education of the programme Internet address of the education of the programme Internet address of the permanent location of the education of the programmic location of the programmic location of the education of the programmic location of the language lang		Waster of Science in Goodesy and Land Wanagement								
Accreditation status Cycle/level Prerequisites Cycle/level Cycle/l	_									
Official name of the educational and Professional Program "La Management and Cadastre" of the second (master level of higher education in the field of knowledge "Architecture and Construction", specialty "Geodesy and Land Management" Type of diploma Master's Degree Diploma, single cycleducational programme Accreditation status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057. Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of Ukrainian language, English language instruction Duration of the educational programme Internet address of the permanent location of the https://biotechuniv.edu.ua/pro-universitet/osvitny diyalnist/osvitni-programi/										
Management and Cadastre" of the second (master level of higher education in the field of knowledge "Architecture and Construction", specialty "Geodesy and Land Management" Type of diploma Master's Degree Diploma, single cycleducational programme Accreditation status Accreditation Commission of the Ministry of Educational Science of Ukraine. Certificate – UD No. 210057. Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Ukrainian language, English language instruction Duration of the educational programme Internet address of the permanent location of the		Educational and Professional Program "Land								
level of higher education in the field of knowledge "Architecture and Construction", specialty "Geodesy and Land Management" Master's Degree Diploma, single cycleducational programme Accreditation status Accreditation Commission of the Ministry of Educational Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) instruction Duration of the educational programme Internet address of the permanent location of the		ı								
"Architecture and Construction", specialty is "Geodesy and Land Management" Type of diploma Master's Degree Diploma, single cycle single and scope of the educational programme Accreditation status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of instruction Ukrainian language, English language instruction Duration of the educational programme Internet address of the permanent location of the permanent location of the		·								
"Geodesy and Land Management" Type of diploma Master's Degree Diploma, single cycle gold scope of the educational programme Accreditation status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of instruction Ukrainian language, English language Internet address of the permanent location of the programme Internet address of the permanent location of the language instruction of the language https://biotechuniv.edu.ua/pro-universitet/osvitry diyalnist/osvitni-programi/	P. 08									
Master's Degree Diploma, single cycleducational programme Accreditation status Accreditation Commission of the Ministry of Educational and Science of Ukraine. Certificate – UD No. 210057. Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of instruction Duration of the educational programme Internet address of the permanent location of the		, 1								
Accreditation status Accreditation Status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of instruction Duration of the educational programme Internet address of the permanent location of the	Type of diploma									
Accreditation status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of instruction Duration of the educational programme Internet address of the permanent location of the										
Accreditation status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) Instruction Duration of the educational programme Internet address of the permanent location of the	_	o Be is creates, i year i monus								
Accreditation Status Accreditation Commission of the Ministry of Education and Science of Ukraine. Certificate – UD No. 210057 Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of instruction Duration of the educational programme Internet address of the permanent location of the										
and Science of Ukraine. Certificate – UD No. 210057. Accredited until July 1, 2025. Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of Ukrainian language, English language instruction Duration of the educational programme Internet address of the permanent divaluist/osvitni-programi/		Accreditation Commission of the Ministry of Education								
Accredited until July 1, 2025. Cycle/level Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) instruction Duration of the educational programme Internet address of the permanent location of the		and Science of Ukraine. Certificate – UD No. 21005729.								
Second (master's) level of higher education; NQF Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) instruction Duration of the educational programme Internet address of the permanent location of the										
Ukraine – level 7, FQ-EHEA – second cycle, EQF-L – level 7 Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) Ouration Duration Ouration Outation Outat	Cvcle/level	-								
Prerequisites An individual is entitled to pursue a master's deg provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of Ukrainian language, English language instruction Duration of the educational programme Internet address of the permanent location of the										
provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of Ukrainian language, English language Instruction Duration of the educational programme Internet address of the permanent location of the diyalnist/osvitni-programi/										
provided they hold a bachelor's degree (or educational qualification level of specialist). Language(s) of Ukrainian language, English language Instruction Duration of the educational programme Internet address of the permanent location of the diyalnist/osvitni-programi/	Prerequisites	An individual is entitled to pursue a master's degree								
ducational qualification level of specialist). Language(s) of Ukrainian language, English language Duration of the educational programme Internet address of the permanent location of the divalnist/osvitni-programi/	•	1								
Language(s) of Ukrainian language, English language Instruction Duration of the educational programme Internet address of the permanent location of the location of the location of the location of the location language, English language Ukrainian language, English language Until the end of the training period or the n programme update https://biotechuniv.edu.ua/pro-universitet/osvitnydivalnist/osvitni-programi/										
Duration of the ducational programme Internet address of the permanent docation of the divalinist/osvitni-programi/	Language(s) of	*								
programme update Internet address of the permanent location of the programme update programme update programme update	instruction									
programme update Internet address of the permanent divalnist/osvitni-programi/ Internet address of the permanent divalnist/osvitni-programi/	Duration of the	Until the end of the training period or the next								
Internet address of the permanent location of the location of the location programme https://biotechuniv.edu.ua/pro-universitet/osvitny diyalnist/osvitni-programi/	educational									
Internet address of the permanent divalnist/osvitni-programi/	programme									
the permanent diyalnist/osvitni-programi/	Internet address of	https://biotechuniv.edu.ua/pro-universitet/osvitnya-								
	the permanent									
	location of the									
description of the	description of the									
•	educational									
programme	programme									
•	location of the description of the	diyalnıst/osvitni-programi/								

