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ФИО: Ястребов Олег Александрович
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**Federal State Autonomous Educational Institution of Higher Education
Peoples' Friendship University of Russia named after Patrice Lumumba
RUDN University**

Agrarian and Technological Institute

(educational division (faculty/institute/academy) as higher education programme developer)

COURSE SYLLABUS

Landscape planning and sustainable development

course title

Recommended by the Didactic Council for the Education Field of:

35.04.09 Landscape architecture

Management and design of urban green infrastructure

field of studies / speciality code and title

The course instruction is implemented within the professional education programme of higher education:

Landscape architecture

higher education programme profile/specialisation title

2026 г.

1. COURSE GOAL(s)

The goal of discipline «Landscape planning and sustainable development» is providing basic knowledge of the landscape structure and functioning, ecosystem functions and services related to human well-being, as well as methods of socio-environmental landscape planning.

The course aims to educate students in the theory and practice of landscape planning for sustainable development by helping them to:

1. address the development of students' awareness in the structure and functioning of geosystems, landscape ecology, and the concept of ecosystem services, and understanding of their critical role in ensuring human well-being and sustainable urban development.
2. familiarize students with the theoretical background, terminology, and concepts of the discipline, including modern concepts of landscape ecology, socio-ecological systems, biodiversity-friendly design, and participatory planning approaches.
3. deepen students' knowledge in the methods of spatial analysis, including the use of GIS technologies (QGIS), remote sensing data, and mapping for studying land use and land cover dynamics.
4. enhance students' skills in applying a systematic approach to solving complex professional tasks in the field of landscape architecture and urban green infrastructure management through multimodal tasks that provide them opportunities for conducting spatial analysis, assessing ecosystem services, and designing social research.

This subject provides an advanced study of the theoretical foundations and applied methods of landscape planning, moving from the basic concepts of landscape science to the practical application of socio-economic research and participatory approaches.

The discipline covers the fundamentals of landscape ecology, land system science, and socio-environmental planning with the advanced learner in mind, integrating natural science principles with socio-economic and participatory methods.

The course guides students to learn how to analyze spatial data, assess ecosystem services, and design sociological surveys to inform the planning and management of biodiverse and sustainable urban environments.

2. REQUIREMENTS FOR LEARNING OUTCOMES

Mastering the "Landscape planning and sustainable development" is aimed at the is aimed at the formation of the following competencies among students:

Table 2.1. List of competencies formed by students during the development of the discipline (results of the development of the discipline)

Code	Competency	Indicators of competence achievement (within the framework of this discipline)
UC-1	Student is able to search, critically analyze problem situations based on a systematic approach, and develop a strategy for action	UC1.1 student is able to apply systematization to solve tasks; UC-1.2 Student is able to search and analyze information;
UC-2	Student is able to manage a project through all stages of its life cycle	UC-3.1 Student is able to lead the project through all stages; UC-3.2 student is able to draw up a project plan and analysis at all stages;
UC -3	Student is able to organize and manage the work of the team, developing a team strategy to achieve the goal	UC-3.1 Student is able to organize team work on the project; UC-3.2 student is able

