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

International regulation in city planning and environmental protection

course title

Recommended by the Didactic Council for the Education Field of:

35.03.09 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

1. COURSE GOAL(s)

The goal of the 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 LEARNING OUTCOMES

The course implementation is aimed at the development of the following competences (competences in part):

Table 2.1. List of competences that students acquire during the course)

Competence code	Competence descriptor	Competence formation indicators (within this course)
GC-1	Student is able to search, critically analyze problem situations based on a systematic approach, and develop a strategy for action	GC-1.1 Student is able to apply systematization to solve tasks; GC-1.2 Student is able to search and analyze information;
GC-3	Student is able to organize and managethe work of the team, developing a team strategy to achieve the goal	GC-3.1 Student is able to organize teamwork on the project; GC-3.2 student is able to interact with the executive authorities to coordinate allstages
GC-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	GC-4.1 Student is able to prepare all the necessary documentation for the project in Russian and a foreign language; GC-4.2 Student is able to communicate onthe project in Russian and a foreignlanguage;
GC-5	Student is able to analyze and take into account the diversity of cultures in the process of intercultural interaction	GC-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; GC-5.2 Student is able to overcome thecultural barrier, perceiving cross-culturaldifferences;
GC-6	Student is able to determine and implement the priorities of his own activities and ways to improve it basedon self-assessment	GC-6.1 "Student is able to plan his lifeactivities for the period of study in an educational organization"; GC-6.2 Student is able to determine thetasks of self-development and professionalgrowth, 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;
	Student is able to transfer professional knowledge	GPC-2.1 Student is able to transfer professional knowledge;

Competence code	Competence descriptor	Competence formation indicators (within this course)
GPC-2	using modern pedagogical techniques;	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;
GC-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	GC-7.1.1 Student is able to apply algorithms to effectively evaluate the data obtained to solve the tasks; GC-7.1.2 Student is able to use open and closed sources of information for data collection and analysis;

Competence code	Competence descriptor	Competence formation indicators (within this course)
	problems;	
GC-7.2	Student is able to evaluate information, its reliability, and build logical conclusions based on incoming information and data.	GC-7.2.1 Student is able to verify the accuracy of the information received; GC-7.2.2 Student is able to logically assess the reliability of the information received.

3. COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

The course "International regulation in the field of urban planning and environmental protection" refers to the core component of (B1) block B1 of the higher educational programme curriculum.

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

Competence code	Competence descriptor	Previous courses/modules, Courses*	Subsequent courses/modules, Courses*
GC-1	Student is able to search, critically analyze problem situations based on a systematic approach, and develop a strategy for action	-	Landscape planning and sustainable development; Phytopathology and Plant Protection; Landscape engineering and nature-based solution; Principles of remote sensing and modelling.
GC-3	Student is able to organize and manage the work of the team, developing a team strategy to achieve the goal	-	Landscape planning and sustainable development; Phytopathology and Plant Protection; Landscape engineering and nature-based solution; Principles of remote sensing and modelling; Advances in environmental monitoring.
GC-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	-	Landscape planning and sustainable development; Foreign Language; Phytopathology and Plant Protection.
GC-5	Student is able to analyze and take into account the diversity of cultures in the process of intercultural interaction	-	Landscape planning and sustainable development; Phytopathology and Plant Protection; Landscape engineering and nature-based solution; Principles of remote sensing and modelling.

Compet ence code	Competence descriptor	Previous courses/modules, Courses*	Subsequent courses/modules, Courses*
GC-6	Student is able to determine and implement the priorities of his own activities and ways to improve it based on self-assessment	-	Landscape planning and sustainable development; Landscape engineering and nature-based solution; Phytopathology and Plant Protection; Principles of remote sensing and modelling; Advances in environmental monitoring.
GPC-1	Student is able to analyze modern problems at the factory and production, solve complex (non-standard) tasks in professional activity;	-	Landscape planning and sustainable development; Phytopathology and Plant Protection; Principles of remote sensing and modelling.
GPC-2	Student is able to transfer professional knowledge using modern pedagogical techniques;	-	Landscape planning and sustainable development; Phytopathology and Plant Protection; Principles of remote sensing and modelling.
GPC-3	Student is able to develop and implement new effective technologies in professional activities;	-	Landscape planning and sustainable development; Phytopathology and Plant Protection; Landscape engineering and nature-based solution; Advances in environmental monitoring.
GPC-4	Student is able to conduct scientific research, analyze the results and prepare accounting documents;	-	Landscape planning and sustainable development; Phytopathology and Plant Protection; Landscape engineering and nature-based solution.
GPC-5	Student is able to carry out a feasibilitystudy of projects in professional activity;	-	Landscape planning and sustainable development; Phytopathology and Plant Protection; Landscape engineering and nature-based solution.
GPC-6	Student is able to manage teams and organize production processes.	-	Landscape planning and sustainable development; Phytopathology and Plant Protection.
PC-17	The ability to develop work plans and research programs in the field of landscape architecture, the ability	-	Principles of remote sensing and modelling.