2 – The aim of the educational programme

Training of qualified specialists (masters) in geodesy and land management, providing them with theoretical knowledge and competencies, as well as mastering the fundamentals of the methodology of professional and scientific activity, sufficient for the effective performance of tasks at the appropriate level of professional expertise.

3 – Characteristics of the educational program	3 –	Characteristics	of the	educational	programn
--	-----	------------------------	--------	-------------	----------

Subject area (field of knowledge, specialisation, specialisation (if applicable)

Field of Knowledge – 19 Architecture and Construction

Specialty – 193 *Geodesy and Land Management Objects of study:* theoretical foundations, methods, and technologies in land management, the state land cadastre, and land resources management.

Methods, tools, and technologies: methods, approaches, and technologies for the collection, processing, and analysis of geospatial data within the state land cadastre.

Instruments and equipment: scientific research methods, materials and equipment for the development of various types of land management and cadastral documentation, as well as computer software packages.

Orientation of the educational programme

Educational and professional programme, applied.

Main focus of the educational programme and specialisation

Special education and professional training in the field of geodesy and land management. Training of specialists capable of implementing modern principles and approaches in conducting topographic and geodetic surveys, as well as land management and cadastre activities.

Keywords: geodesy, land management, state land cadastre, land resources management.

Programme features

A distinctive feature of the program is its focus on training specialists for organizing work in geodesy, land management, and the state land cadastre within the context of ongoing land and administrative reforms. In accordance with this, pre-certification practical training is provided in the structural divisions of the State Service of Ukraine for Geodesy, Cartography and Cadastre (Derzhheokadastr), as well as in enterprises and organizations engaged in the development of land management and cadastral documentation.