		to interact with the executive authorities to coordinate all stages of design;
UC -4	Student is able to apply modern communication technologies in the state language of the Russian Federation and foreign language(s) for academic and professional interaction	UC4.1 Student is able to prepare all the necessary documentation for the project in Russian and a foreign language; UC-4.2 Student is able to communicate on the project in Russian and a foreign language;
UC-5	Student is able to analyze and take into account the diversity of cultures in the process of intercultural interaction	UC-5.1 Student is able to understand the peculiarities of the social organization of society, the specifics of the mentality and worldview of the cultures of the West and East; UC-5.2 Student is able to overcome the cultural barrier, perceiving cross-cultural differences;
UC-6	Student is able to determine and implement the priorities of his own activities and ways to improve it based on self-assessment	UC-6.1 "Student is able to plan his life activities for the period of study in an educational organization"; UC6.2 Student is able to determine the tasks of self-development and professional growth, distribute them for long-medium- and short-term with justification of their relevance and determination of the necessary resources;
GPC-1	Student is able to analyze modern problems at the factory and production, solve complex (non-standard) tasks in professional activity;	GPC-1.1 Student is capable of solving complex (non-standard) tasks in professional activity; GPC-1.2 Student is able to analyze the current problems of the leg and production;
GPC-2	Student is able to transfer professional knowledge using modern pedagogical techniques;	GPC-2.1 Student is able to transfer professional knowledge; GPC-2.2 Student is able to transfer professional knowledge using information technology;
GPC-3	Student is able to develop and implement new effective technologies in professional activities;	GPC-3.1 Student is able to implement new effective technologies in professional activity; GPC-3.2 Student is able to develop new effective technologies in professional activity;
GPC-4	Student is able to conduct scientific research, analyze the results and prepare accounting documents;	GPC-4.1 Student is able to conduct scientific research; GPC-4.2 Student is able to prepare accounting documentation;
GPC-5	Student is able to carry out a feasibility study of projects in professional activity;	GPC-5.1 Student is capable of carrying out economic justification of projects; GPC-5.2 Student is able to carry out a feasibility study of projects;
GPC-6	Student is able to manage teams and organize production processes.	GPC-6.1 Ability to organize production processes; GPC-6.2 Ability to manage a team;
PC-1	The ability to design engineering processes for site preparation, construction and maintenance of landscape architecture facilities	PC-1.1 Student is able to manage the construction and maintenance of landscape architecture facilities; PC-1.2 Student is

		able to design technological processes for the engineering preparation of the area;
PC-4	The ability to implement measures for the external improvement and landscaping of areas to create favorable sanitary and hygienic conditions, increase the level of human comfort in the urban environment, its general aesthetic enrichment	PC-4.1 Capable of assessing the environmental condition of a project site PC-4.2 Able to create a sustainable development project for the area
PC-5	The ability to develop and implement a system of conservation measures to ensure every citizen's right to a favorable environment	PC-5.1 Able to make decisions on carrying out activities to preserve green spaces in the city PC-5.2 Able to analyze the condition of tree plantations
PC-9	The ability to organize and conduct all kinds of work on the objects of landscape architecture	PC-9.1 Able to find performers for the project PC-9.2 Able to organize the work of the team
PC-10	The readiness to manage the objects of landscape architecture in the field of their functional use, protection and conservation	PC-10.1 Ability to manage the objects of landscape architecture in the field of conservation and protection PC-10.2 Ability to manage objects of landscape architecture
PC-16	The readiness to acquire new knowledge and conduct applied research in the field of landscape architecture	PC-16.1 Able to acquire new knowledge PC-16.2 Able to conduct applied research
PC-21	The ability to carry out the planning organization of open spaces, design the outside environment, design objects of landscape architecture, develop projects of restoration and reconstruction of territories of cultural heritage	PC-21.1 Able to develop a planning solution for the development of the area PC-21.2 Able to develop a project for the restoration and reconstruction of the area
PC-22	Readiness to develop (based on current standards) methodological and regulatory documents for the design of landscape architecture objects	PC-24.1 Is able to prepare a report on the conduct of EES; PC-24.2 is able to conduct environmental surveys;

3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course refers to the core/variable/elective* component of (B1) block of the higher educational programme curriculum.

* - Underline whatever applicable.

Within the higher education programme students also master other (modules) and / or internships that contribute to the achievement of the expected learning outcomes as results of the course study.

Table 3.1. The list of the higher education programme components/disciplines that contribute to the achievement of the expected learning outcomes as the course study results

Competence code	Competence descriptor	Previous courses/modules*	Subsequent courses/modules*
UC-7		International Regulation in city-planning and environmental protection, Data analysis and statistics	
UC-4	Student is able to apply modern communication technologies in the state language of the Russian Federation and foreign language(s) for academic and professional interaction	Foreign Language in Professional Practice, Data analysis and statistics, International Regulation in city-planning and environmental protection, Introduction in Ecological Design, Russian language for foreign students, Russian as a foreign language	
UC-3	Student is able to organize and manage the work of the team, developing a team strategy to achieve the goal	Data analysis and statistics, Scientific writing skills, International Regulation in city-planning and environmental protection, Introduction in Ecological Design, Urban ecology	
UC-2	Student is able to manage a project through all stages of its life cycle		
UC-5	Student is able to analyze and take into account the diversity of cultures in the process of intercultural interaction	Data analysis and statistics, Scientific writing skills, International Regulation in city-planning and environmental protection, Introduction in Ecological Design	
UC-1	Student is able to search, critically analyze problem situations based on a systematic approach, and develop a strategy for action	Data analysis and statistics, Scientific writing skills, International Regulation in city-planning and environmental protection, Introduction in Ecological Design, Information databases	
UC-6	Student is able to determine and	Data analysis and statistics, Scientific	