Compet ence code	Competence descriptor	Previous courses/modules, Courses*	Subsequent courses/modules, Courses*
	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-24	Readiness to develop (based on current standards) methodological and regulatory documents for the design of landscape architecture objects	-	-
GC-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;	-	Landscape planning and sustainable development.
GC-7.2	Student is able to evaluate information, its reliability, and build logical conclusions based on incoming information and data.	-	Landscape planning and sustainable development.

4. COURSE WORKLOAD

The total workload of the course is 9 credits (324 academic hours).

5. COURSE CONTENTS

Table 5.1. Course contents

Modules	Contents (topics, types of practical activities)	Workload, academic hours
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	6
	Topic 1.2 Urbanization as a processes of city expansion and urban development	6
History and actuality of the problem	**Topic 1.3** Nature urbanization as transformation of natural landscapes into urban infrastructure	6
Section 2. Participation of international organizations in city-planning and environmental protection. International legal framework	**Topic 2.1** Main conventions, protocols, documents, agreements.	5
	Topic 2.2 International organizations in city-planning and environmental protection: possible projects to increase the value of international organizations.	5
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;	5
	Topic 3.2 Opportunities, resources and limitations of urban development proper as a form of technical support for urbanization processes;	5
Section 4. City-planning in EU: goals, problems and principles of policy	**Topic 4.1** Urban dimension of cohesion policy;	5
	Topic 4.2 What is integrated sustainable urban development?	5
	Topic 4.3 The Urban Agenda for the EU-Objectives for future	5
Section 5. Environmental protection in EU: goals, problems and principles of policy	**Topic 5.1** Environmental law and Green policy:	5
	Topic 5.2 Safeguarding the health and wellbeing of people living in the EU;	5
Section 6. International cooperation of Russia and EU in city-planning and environmental protection	**Topic 6.1** International organizations for the protection of nature;	4
	Topic 6.2 State initiatives on international cooperation.	4
Section 7. Global risks in city-planning and environmental protection.	**Topic 7.1** Disaster risk reduction and possible ways to avoid the risks.	4
Independent work of students.		205
Control (exam/test with assessment).		49
	TOTAL:	**324**

6. COURSE EQUIPMENT AND TECHNOLOGY SUPPORT REQUIREMENTS

The infrastructure and technical support necessary for the course implementation include: certified soil-ecological laboratory, individual consultations, routine monitoring and interim certification, equipped with a set of specialized furniture and equipment. (rooms 203, 418). Specialized educational/laboratory equipment includes 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 ArchiCAD 15, AutoCAD12, SketchUp, QGIS 2.10 (Quantum GIS).

7. RESOURCES RECOMMENDED FOR COURSE

Main readings:
Printed publications:
1. John M. Marzluff, Eric Shulenberger Urban Ecology -An International Perspective on theInteraction Between Humans and Nature. Springer. 2008. 829 p.
2. Tai-Chee Wong, Belinda Yuen Eco-city Planning: Policies, Practice and Design. SpringerScience & 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 UrbanEcosystems 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 readings:

Electronic and printed full-text materials:
1. Alberti, M., & Marzluff, J. (2004) Ecological resilience in urban ecosystems: linking urbanpatterns 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 thehistory 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 . TechnicalUniversity 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 individualwell-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 bibliometricreview. Urban Ecosystems 9 : 179–93.

15. Zipperer, W.C., Wu, J., Pouyat, R.V., & Pickett, S.T.A. (2000) The application of ecologicalprinciples to urban and urbanizing landscapes. Ecological Applications 10 : 685–88

Internet sources:
- 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.
-

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»

*The training toolkit and guidelines for the internship are placed on the internship page in the university telecommunication training and information system under the set procedure.

8. ASSESSMENT TOOLKIT AND GRADING SYSTEM* FOR EVALUATION OF STUDENTS' COMPETENCES LEVEL AS COURSE RESULTS

The assessment toolkit and the grading system* to evaluate the level of competences (competences in part) formation as the course results are specified in the Appendix to the course syllabus.

* The assessment toolkit and the grading system are formed based on the requirements of the relevant local normative act of RUDN University (regulations / order).

DEVELOPERS:

Associate Professor, department of landscape planning and sustainable ecosystems		**V. V. Plushchikov**
position, educational department	signature	name and surname.

HEAD OF EDUCATIONAL DEPARTMENT:

Director, department of landscape planning and sustainable ecosystems		**E. A. Dovletyarova**
educational department	signature	name and surname.

HEAD OF HIGHER EDUCATION PROGRAMME:

Associate Professor, department of landscape planning and sustainable ecosystems		**V. I. Vasenev**
position, educational department	signature	name and surname