4 – Employability of graduates								
Employability	The specialist is trained to perform professional							
r June J	activities in accordance with the Classifier of							
	Professions (DK 003:2010). They are qualified to carry							
	out the following professional functions: Research							
	Fellow in territorial-spatial land-use planning; Design							
	Engineer specializing in the development of land							
	management and urban planning projects; Research							
	Fellow in cartography and topography; Land							
	Management and Cadastral Engineer; Research							
	Engineer in the field of cadastre; Engineer responsible							
	for the management and maintenance of automated							
	cadastral information systems; Professional in other							
	engineering disciplines; Lecturer at a higher education							
	institution.							
	Specialists may occupy initial or entry-level positions,							
	including: Research Fellow; Engineer; Head of a							
	Production Unit; Head of a Functional Department;							
	Lecturer or Assistant at a higher education institution.							
	Furthermore, specialists are eligible to obtain							
	professional qualification certificates as a Land							
	Management Engineer or Geodesist Engineer, as well							
	as qualification certificates in land appraisal, including							
	Expert Monetary Valuation of Land Plots, and							
	appraisals in the following domains: "Valuation of							
	Tangible Assets" and "Valuation of Integrated							
	Property Complexes, Shares, Securities, Property							
	Rights, and Intangible Assets, including Intellectual							
	Property Rights."							
Further education	Continuation of education for higher education seekers							
	to obtain their first academic degree of Doctor of							
	Philosophy.							
T 1 1	5 – Teaching and assessment The program is delivered through a combination of							
Teaching and	The program is delivered through a combination of lectures, seminars, practical classes, consultations, and							
learning	internships, with a strong emphasis on personal							
	development, collaborative and independent learning,							
	as well as project-based work. Students are trained to							
	critically evaluate their own work, provide constructive							
	feedback on the work of others, and effectively							
	incorporate feedback from peers and instructors.							
	Students select their research focus during the first year							
	of study. In the final year, the curriculum places greater emphasis on conducting the practical component of the							
	composasis on conducting the practical component of the							

	research, composing the qualification thesis, and
Assessment	preparing its formal presentation. Current and interim assessment: oral questioning, testing of knowledge and skills, consultations to
	discuss the results of current and interim assessment.
	Final assessment in disciplines: defence of pre-test
	practice reports, tests, written examinations, seminars
	to discuss examination results.
	The certification of higher education applicants is
	carried out in the form of the defence of the final
	qualification work.
T / 1 /	6 – Programme competences
Integral competence	Ability to solve applied, research and innovative problems in the field of geodesy and land management.
General	GC01. Ability to identify, pose and solve problems.
competencies (GC)	GC02. Ability to communicate in a foreign language.
	GC03. Ability to develop and manage projects.
	GC04. Ability to generate new ideas (creativity).
	GC06. Ability to adapt and act in new situations.
Carabal (and familianal)	GC06. Commitment to preserving the environment.
Special (professional)	SC01. Ability to plan and carry out theoretical and applied research, create new knowledge and
competencies of the speciality (SC)	technologies in the field of geodesy and land
speciality (SC)	management.
	SC02. Ability to critically reflect on current issues and
	promising areas of development in geodesy and land management and related fields of knowledge.
	SC03. Ability to effectively apply theories, principles and technologies of mathematics, natural, technical,
	social and economic sciences in solving complex problems of geodesy and land management.
	SC04. Ability to search for necessary information,
	select and apply modern methods of processing,
	analysing, evaluating and publishing data, in particular
	geospatial data and metadata, when solving complex problems in geodesy and land management.
	SC05. Ability to justify and evaluate methods of
	survey, exploration, testing, diagnostics, and
	monitoring of geodesy and land management objects.
	SC06. Ability to develop and implement projects in the
	field of geodesy and land management, as well as
	related interdisciplinary areas, taking into account
	technical, economic, social, legal and environmental
	aspects.

SC07. Ability to organise activities and effectively manage complex and/or unpredictable work processes in the field of geodesy and land management.

SC08. Ability to protect intellectual property and commercialise the results of research, invention and project activities.

SC09. Ability to develop and apply new strategic approaches to solving problems in the field of geodesy and land management.

SC10. Ability to identify and assess the impact of real estate objects on the natural environment, as well as the impact of environmental factors on the monetary valuation of land plots.

SC11. Mastery of modern approaches, methods and models, analytical tools and information technologies for the assessment and analysis of property objects and rights to them for civil law objects of all forms of ownership for specific purposes provided for by civil and other legislation of Ukraine.

SC12. Ability to make practical recommendations on the use of scientific research results.

7 - Programme learning outcomes

PLO01. Have specialised conceptual knowledge, including modern scientific achievements in the field of geodesy and land management, sufficient to conduct research and implement innovations.