	implement the priorities of his own activities and ways to improve it based on self-assessment	writing skills, International Regulation in city-planning and environmental protection, Introduction in Ecological Design, Urban ecology	
GPC-6	Student is able to manage teams and organize production processes.	Data analysis and statistics, International Regulation in city-planning and environmental protection	
GPC-1	Student is able to analyze modern problems at the factory and production, solve complex (non-standard) tasks in professional activity;	Data analysis and statistics, Scientific writing skills, International Regulation in city-planning and environmental protection	
GPC-2	Student is able to transfer professional knowledge using modern pedagogical techniques;	Data analysis and statistics, International Regulation in city-planning and environmental protection, Introduction in Ecological Design	
GPC-3	Student is able to develop and implement new effective technologies in professional activities;	Data analysis and statistics, International Regulation in city-planning and environmental protection, Urban ecology	
GPC-4	Student is able to conduct scientific research, analyze the results and prepare accounting documents;	Data analysis and statistics, International Regulation in city-planning and environmental protection	
GPC-5	Student is able to carry out a feasibility study of projects in professional activity;	Data analysis and statistics, International Regulation in city-planning and environmental protection	
PC-10	The readiness to manage the objects of landscape architecture in the field of their functional use, protection and conservation	Introduction in Ecological Design	
PC-16	The readiness to acquire new knowledge		

	and conduct applied research in the field of landscape architecture		
PC-22	Readiness to develop (based on current standards) methodological and regulatory documents for the design of landscape architecture objects		
PC-21	The ability to carry out the planning organization of open spaces, design the outside environment, design objects of landscape architecture, develop projects of restoration and reconstruction of territories of cultural heritage		
PC-1	The ability to design engineering processes for site preparation, construction and maintenance of landscape architecture facilities		
PC-4	The ability to implement measures for the external improvement and landscaping of areas to create favorable sanitary and hygienic conditions, increase the level of human comfort in the urban environment, its general aesthetic enrichment	Urban ecology	
PC-9	The ability to organize and conduct all kinds of work on the objects of landscape architecture		
PC-5	The ability to develop and implement a system of conservation measures to ensure		

	every citizen's right to a favorable environment		

* To be filled in according to the competence matrix of the higher education programme.

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course is 12 credits (432 academic hours).

*Table 4.1. Types of academic activities during the periods of higher education programme mastering (**full-time training**)**

Type of academic activities		Total academic hours	Semesters/training modules			
			2	3	4	
<i>Contact academic hours</i>		133	52	51	30	
including:						
Lectures (LC)		53	26	17	10	
Lab work (LW)		80	26	34	20	
Seminars (workshops/tutorials) (S)		0	0	0	0	
<i>Self-studies</i>		240	47	133	60	
<i>Evaluation and assessment (exam/passing/failing grade)</i>		59	9	32	18	
Course workload	academic hours_	432	108	216	108	
	credits	12	3	6	3	

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Name of the discipline section	Content of the section (topics)	Type of educational work*
Sections 1. Introduction to course	1.1. Introduction to course	LC
Sections 2. Basic concepts of land system science and landscape ecology	2.1 Introduction to module 2.2. Earth System Science and Land System Science 2.3. Holistic Thinking and Landscape Science Roots 2.4. What is landscape? History of landscape theory 2.5. Land Use, Land Cover 2.6. Landscape as a socio-ecological system: spatial systems	LC, SC
Section 3. Natural landscape structure and processes	1.1. Introduction to module 1.2. Natural landscape structure 1.3. Landscape functioning and dynamics	LC, SC

