Federal State Autonomous Educational Institution of Higher Education "Peoples' Friendship University of Russia"

Agrarian and Technological Institute

(name of the main educational unit-developer of the EP HE)

PROGRAM OF THE DISCIPLINE

International regulation in city planning and environmental protection

(name of the discipline/module)

Recommended by the ISSN for the direction of training/specialty:

35.04.09 Landscape architecture

Management and design of urban green infrastructure

(code and name of the direction of training/specialty)

The development of the discipline is carried out within the framework of the implementation of the main professional educational program of higher education:

Landscape architecture

(name (profile/specialization) of the EP HE)

2022

1. THE AIM OF MASTERING THE DISCIPLINE

The aim of discipline «International regulation in city planning and environmental protection» is to gain theoretical and practical skills in the field of economy and management of city-services, international cooperation in urban planning and environmental protection.

2. REQUIREMENTS FOR THE RESULTS OF MASTERING THE DISCIPLINE

The development of the discipline **"International regulation in city planning and environmental protection"** 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 -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-17	The ability to develop work plans and research programs in the field of landscape architecture, the ability to organize the collection, processing, analysis and systematization of scientific and technical information on the subject of research, the choice of methods and means of solving problems	PC-17.1 Student is able to organize the collection, processing, analysis and systematization of scientific and technical information on the subject of research, the choice of methods and means of solving problems; PC-17.2 Student is able to develop work plans and programs for scientific research in the field of landscape architecture;
PC-24	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;
UC-7.1	Student is able to search for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data obtained from various sources in order to effectively use the information received to solve problems;	UC-7.1.1 Student is able to apply algorithms to effectively evaluate the data obtained to solve the tasks; UC-7.1.2 Student is able to use open and closed sources of information for data collection and analysis;
UC-7.2	Student is able to evaluate information, its reliability, and build logical	UC-7.2.1 Student is able to verify the accuracy of the information received;

	conclusions based on incoming information and data.	UC-7.2.2 Student is able to logically assess the reliability of the information received.

3. THE PLACE OF DISCIPLINE IN THE STRUCTURE OF THE EP HE

The discipline **"International regulation in the field of urban planning and environmental protection"** belongs to the basic part of the block B1 of the EP HE.

Within the framework of the educational program, students also master other disciplines and/or practices that contribute to achieving the planned results of mastering the discipline «**International regulation in city planning and environmental protection**».

Table 3.1. The list of the components of the educational program that contribute to the achievement of the planned results of the development of the discipline

Code	**Competency**	**Previous disciplines/modules, practices***	**Subsequent disciplines/modules, practices***
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, Landscape planning and sustainable development, Phytopathology and Plant Protection, Landscape engineering and nature-based solution, Green infrastructure urban climate and carbon neutrality, Principles of remote sensing and modeling, Advances in environmental monitoring, Scientific writing skills, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-
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, Landscape planning and sustainable development, Phytopathology and Plant Protection, Landscape engineering and nature-based solution, Green infrastructure urban climate and carbon neutrality, Principles of remote sensing and	-

		modeling, Advances in environmental monitoring, Scientific writing skills, Urban ecology, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	
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	Data analysis and statistics, Landscape planning and sustainable development, Foreign language (Russian language), Phytopathology and Plant Protection, Green infrastructure urban climate and carbon neutrality, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-
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, Landscape planning and sustainable development, Phytopathology and Plant Protection, Landscape engineering and nature-based solution, Green infrastructure urban climate and carbon neutrality, Principles of remote sensing and modeling, Advances in environmental monitoring, Scientific writing skills, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-

UC-6	Student is able to determine and implement the priorities of his own activities and ways to improve it based on self-assessment	Data analysis and statistics, Landscape planning and sustainable development, Phytopathology and Plant Protection, Landscape engineering and nature-based solution, Green infrastructure urban climate and carbon neutrality, Principles of remote sensing and modeling, Advances in environmental monitoring, Urban ecology, Scientific writing skills, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-
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, Landscape planning and sustainable development, Phytopathology and Plant Protection, Landscape engineering and nature-based solution, Principles of remote sensing and modeling, Scientific writing skills, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-
GPC-2	Student is able to transfer professional knowledge using modern pedagogical techniques;	Data analysis and statistics, Landscape planning and sustainable development, Phytopathology and Plant Protection, Green infrastructure urban climate and carbon neutrality, Principles of remote sensing and modeling, Scientific	-