PLO02. Communicate fluently, both orally and in writing, in the national and foreign languages on issues related to professional activities, research and innovation in the field of geodesy and land management.

PLO03. Make effective decisions to solve applied, research and/or innovative problems in the field of geodesy and land management, analyse alternatives, make forecasts, assess risks, particularly in conditions of incomplete or contradictory information and ambiguous requirements.

PLO04. Build and explore conceptual, mathematical and computer models of objects and processes, apply them to create innovations in the field of geodesy and land management.

PLO05. Create and develop geospatial data infrastructures, process and publish geospatial data and metadata related to geodesy and land management.

PLO06. Cooperate with customers and contractors,

prepare tender proposals in the field of geodesy and land management, and conclude relevant contracts.

PLO07. Justify the choice of equipment, technologies and processes for production management and research in the field of geodesy and land management and related fields.

PLO08. Develop and manage projects taking into account technological conditions and requirements for production management in the field of geodesy and land management and related interdisciplinary areas, taking into account economic, social, environmental and legal aspects; prepare technical specifications, project funding applications, carry out work planning, plan resources and manage them.

PLO09. Develop and implement measures for operational and long-term management, forecasting and planning of geodesy, cartography and land management production, taking into account available resources and time constraints.

PLO10. Protect intellectual property, commercialise the results of research, invention and design activities.

PLO11. Perform comprehensive analysis and assessment of the state of geodesy and land management objects and evaluate the consequences of the implementation of practical measures.

PLO12. Clearly and unambiguously communicate one's knowledge, conclusions and arguments in the field of geodesy and land management to specialists and non-specialists, in particular to students.

PLO13. Conduct surveys, tests, diagnostics, and monitoring of geodesy and land management objects, develop land protection measures, and assess their consequences.

PLO14. Critically reflect on current problems and promising areas of development in geodesy and land management, as well as related interdisciplinary issues.

PLO15. Be able to develop a planning and cartographic basis for land management and cadastral surveys using telecommunications systems, geoinformation systems and aerospace survey materials.

PLO16. Be prepared for professional scientific and pedagogical activity.

Staffing

Specialists are trained at specialised departments of the faculty.

All scientific and pedagogical staff involved in the implementation of the educational component of the educational and professional programme have scientific degrees and academic titles and are full-time employees of the State Biotechnological University. All scientific and pedagogical staff have a proven level of scientific and professional activity.

Project team: 1 Doctor of Science, Professor, 3 Candidates of Science, Associate Professors.

Guarantor of the educational programme (project team leader): Head of the Department of Land Resources Management, Geodesy and Cadastre, Professor, Doctor of Economics Iryna Vitaliivna Koshkalda.

Project group leader: Head of the Department of Land Resources Management, Geodesy and Cadastre, Doctor of Economics, Professor Iryna Vitaliivna Koshkalda.

Project group members: Olena Anatoliivna Dombrovska, Associate Professor of the Department of Land Resources Management, Geodesy and Cadastre, Candidate of Economics, Associate Professor; Serhii Oleksandrovych Vynohradenko, Associate Professor of the Department of Land Resources Management, and Cadastre. Candidate of Economic Geodesv Sciences, Associate Professor; Tetiana Volodymyrivna Anopriienko, Associate Professor of the Department of Land Resources Management, Geodesy and Cadastre, Candidate of Economic Sciences, Associate Professor.

Material and technical support

The availability of premises for conducting training sessions and control measures (square metres per person for the actual contingent of applicants) meets the requirements.

A sufficient level of multimedia equipment for simultaneous use in classrooms (minimum percentage of classrooms).

Availability of social and domestic infrastructure: libraries, including a reading room, catering facilities, an assembly hall, a sports hall, a stadium and/or sports grounds, a medical centre. 100% provision of dormitory accommodation for higher education students.

Provision of computer workstations, laboratories, training grounds, equipment and facilities necessary for the implementation of educational programmes.