	<p>1.4. Land Systems – conceptual model. 1.5. Land System Dynamics - example. Retrospective Modelling 1.6. Land cover and Land use mapping 1.7. Measuring landscape</p>	
Section 4. Man and Nature	<p>1.1. Introduction to the module 1.2. Man and Nature: Anthormes theory 1.3. Land change detection with RS 1.4. Historical landscape mapping 1.5. Landscape archaeology 1.6. Environmental history 1.7. Cultural landscape 1.8. Land System Functioning</p>	LC, SC
Section 5. Biodiversity-Friendly Cities	<p>1.1. Introduction to the module 1.2. Biodiversity conservation in urban areas 1.3. Factors affecting biodiversity in urban environment 1.4. Biodiversity friendly design: object level 1.5. Biodiversity friendly design: city level</p>	LC, SC
<u>PART 2. How to plan</u> Section 1. Intro	<p>1.1. Latitudinal zonation 1.2. Causes of spatial variability of the biosphere 1.3. Interaction of geospheres: biosphere –hydrosphere – atmosphere – lithosphere 1.4. Natural zones</p>	LC, SC
Section 2. Landscape planning from the geographical point of view	<p>1.1. International experience in the development of concepts and key concepts of landscape and environmental planning 1.2. The concept of polystructural landscape as the basis of landscape and environmental planning 1.3. The place of landscape and environmental planning in the system integrated and sectoral spatial planning</p>	LC, SC
Section 3. Landscape planning from the geographical point of view in practice	<p>1.1. Methods of landscape and environmental planning 1.2. Rules and typical tasks of landscape and ecological planning 1.3. Functional landscape analysis 1.4. Image interpretation 1.5. Extrapolation, maps</p>	LC, SC
<u>PART 3. With and for whom to plan</u> Module 1: Socio-economic Aspects of Cities: Demography and Migration, Economic factors and Social Services	<p>1.1. Introduction to module 1.2. Socio-economic Aspects of Cities: Demography and Migration, Economic factors and Social Services 1.3. Analyzing socio-economic aspects of the city / territory</p>	LC, LW
Module 2: Designing Social Research of UBG I	<p>1.1. Introduction to module 1.2. Designing Social Research of UBG I 1.3. Designing a sociological survey on the selected object / territory</p>	LC, LW
Module 3: Social studies: quantitative and qualitative methods	<p>1.1. Introduction to module 1.2. Social studies: qualitative methods 1.3. Social studies: quantitative methods 1.4. Conducting a sociological survey on the selected object / territory</p>	LC, LW
Module 4: Participatory approaches for urban BGI assessment,	<p>1.1. Introduction to module 1.2. Participatory approaches for urban BGI assessment, planning and management 1.3. Stakeholders' engagement for UBG I</p>	LC, SC

planning and management	assessment, planning and management	
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* - to be filled in only for **full**-time training: *LC* - lectures; *LW* - lab work; *S* - seminars.

6. CLASSROOM EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

Table 6.1. Classroom equipment and technology support requirements

Audience type	Equipping the audience	Specialized educational/laboratory equipment, software and materials for the development of the discipline (if necessary)
Specialized audience	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment. (audiences 203, 418)	Draper Diplomat 213x213 83” tripod screen, a workstation based on a complete system unit and a monitor for working with graphical applications. Model AG_PC Axiom Group/Intel Core I3 Processor 8 Cooperative memory Crucial by Micron DDR4 8SV*2;Motherboard PRIME B360-PLUS;MoHHTop Samsung 23.5, Software QGIS 3.4* (Quantum GIS)
For independent work of students	An auditorium for laboratory work, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment. (audiences 203, 418)	Draper Diplomat 213x213 83” tripod screen, a workstation based on a complete system unit and a monitor for working with graphical applications. Model AG_PC Axiom Group/Intel Core I3 Processor 8 Cooperative memory Crucial by Micron DDR4 8SV*2;Motherboard PRIME B360-PLUS;MoHHTop Samsung 23.5, Software QGIS 3.4* (Quantum GIS)

* - the audience for independent work of students is called **MANDATORY!**

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

Printed publications:

1. Haaren, Christina von, Andrew A Lovett, и Christian Albert. Landscape Planning with Ecosystem Services: Theories and Methods for Application in Europe, 2019. <https://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=5925011>.
2. Turner, Monica G., и Robert H. Gardner. Landscape Ecology in Theory and Practice. New York, NY: Springer New York, 2015. <http://link.springer.com/10.1007/978-1-4939-2794-4>.
3. Martini, I. Peter, и Ward Chesworth, ред. Landscapes and Societies. Dordrecht: Springer Netherlands, 2011. <http://link.springer.com/10.1007/978-90-481-9413-1>.
4. Directorate General for the Environment. Mapping and Assessment of Ecosystems and Their Services: An Analytical Framework for Mapping and Assessment of Ecosystem Condition in EU: Discussion Paper. LU: Publications Office, 2018.