		writing skills, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	
GPC-3	Student is able to develop and implement new effective technologies in professional activities;	Data analysis and statistics, Landscape planning and sustainable development, Phytopathology and Plant Protection, Landscape engineering and nature-based solution, Urban ecology, Scientific writing skills, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-
GPC-4	Student is able to conduct scientific research, analyze the results and prepare accounting documents;	Data analysis and statistics, Landscape planning and sustainable development, Phytopathology and Plant Protection, Landscape engineering and nature-based solution, Scientific writing skills, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-
GPC-5	Student is able to carry out a feasibility study of projects in professional activity;	Data analysis and statistics, Landscape planning and sustainable development, Phytopathology and Plant Protection, Landscape engineering and nature-based solution, Scientific writing skills, Research planning, Scientific	-

		research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	
GPC-6	Student is able to manage teams and organize production processes.	Data analysis and statistics, Landscape planning and sustainable development, Scientific writing skills, Research planning, Scientific research, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-
PC-17	The ability to develop work plans and research programs in the field of landscape architecture, the ability to organize the collection, processing, analysis and systematization of scientific and technical information on the subject of research, the choice of methods and means of solving problems	Data analysis and statistics, Principles of remote sensing and modeling	-
PC-24	Readiness to develop (based on current standards) methodological and regulatory documents for the design of landscape architecture objects	Advances in environmental monitoring, Research planning	-
UC-7.1	Student is able to search for the necessary sources of information and data, perceive, analyze, memorize and transmit information using digital means, as well as using algorithms when working with data obtained from various	Data analysis and statistics, Landscape planning and sustainable development, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-

	sources in order to effectively use the information received to solve problems;		
UC-7.2	Student is able to evaluate information, its reliability, and build logical conclusions based on incoming information and data.	Data analysis and statistics, Landscape planning and sustainable development, Internship in research laboratories, enterprise, public administrations and other organizations, Scientific research and thesis preparation (in English)	-

* - filled in in accordance with the matrix of competencies and SC EP HE

4. SCOPE OF DISCIPLINE AND TYPES OF ACADEMIC WORK

The total labor intensity of the discipline **"International regulation in city planning and environmental protection"** is 6 credits.

*Table 4.1. Types of educational work by periods of mastering the OP in for **FULL-time** education*

Type of educational work		**TOTAL,** ac.h	**Semesters**			
			4			
Contact work, ac.h		**216**	**216**			
Including:						
Lectures (**LC**)		10	10			
Laboratory works *(***LW***)*		20	20			
Practical/seminar classes (**SC**)						
Independent work of students, ac.h		159	159			
Control (exam/test with assessment), ac.h		27	27			
Total labor intensity of the discipline	Ac. hours	**216**	**216**			
	credits	**6**	**6**			

5. CONTENT OF THE DISCIPLINE

Table 5.1. The content of the discipline (module) by type of academic work

Name of the discipline section	**Content of the section (topics)**	**Type of educational work***
Section 1. Basic terms: city-planning, urbanizations, urban ecosystems, environmental protection	**Topic 1.1** City-planning and environmental protection as global and national trends. Connections of environmental issues with other areas in the development of cities	**LC**
	Topic 1.2 Urbanization as a processes of city expansion and urban development	**LW**

History and actuality of the problem	**Topic 1.3** Nature urbanization as transformation of natural landscapes into urban infrastructure	**LW**
Section 2. Participation of international organizations in city-planning and environmental protection. International legal framework	**Topic 2.1** Main conventions, protocols, documents, agreements.	**LC**
	Topic 2.2 International organizations in city-planning and environmental protection: possible projects to increase the value of international organizations.	**LW**
Section 3. Structure of regulation of city-planning (national, regional, municipal) in Russia	**Topic 3.1** Current realities and trends in the development of socio-economic processes of urbanization;	**LC**
	Topic 3.2 Opportunities, resources and limitations of urban development proper as a form of technical support for urbanization processes;	**LW**
Section 4. City-planning in EU: goals, problems and principles of policy	**Topic 4.1** Urban dimension of cohesion policy;	**LC**
	Topic 4.2 What is integrated sustainable urban development?	**LW**
	Topic 4.3 The Urban Agenda for the EU-Objectives for future	**LW**
Section 5. Environmental protection in EU: goals, problems and principles of policy	**Topic 5.1** Environmental law and Green policy:	**LW**
	Topic 5.2 Safeguarding the health and wellbeing of people living in the EU;	**LW**
Section 6. International cooperation of Russia and EU in city-planning and environmental protection	**Topic 6.1** International organizations for the protection of nature;	**LC**
	Topic 6.2 State initiatives on international cooperation.	**LW**
Section 7. Global risks in city-planning and environmental protection.	**Topic 7.1** Disaster risk reduction and possible ways to avoid the risks.	**LW**