Information and

Utilisation of the educational environment of the State

educational support	Biotechnological University and the original												
	developments of the university's scientific and teaching												
	staff.												
9 – Academic mobility													
National credit Leading specialists from Ukrainian universities may be													
mobility	involved in supervising the research work of applicants												
	on the basis of individual contracts.												
	Credits obtained at other Ukrainian universities may be												
	transferred, provided that the competences acquired are												
	equivalent.												
International credit	Within the framework of international programmes												
mobility	based on bilateral agreements between the State												
	Biotechnological University and higher education and												
	scientific institutions of partner countries.												
Education of	In accordance with current legislation on the training of												
foreign applicants	foreign citizens.												
for higher education													

1. List of components of the educational and professional programme and their logical sequence 2.1 List of EP components

Code z/p	Components of the educational programme (academic disciplines, course projects (assignments), internships, qualification work)	Number of credits	Form of final assessment				
	1. General training cycle						
1.1. Ma	andatory components common to all educatio	nal progran	nmes in the				
	speciality						
OKBP 1	Land resource management	6	Exam.				
OKBP 2	Licensing and Patenting of Scientific Outputs in the Fields of Geodesy, Land Management, and Land Valuation	Credit					
OKBP 3	Information Technologies in Scientific Research in the Fields of Geodesy, Land Management, and Land Valuation	3	Exam.				
OKBP 4	Methodology and Methods of Scientific Research in the Field of Geodesy, Land Management, and Land Valuation	3	Credit				
OKBP 5	Organization of Scientific and Production Activities in Geodesy, Land Management, and Land Appraisal	3	Credit				
Total for ite		18					
1.2. Aca	demic disciplines of professional and practica	al training (compulsory)				
OKPPP 1	Real estate appraisal methodology	3	Exam.				
OKPPP 2	Property appraisal and market analysis	6	Credit				
OKPPP 3	Geoinformation technologies in the field of geodesy, land management and real estate valuation	3	Exam.				
OKPPP 4	Urban planning	3	Exam.				
OKPPP 5	Land management analysis	3	Exam.				
OKPPP 6	Rural development and land consolidation	6	Exam., coursework				
OKPPP 7	Pre-examination practice	9	Credit				
OKPPP 8	Qualification work	15	Defense				
	Total for item 1.2. 48						
Total volum	e of mandatory components:	66					
	2. Selective components						
	e of selected components:	24					
TOTAL SO PROGRAM	COPE OF THE EDUCATIONAL MME	90					

2.2. Structural and logical diagram of the educational programme

2.2. Structural and logical diagram of the educational programme											
I cour	se	II course									
I semester	II semester	III semester									
Con	npulsory academic disciplin	es									
Mandatory components cor	nmon to all educational pro	grammes in the speciality									
Land resource management	Licensing and Patenting of Scientific Outputs in the Fields of Geodesy, Land Management, and Land Valuation	in Geodesy, Land									
Methodology and Methods of Scientific Research in the Field of Geodesy, Land Management, and Land Valuation	Information Technologies in Scientific Research in the Fields of Geodesy, Land Management, and Land Valuation										
Academic discip	lines of professional and pra	actical training									
Property appraisal and market analysis	Urban planning	Geoinformation technologies in the field of geodesy, land management and real estate valuation									
Real estate appraisal methodology	Land management analysis										
Rural development and land consolidation	Pre-examination practice	Qualification work									
Se	lective academic disciplines	S									
	Discipline 1	Discipline 2									
Discipline 3	Discipline 4	Discipline 5									

3. Attestation form for higher education applicants

Forms of	The attestation of graduates of the educational programme 'Land											
attestation for	Management and Cadastre' in the speciality 193 'Geodesy and											
higher education	Land Management' is carried out in the form of defending a											
applicants	master's thesis and ends with the issuance of a standard											
	document awarding a master's degree with the following											
	qualification: Master of Geodesy and Land Management.											
Requirements for	The attestation is conducted openly and publicly.											
certification	The final attestation takes place publicly in accordance with the											
	'Regulations on the Organisation of the Educational Process at											
	the State Biotechnological University' and the 'Regulations on											
	the Procedure for the Creation and Organisation of the											
	Examination Commission for the Attestation of Higher											
	Education Applicants'.											