<https://data.europa.eu/doi/10.2779/055584>

5. Elmqvist, Thomas, Michail Fragkias, Julie Goodness, Burak Güneralp, Peter J. Marcotullio, Robert I. McDonald, Susan Parnell, и др., ред. *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities*. Dordrecht: Springer Netherlands, 2013. <https://doi.org/10.1007/978-94-007-7088-1>
6. Ge, Y., Chen, H., Zhang, M., & Li, X. (2022). Area Threshold Interval of Urban Forest Patches Required to Maintain the Synergy between Biodiversity Conservation and Recreational Services: Case Study in Beijing, China. *Forests*, 13(11), 1848. <https://doi.org/10.3390/f13111848>
7. Rastandeh, A., Brown, D. K., & Pedersen Zari, M. (2017). Biodiversity conservation in urban environments: a review on the importance of spatial patterning of landscapes. *Ecocity World Summit*
8. Meier, L., Raps, J., & Leistner, P. (2020). Insect Habitat Systems Integrated into Façades—Impact on Building Physics and Awareness of Society. *Sustainability*, 12(2), 570. <https://doi.org/10.3390/su12020570>
9. Watchorn, D. J., Cowan, M. A., Driscoll, D. A., et al. (2022). Artificial habitat structures for animal conservation: design and implementation, risks and opportunities. *Frontiers in Ecology and the Environment*, 20(5), 301–309. <https://doi.org/10.1002/fee.2469>
10. Van Ham, Maarten, et al. *Urban socio-economic segregation and income inequality: A global perspective*. Springer Nature, 2021. <https://library.oapen.org/handle/20.500.12657/48225>
11. Haaren, Christina von, Andrew A Lovett, Christian Albert. *Landscape Planning with Ecosystem Services: Theories and Methods for Application in Europe*, 2019. <https://public.ebookcentral.proquest.com/choice/publicfullrecord.aspx?p=5925011>
12. Beatley, Timothy, and Stephen Maxwell Wheeler, eds. *The sustainable urban development reader*. London, UK: Routledge, 2004.
13. Stopher P. *Collecting, Managing, and Assessing Data Using Sample Surveys*. Cambridge University Press; 2012. <https://doi.org/10.1017/CBO9780511977893>.
14. Creswell, J.W., Creswell, J.D. (2017). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. United Kingdom: SAGE Publications.
15. Earl Babbie. *The Basics of Social Research, Fourth Edition* (2008), Thomson Wadsworth, Belmont, USA, 575 p.
16. Sherry R. Arnstein's "A Ladder of Citizen Participation," *Journal of the American Planning Association*, Vol. 35, No. 4, July 1969, pp. 216-224.
17. *The Community Tool Box*. Chapter 18. Deciding Where to Start, Section 2. Participatory Approaches to Planning Community Interventions. <https://ctb.ku.edu/en/table-of-contents/analyze/where-to-start/participatory-approaches/main>.

Electronic and printed full-text materials:

18. Directorate General for the Environment. *Mapping and Assessment of Ecosystems and Their Services: An Analytical Framework for Mapping and Assessment of Ecosystem Condition in EU: Discussion Paper*. LU: Publications Office, 2018. <https://data.europa.eu/doi/10.2779/055584>.
19. Elmqvist, Thomas, Michail Fragkias, Julie Goodness, Burak Güneralp, Peter J. Marcotullio, Robert I. McDonald, Susan Parnell, и др., ред. *Urbanization, Biodiversity and Ecosystem Services: Challenges and Opportunities*. Dordrecht: Springer Netherlands, 2013. <https://doi.org/10.1007/978-94-007-7088-1>.