* - it is filled in only by **FULL–time** education: LC – lectures; LW – laboratory work; SC - seminars.

6. MATERIAL AND TECHNICAL SUPPORT OF THE DISCIPLINE

Table 6.1. Material and technical support of the discipline

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. (audience 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 – Microsoft Office, Web-browser
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. (audience 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 – Microsoft Office, Web-browser

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

7. EDUCATIONAL, METHODOLOGICAL AND INFORMATIONAL SUPPORT OF THE DISCIPLINE

Basic literature:

Printed publications:

1. John M. Marzluff, Eric Shulenberger Urban Ecology -An International Perspective on the Interaction Between Humans and Nature. Springer. 2008. 829 p.
2. Tai-Chee Wong, Belinda Yuen Eco-city Planning: Policies, Practice and Design. Springer Science & Business Media, 2011. 295 p.
3. Jari Niemelä. Urban Ecology Patterns, Processes, and Applications. Oxford University Press. 2011. 389 p.

Electronic and printed full-text materials:

1. Alberti M. Advances in city-planning: Integrating Humans and Ecological Processes in Urban Ecosystems Springer; 2008 366 p.
2. R.T.T. Forman. Economy of city: Science of Cities Cambridge University Press 2014. 474 p.
3. J. Niemela,J. H. Breuste, G.Guntenspergen. Economy of city: Patterns, Processes, and Applications. Oxford University Press; Reprint edition. 2012. 392 p.

Additional literature:

Electronic and printed full-text materials:

1. Alberti, M., & Marzluff, J. (2004) Ecological resilience in urban ecosystems: linking urban patterns to human and ecological functions. Urban Ecosystems 7 : 241–65.
2. Alberti, M., Marzluff, J.M., Shulenberger, E., Bradley, G., Ryanand, C., & Zumbrunnen C. (2003) Integrating humans into ecology: opportunities and challenges for studying urban ecosystems. BioScience 53 (12), 1169–79.
3. Costanza, R., et al . (2007) Sustainability or collapse: what can we learn from integrating the history of humans and the rest of nature? Ambio 36 (7): 522–27.
4. Elmqvist, T., Colding, J., Barthel, S., Borgström, S., Duit. A., Lundberg, J., Andersson, E., Ahrné, K., Erntson, H., Folke, C., & Bengtsson, J. (2004) The dynamics of socialecological systems in urban landscapes: Stockholm and the national urban park, Sweden. Annals of the New York Academy of Sciences 1023 : 308–22.
5. Giles, C., & Clout, M. (2003) The prey of domestic cats (Felis catus) in two suburbs of Auckland City, New Zealand. Journal of the Zoological Society of London 259 : 309–15.
Illgen, M. (2008) Infi ltration and surface runoff processes on pavements: physical phenomena and modelling. Proc. 11th Int. Conf. on Urban Drainage, 31 Aug–5 Sept 2008, Edinburgh, Scotland, UK . [online] http:// www.11icud.org [accessed 23 July 2010].
6. Luck, G.W. (2007) A Review of the Relationships between Human Population Density and Biodiversity. Biological Reviews 82 : 607–45. Lukasik, V.M., & Alexander, S.M. (2008) Coyote diet and confl ict in urban parks in Calgary, Alberta. Contributed paper for the Canadian Parks for Tomorrow: 40th Anniversary Conference, May 8 to 11, 2008. University of Calgary, Calgary, AB.
7. Menzel, A., & Fabian, P. (1999) Growing season extended in Europe. Nature 397 : 659–63.
Nowak, D.J., & Crane, D.E. (2002) Carbon storage and sequestration by urban trees in the USA. Environmental Pollution 116 : 381–89.
8. Pinheiro, M.H.O., de Almeda Neto, L.C., & Monteiro, R. (2006) Urban areas and isolated remnants of habitats: an action proposed for botanical gardens. Biodiversity and Conservation 15 : 2747–64.
9. Reiss, K.C. (2006) Florida wetland condition index for depressional forested wetlands. Ecological Indicators 6 : 337–52.
10. Runge, M. (1975) Westberliner Böden anthropogener Lithooder Pedogenese . Technical University Berlin, Berlin.
11. Sparling, D.W., Linder, G., & Bishop, C.A. (eds.). (2000) Ecotoxicology of Amphibians and Reptiles . Society for Environmental Toxicology and Chemistry, Pensacola, FL. Spirn, A. (1984) The Granite Garden: Urban Nature and Human Design . New York Basic Books, New York
12. Ulrich, R.S., & Parsons, R. (1992) Infl uences of passive experiences with plants on individual well-being and health. In: D. Relf (ed) The Role of Horticulture in Human Well-being and Social Development, pp. 93–105. Timber Press, Portland, Oregon
13. Wang, G.M., Jiang, G.M., Zhou, Y.L., Liu, Q.R., Ji, Y.S., Wang, S.X., et al . (2007). Biodiversity conservation in a fast-growing metropolitan area in China: a case study of plant diversity in Beijing. Biodiversity and Conservation 16 (14): 4025–38.
14. Young, R.F., & Wolf, S.A. (2006) Goal attainment in urban ecology research: a bibliometric review. Urban Ecosystems 9 : 179–93.
15. Zipperer, W.C., Wu, J., Pouyat, R.V., & Pickett, S.T.A. (2000) The application of ecological principles to urban and urbanizing landscapes. Ecological Applications 10 : 685–88