Checking for academic plagiarism is carried out in accordance with the 'Regulations on Academic Integrity and Ethics in Academic Relations'.

4. Requirements for the internal quality assurance system in higher education

4.1. Defining principles and procedures for ensuring quality in higher education

Quality assurance in education is carried out in accordance with the 'Regulations on the Organisation ofthe Educational **Process** at the State Biotechnological University', 'Regulations on the Preparation and Defence of Qualification Works', 'Regulations on the Procedure for the Creation and Organisation of the Examination Commission for the Certification of Higher Education Applicants', the Regulations on the Council for Quality Assurance in Education at the State Biotechnological University, the Regulations on Academic Integrity and Ethics in Academic Relations, and the Regulations on the Centre for Quality Management in Education at the State Biotechnological University.

4.2. Monitoring and periodic review of educational programmes

Monitoring and periodic review of educational programmes are carried out in accordance with the university's local regulatory documents. mechanism for developing, approving, monitoring and periodically reviewing educational programmes is regulated by the 'Regulations on the Organisation Educational the **Process** the at Biotechnological University', the Regulations on the Educational Guarantor and the Programme Improvement Group at the State Biotechnological University, and the Regulations on Educational Biotechnological Programmes at the State University. The Regulations on the Council for Quality Assurance in Education at the State Biotechnological University and the criteria for reviewing educational programmes are formed as a result of feedback from scientific and pedagogical staff, higher education seekers, graduates and employers, as well as taking into account the forecast development of the industry and the needs of society. The university conducts an annual survey of higher education students, employers and graduates on the quality of educational programmes, the results of which are taken into account when reviewing them.

4.2. A an a z === = = C	The aggregate of higher advantion and its to
4.3. Assessment of	The assessment of higher education applicants is
higher education	carried out in accordance with the 'Regulations on
applicants	the organisation of the educational process at the
	State Biotechnological University'.
4.4. Assessment of	The assessment of the achievements of scientific and
scientific, teaching and	pedagogical staff takes place at the end of the
pedagogical staff	calendar year in accordance with the 'Regulations on
	the rating system for assessing the activities of
	scientific and pedagogical staff of the State
	Biotechnological University.' The results of the
	assessment are published on the university's website.
	The rating system for evaluating the performance of
	scientific and pedagogical staff at the university
	measures their individual professional activity in
	accordance with the content of their scientific,
	educational, methodological, organisational and
	educational work and motivates them to increase the
	effectiveness of their professional activities.
4.5. Advanced training	Scientific and teaching staff involved in the
for scientific,	educational process within the framework of the
pedagogical, and	educational programme undergo professional
academic staff	development training at least once every five years.
	The procedure for professional development of
	teaching and scientific and teaching staff is regulated
	by the 'Regulations on the professional development
	of teaching and scientific and teaching staff of the
	State Biotechnological University'.
4.6. Availability of	The educational process at the university is supported
information systems for	by:
effective management	computer systems, multimedia equipment;
of the educational	- unlimited access to the Internet;
process	- the university website;
	- an electronic library;
	 access to open educational resources;
	 the Moodle distance learning platform.
4.7. Publicity of	Information about educational programmes, higher
information about	education degrees and qualifications is available on
educational	the university's website.
programmes, higher	
education degrees and	
qualifications	
4.8. Ensuring	Ensuring compliance with academic integrity by
compliance with	university employees and higher education seekers is
compliance with	university employees and higher education seekers is

academic integrity by employees of higher education institutions and higher education seekers, including the creation and maintenance of an effective system for preventing and detecting academic plagiarism regulated by the Code of Academic Integrity of the State Biotechnological University, the 'Regulations on Surveys on the Quality of Educational Activities at the State Biotechnological University,' Regulations on Internal Auditing of the Higher Education Quality Assurance System at the State Biotechnological University, the Regulations on the Academic Integrity Promotion Group at the State Biotechnological University, the Regulations on Academic Integrity and Ethics in Relations, Regulations on the Centre for Education Quality Management at the State Biotechnological University. The university has a system in place to prevent and detect plagiarism in the work of employees and higher education students using specialised software.