Additional readings:

1. Biggs, Reinette, Maja Schlüter, и Michael L. Schoon, ред. *Principles for Building Resilience: Sustaining Ecosystem Services in Social-Ecological Systems*. Cambridge: Cambridge University Press, 2015

2. Neugarten, Rachel A., Penny F. Langhammer, Elena Osipova, Kenneth J. Bagstad, Nirmal Bhagabati, Stuart H.M. Butchart, Nigel Dudley, и др. Tools for Measuring, Modelling, and Valuing Ecosystem Services: Guidance for Key Biodiversity Areas, Natural World Heritage Sites, and Protected Areas. Под редакцией Craig Groves. 1-е изд. IUCN, International Union for Conservation of Nature, 2018. <https://doi.org/10.2305/IUCN.CH.2018.PAG.28.en>
3. Martini, I. Peter, Ward Chesworth. Landscapes and Societies. Dordrecht: Springer Netherlands, 2011. <http://link.springer.com/10.1007/978-90-481-9413-1>.
4. Suzuki, Hiroaki, Robert Cervero, and Kanako Iuchi. Transforming cities with transit: Transit and land-use integration for sustainable urban development. World Bank Publications, 2013.
5. Low, Setha M. Rethinking urban parks: public space and cultural diversity / Setha Low, Dana Taplin, and Suzanne Scheld. — 1st ed. University of Texas Press, 2005.
6. Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *Sustainable development*, 19(5), 289-300. <https://doi.org/10.1002/sd.417>.
7. Dzramado, E.D., Asiedu, R.O., Owusu-Manu, D.-G., Edwards, D.J., Adesi, M. and Acheampong, A. (2024), "Exploring the socioeconomic factors affecting green cities development", *Smart and Sustainable Built Environment*, Vol. ahead-of-print No. ahead-of print. <https://doi.org/10.1108/SASBE-01-2024-0018>.
8. Guo, Lijia, et al. "Do socio-economic factors matter? A comprehensive evaluation of tourism eco-efficiency determinants in China based on the Geographical Detector Model." *Journal of Environmental Management* 320 (2022): 115812.
9. Diana Dushkova, Maria Ignatieva, Michael Hughes, Anastasia Konstantinova, Viacheslav Vasenev and Elvira Dovletyarova, 2021. Human Dimensions of Urban Blue and 8 Green Infrastructure during a Pandemic. Case Study of Moscow (Russia) and Perth (Australia). *Sustainability* 2021, 13(8), 4148; <https://doi.org/10.3390/su13084148>.
10. Dushkova, D.; Ignatieva, M.; Konstantinova, A.; Vasenev, V.; Dovletyarova, E.; Dvornikov, Y. Human-Nature Interactions during and after the COVID-19 Pandemic in Moscow, Russia: Exploring the Role of Contact with Nature and Main Lessons from the City Responses. *Land* 2022, 11, 822. <https://doi.org/10.3390/land11060822>.
11. Dushkova D., Ignatieva M., Konstantinova A., Yang F. (2021) Cultural Ecosystem Services of Urban Green Spaces. How and What People Value in Urban Nature?. In: Vasenev V. et al. (eds) *Advanced Technologies for Sustainable Development of Urban Green Infrastructure*. SSC 2020. Springer Geography. Springer, Cham. https://doi.org/10.1007/978-3-030-75285_9_28.
12. Konstantinova, A.; Matasov, V.; Filyushkina, A.; Vasenev, V. Perceived Benefits and Costs of Owning a Pet in a Megapolis: An Ecosystem Services Perspective. *Sustainability* 2021, 13, 10596. <https://doi.org/10.3390/su131910596>.
13. Konstantinova, A., Filyushkina, A., Maximova, O., Kerdivar, K., Gromova, A., Matasov, V., Vasenev V. Uptake of ecosystem service concept in urban blue-green infrastructure planning and decision-making in Russia. *Blue-Green Systems* (2024) 6 (2): 327–344. doi: <https://doi.org/10.2166/bgs.2024.019>.
14. Victor Matasov, Viacheslav Vasenev, Dmitrii Matasov, Yury Dvornikov, Anna Filyushkina, Martina Bubalo, Magomed Nakhaev, Anastasia Konstantinova, COVID-19 pandemic changes the recreational use of Moscow parks in space and time: Outcomes from crowd-sourcing and machine learning, *Urban Forestry & Urban Greening*, Volume 83, 2023, 127911, <https://doi.org/10.1016/j.ufug.2023.127911>.
15. Dushkova, D.; Taherkhani, M.; Konstantinova, A.; Vasenev, V.I.; Dovletyarova, E.A. Understanding Factors Affecting the Use of Urban Parks Through the Lens of Ecosystem Services and Blue–Green Infrastructure: The Case of Gorky Park, Moscow, Russia. *Land* 2025, 14, 237. <https://doi.org/10.3390/land14020237>.
16. David Wilcox. The Guide to Effective Participation. <http://ourmuseum.org.uk/wp-content/uploads/The-Guide-to-Effective-Participation.pdf>.