Resources of the Internet information and telecommunication network:

- 1. RUDN e-library:
- RUDN electronic library system - RUDN EBS http://lib.rudn.ru/MegaPro/Web
- University Library Online Libraries http://www.biblioclub.ru
- Yurite electronic library system http://www.biblio-online.ru
- Student's Consultant electronic library system www.studentlibrary.ru
- Lan LBS http://e.lanbook.com/ 2.
-
- 2. Databases and search engines:
- NCBI: https://p.360pubmed.com/pubmed/
- RUDN Bulletin: access mode from the RUDN territory and remotely http://journals.rudn.ru/
- Elibrary.ru scientific library: access via RUDN IP-addresses at: http://www.elibrary.ru/defaultx.asp
- ScienceDirect (ESD), FreedomCollection, Cell Press of Elsevier Publishing House. There is remote access to the database, access via RUDN IP-addresses (or remotely via individual login and password).
- Google Scholar is a free search engine for full-text scientific publications of all formats and disciplines. Indexes the full texts of scientific publications. Access mode: https://scholar.google.ru/
- Scopus is a scientometric database of Elsevier Publishing House. Access to the platform is via IP-addresses of RUDN or remotely. http://www.scopus.com/

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

1. Theoretical and practical information **«International regulation in city planning and environmental protection»** discipline in the presentations and Educational-methodological complex for master students.

2. Methodological guidelines for students on the development of the discipline «**International regulation in city planning and environmental protection**»

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

8. EVALUATION MATERIALS AND A POINT-RATING SYSTEM FOR ASSESSING THE LEVEL OF COMPETENCE FORMATION IN THE DISCIPLINE

Evaluation materials and a point-rating system* for assessing the level of competence formation (part of competencies) based on the results of mastering the discipline **"International regulation in city planning and environmental protection"** are presented in the Appendix to this Work Program of the discipline.

* - EM and PRS are formed on the basis of the requirements of the relevant local regulatory act of the RUDN.

DEVELOPERS:

Assistant Professor of the Department of Landscape Design and Sustainable Ecosystems		V.V. Plyushchikov
Position, BTU	Signature	Name

HEAD OF THE DEPARTMENT

Director of the Department of Landscape Design and Sustainable Ecosystems		E.A. Dovletyarova
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HEAD OF THE EDUCATIONAL PROGRAM

Associate Professor of the Department of Landscape Design and Sustainable Ecosystems		V.I. Vasenev
Position, BTU	Signature	Name