5. Matrix of correspondence between software competencies and components of the educational programme

	Competencies																		
			Gener	al co	mpe	tenci	es			Spec	cial (profe	ession	al) c	omp	eten	cies		
OPP code	Integral	GC 01	GC 02	GC 03	GC 04	GC 05	GC 06	SC 01	SC 02	SC 03	SC 04	SC 05	SC 06	SC 07	SC 08	SC 09	SC 10	SC 11	SC 12
OKBP 1	+	+		+	+		+	+	+	+		+	+						
OKBP 2	+	+	+	+	+			+			+	+			+				+
OKBP 3	+			+	+	+		+	+	+	+		+			+	+	+	+
OKBP 4	+	+			+		+	+	+	+			+	+					+
OKBP 5	+	+		+		+		+	+	+		+	+				+	+	+
OKPPP 1	+	+		+	+		+	+	+	+	+	+				+			
OKPPP 2	+	+		+	+	+			+	+	+	+							
OKPPP 3	+	+	+	+		+		+			+		+	+		+			
OKPPP 4	+	+			+		+		+	+			+			+			
OKPPP 5	+	+	+			+	+		+	+		+				+	+	+	
OKPPP 6	+	+		+		+	+	+		+			+		+	+			
OKPPP 7	+	+	+	+	+		+	+	+	+	+			+		+		+	
OKPPP 8	+	+	+	+	+	+	+	+		+		+	+	+		+	+	+	+

6. Matrix for ensuring programme learning outcomes (PLO) with relevant components of the educational programme

Programme learning outcomes	OKBP 1	OKBP 2	ОКВР 3	OKBP 4	OKBP 5	OKPPP 1	OKPPP 2	OKPPP 3	OKPPP 4	OKPPP 5	OKPPP 6	OKPPP 7	OKPPP 8
PLO01	+	+	+	+	+		+		+			+	+
PLO02			+	+		+	+	+		+	+	+	+
PLO03	+	+	+	+	+	+			+	+	+	+	+
PLO04		+	+	+	+			+		+			+
PLO05		+			+	+	+		+		+	+	+
PLO06	+	+						+		+		+	+
PLO07			+			+	+	+	+		+	+	+
PLO08	+				+					+		+	+
PLO09	+	+			+						+	+	+
PLO10				+				+	+				+
PLO11					+		+		+	+		+	+
PLO12		+	+			+	+				+	+	+
PLO13				+		+		+			+		+
PLO14	+			+		+			+	+		+	+
PLO15			+		+					+		+	+
PLO16	+		+		+		+		+				+