17. Winker, M., Deffner, J., Rohrbach, M., Schramm, E., & Stein, M. (2022). Enhancing blue-green infrastructure in German cities with the involvement of urban society: Insights from Frankfurt/Main and Stuttgart. *Blue-Green Systems*, 4(2), 230-246. doi: 10.2166/bgs.2022.017.

18. S. Dhyani et al. (eds.), *Blue-Green Infrastructure Across Asian Countries*, https://doi.org/10.1007/978-981-16-7128-9_22.

Electronic and printed full-text materials:

1. Biggs, Reinette, Maja Schlüter, и Michael L. Schoon, ред. *Principles for Building Resilience: Sustaining Ecosystem Services in Social-Ecological Systems*. Cambridge: Cambridge University Press, 2015.
2. Neugarten, Rachel A., Penny F. Langhammer, Elena Osipova, Kenneth J. Bagstad, Nirmal Bhagabati, Stuart H.M. Butchart, Nigel Dudley, и др. *Tools for Measuring, Modelling, and Valuing Ecosystem Services: Guidance for Key Biodiversity Areas, Natural World Heritage Sites, and Protected Areas*. Под редакцией Craig Groves. 1-е изд. IUCN, International Union for Conservation of Nature, 2018. <https://doi.org/10.2305/IUCN.CH.2018.PAG.28.en>.

Internet sources

1. ЭБС РУДН и сторонние ЭБС, к которым студенты университета имеют доступ на основании заключенных договоров:

- Электронно-библиотечная система РУДН – ЭБС РУДН <http://lib.rudn.ru/MegaPro/Web>
- ЭБС «Университетская библиотека онлайн» <http://www.biblioclub.ru>
- ЭБС Юрайт <http://www.biblio-online.ru>
- ЭБС «Консультант студента» www.studentlibrary.ru
- ЭБС «Лань» <http://e.lanbook.com/>

2. Базы данных и поисковые системы:

- NCBI: <https://p.360pubmed.com/pubmed/>
- Вестник РУДН: режим доступа с территории РУДН и удаленно <http://journals.rudn.ru/>
- Научная библиотека Elibrary.ru: доступ по IP-адресам РУДН по адресу: <http://www.elibrary.ru/defaultx.asp>
- ScienceDirect (ESD), «FreedomCollection», "Cell Press" ИД "Elsevier". Есть удаленный доступ к базе данных, доступ по IP-адресам РУДН (или удаленно по индивидуальному логину и паролю).
- Академия Google (англ. Google Scholar) - бесплатная поисковая система по полным текстам научных публикаций всех форматов и дисциплин. Индексирует полные тексты научных публикаций. Режим доступа: <https://scholar.google.ru/>
- Scopus - наУСометрическая база данных издательства ИД "Elsevier". Доступ на платформу осуществляется по IP-адресам РУДН или удаленно. <http://www.scopus.com/>
- Web of Science. Доступ на платформу осуществляется по IP-адресам РУДН или удаленно. <http://login.webofknowledge.com/>

Educational and methodological materials for independent work of students during the development of the discipline/ module:*

1. Methodological guidelines for students on the development of the discipline «**Landscape planning and sustainable development**»

* - all teaching materials for independent work of students are placed in accordance with the current procedure on the discipline page in the **TUIS!**

DEVELOPERS:

Assistant of the Department of Landscape Design and Sustainable Ecosystems

Elagina G.V.

position, department

name and surname

Associate professor of the Department of Landscape Design and Sustainable Ecosystems

Matasov V.M.

position, department

name and surname

Assistant of the Department of Landscape Design and Sustainable Ecosystems

Levik A.Y.

position, department

name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

Director of the Department of Landscape Design and Sustainable Ecosystems

E.A. Dovletyarova

name of department

name and surname

HEAD OF HIGHER EDUCATION PROGRAMME:

Associate Professor,
department of landscape
planning and sustainable
ecosystems

V.I. Vasenev

position, department

name and surname