7. References to the regulatory documents on which the vocational education programme is based

- 1. Law of Ukraine "On Higher Education" as amended on 24 March 2024. URL: https://zakon.rada.gov.ua/laws/show/1556-18#top.
- 2. Law of Ukraine "On Education" as amended on 24 March 2024. URL: https://zakon.rada.gov.ua/laws/show/2145-19#Text.
- 3. Law of Ukraine "On Licensing of Types of Economic Activity" as amended on 27 April 2024. URL: https://zakon.rada.gov.ua/laws/show/222-19#Text.
- 4. Resolution of the Cabinet of Ministers of Ukraine dated 29 April 2015 No. 266 "On Approval of the List of Fields of Knowledge and Specialties in which Higher Education Degrees are Conferred" (as amended on 21 December 2022). URL: https://zakon.rada.gov.ua/laws/show/266-2015-%D0%BF#Text.
- 5. Order of the Ministry of Education and Science of Ukraine dated 19 February 2015 No. 166 "On Certain Issues of Disclosure of Information about the Activities of Higher Education Institutions" as amended on 23 March 2015. URL: https://zakon.rada.gov.ua/rada/show/v0166729-15#Text.
- 6. Order of the Ministry of Education and Science of Ukraine dated 6 November 2015 No. 1151 "On the Peculiarities of Implementing the List of Fields of Knowledge and Specialties in which Higher Education Degrees are Conferred, Approved by the Resolution of the Cabinet of Ministers of Ukraine dated 29 April 2015 No. 266" as amended on 3 June 2016. URL: https://zakon.rada.gov.ua/laws/show/z1460-15#Text.
- 7. Order of the Ministry of Education and Science of Ukraine dated 1 June 2017 No. 600 (as amended by Order No. 1648 of 21 December 2017) "On Approval and Implementation of Methodical Recommendations for Developing Higher Education Standards" as amended on 30 April 2020. URL: https://zakon.rada.gov.ua/rada/show/v0600729-16#Text.
- 8. National Classifier of Ukraine: "Classifier of Occupations" DK 003:2010 as amended on 16 January 2024. URL: https://zakon.rada.gov.ua/rada/show/va327609-10#Text.
- 9. Letter of the Ministry of Education and Science of Ukraine dated 28 April 2017 No. 1/9-239. URL: https://udhtu.edu.ua/wp-content/uploads/2018/11/List-MON-1-9-239-vid-28-04-2017-zrazok-OP-bakalavr.pdf.
- 10. National Classifier of Ukraine: Classification of Types of Economic Activity DK 009:2010 as amended on 4 January 2023. URL: https://zakon.rada.gov.ua/rada/-show/vb457609-10#Text.
- 11. National Educational Glossary: Higher Education / 2nd ed., revised and supplemented / compilers: V. M. Zakharchenko, S. A. Kalashnikova, V. I. Luhovyi, A. V. Stavytskyi, Yu. M. Rashkevych, Zh. V. Talanova / ed. V. H. Kremen. Kyiv: Pleiades Publishing House, 2014. 100 p.
- 12. Resolution of the Cabinet of Ministers of Ukraine dated 30 December 2015 No. 1187 "On Approval of the Licensing Conditions for Conducting Educational Activities" (as amended on 20 June 2021). URL: https://zakon.rada.gov.ua/laws/show/1187-2015-%D0%BF#Text.

- 13. Regulations on Accreditation of Educational Programs in which Higher Education Degrees are Conferred, approved by the Order of the Ministry of Education and Science of Ukraine dated 11 July 2019 No. 977. URL: https://zakon.rada.gov.ua/laws/show/z0880-19#Text.
- 14. Recommendations on the Application of Criteria for Assessing the Quality of Educational Programs, approved by the National Agency for Higher Education Quality Assurance on 17 November 2020. URL: https://naqa.gov.ua/%d0%b0%d0%ba%d1%86%d1%86%d1%86%d1%8f/.
- 15. Order of the Ministry of Education and Science of Ukraine dated 10 July 2023 No. 835 "On Approval of the Higher Education Standard in the Field of Study 193 'Geodesy and Land Management' for the Second (Master's) Level of Higher Education."

 URL: https://mon.gov.ua/storage/app/media/vishcha-osvita/zatverdzeni%20standarty/2023/-14.07.2023/Zatverd-standart-193-Heodeziya.ta.zemleustriy-mahistr-835-10.07.2023.pdf.
- 16. Order of the Ministry of Education and Science of Ukraine dated 11 May 2021 No. 517 "On Approval of the Higher Education Standard in the Field of Study 193 'Geodesy and Land Management' for the First (Bachelor's) Level of Higher Education."

 URL: https://mon.gov.ua/storage/app/media/vishcha-osvita/zatverdzeni%20standarty/2021/05/12/¬193.Heodeziya.zemleustriy.517-bakalvr.doc
- 17. Tuning Educational Structures in Europe. URL: https://tuningacademy.org/wp-content/uploads/2014/02/TuningEUI_Final-Report_EN.pdf.