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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 Technology Institute

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

COURSE SYLLABUS

Introduction to Ecological Design

course title

Recommended by the Didactic Council for the Education Field of:

35.03.09 landscape architecture

field of studies / speciality code and title

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

Management and design of urban green infrastructure

higher education programme profile/specialisation title

1. COURSE GOAL(s)

The goal of the course “Introduction to Ecological Design” is to provide students with a comprehensive understanding of ecological principles in urban and landscape design and to develop their ability to apply these principles in contemporary urban contexts

2. REQUIREMENTS FOR LEARNING OUTCOMES

The completion of the course “Urban design” is aimed at the formation of the following competencies (or components of competencies) in students:

a. Upon completion of the Educational Programme, the graduate is expected to acquire the following Generic Competences (GCs):

Code and descriptor of generic competence	Code and competence level indicator
GC-1 Able to search, critical analysis problem situations based on a systematic approach, develop an action strategy	GC--1.1 Able to apply systematization to solve problems; GC--1.2. Capable of searching and analyzing information;
GC-3 Able to organize and manage the work of the team, developing a team strategy to achieve the goal	GC--3.1. Able to organize team work on a project; GC--3.2Able to interact with executive authorities to coordinate all stages of design;
GC-4 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. Able to prepare all the necessary documentation for the project in Russian and foreign languages; GC--4.2. Able to communicate on the project in Russian and foreign languages;
GC-5 Able to analyze and take into account the diversity of cultures in the process of intercultural interaction	GC--5.1 Able to delve into the peculiarities of the social organization of society, the specifics of the mentality and moral outlook of the cultures of the West and East; GC--5.2 Able to overcome cultural barriers by perceiving intercultural differences;
GC-6 Able to determine and implement the priorities of their own activities and ways to improve them on the basis of self-esteem	GC--6.1. Able to plan his life activities for the period of study in an educational organizations; GC--6.2. Able to determine the tasks of self-development and professional growth, distribute them into long-term and short-term ones with justification of their relevance and determination of the necessary resources;

b. Upon completion of the Educational Programme, the graduate is expected to acquire the following general professional competences (GPCs):

Code and descriptor of general professional competence	Code and competence level indicator
GPC-2 Ability to transfer professional knowledge using modern pedagogical methods.	GPC-2.1 — Ability to transfer professional knowledge. GPC-2.2 — Ability to transfer professional knowledge using information technologies.

c. Upon completion of the Educational Programme, the graduate is expected to acquire the following professional competences (PCs) :*

PC-10 Ability to develop research plans and programs in landscape architecture, organize collection, processing, analysis, and systematization of scientific and technical information, and select appropriate methods and tools.	PC-10.1 — Ability to organize collection, processing, analysis, and systematization of scientific and technical information and select research methods. PC-10.2 — Ability to develop research plans and programs in landscape architecture.
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3.COURSE IN HIGHER EDUCATION PROGRAMME STRUCTURE

MATRIX OF COMPETENCES that students acquire when mastering the Educational Programme “Blue-green infrastructure for sustainable cities” in the field of studies / speciality 35.04.09 Landscape Architecture

Table 3.1. List of components of higher education that contribute to the achievement of the planned results of discipline

Code and descriptor of generic competence	Competence	Subsequent disciplines/modules
GC-4	Ability to conduct research, analyse results and prepare reporting documents;	Data analysis and statistics
GC-3	Ability to develop and implement new effective technologies in professional activities;	Research Work
GC-5	Ability to conduct research, analyse results and prepare reporting documents;	Green infrastructure for sustainable development: from NBS to ESG.
GC-1	Able to search, critical analysis problem situations based on a systematic approach, develop an action strategy	Green infrastructure for sustainable development: from NBS to ESG.
GC-6	Able to determine and implement the priorities of their own activities and ways to improve them on the basis of self-esteem	Green infrastructure for sustainable development: from NBS to ESG.

GPC-2	Ability to transfer professional knowledge using modern pedagogical methods	Research Work
PC-10	Ability to develop research plans and programs in landscape architecture, organize collection, processing, analysis, and systematization of scientific and technical information, and select appropriate methods and tools	Green infrastructure for sustainable development: from NBS to ESG.

4. COURSE WORKLOAD AND ACADEMIC ACTIVITIES

The total workload of the course is 6 credits (216 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			
		1	2	3	4
<i>Contact academic hours</i>	51	-	-	-	-
including:					
Lectures (LC)	17	17	-	-	-
Lab work (LW)	34	34	-	-	-
Seminars (workshops/tutorials) (S)		-	-	-	-
<i>Self-studies</i>	139	139	-	-	-
<i>Evaluation and assessment (exam/passing/failing grade)</i>	26	26	-	-	-
Course workload	academic hours_	216	216	-	-
	credits	6	6	-	-

5. COURSE CONTENTS

Table 5.1. Course contents and academic activities types

Course module title	Course module contents (topics)	Academic activities types
Module 1: Introduction to Ecological Design	Topic 1.1. Fundamentals and Principles of Ecological Design	LC, LW
	Topic 1.2. Ecosystem-Based Approach in Design	LC, LW
Module 2 Ecological Processes and Nature-Based Solutions	Topic 2.1. Urban Flora and Fauna	LC, LW
	Topic 2.2. Climate-Resilient Urban Design	LC, LW
Module 3 Concepts for Urban Area Development	Topic 3.1. Global Case Studies	LC, LW
	Topic 3.2. Exploration of Underground Urban Spaces	LC, LW
	Topic 3.3 Sustainable Transportation and Mobility	LC, LW

* - 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

Type of academic activities	Classroom equipment	Specialised educational / laboratory equipment, software, and materials for course study (if necessary)
Lecture	A lecture hall for lecture-type classes, equipped with a set of specialised furniture; board (screen) and technical means of multimedia presentations.	
Lab work	A classroom for laboratory work, individual consultations, current and mid-term assessment; equipped with a set of specialised furniture and machinery.	List of specialised laboratory equipment, machinery, stands, etc.
Self-studies	A classroom for independent work of students (can be used for seminars and consultations), equipped with a set of specialised furniture and computers with access to the electronic information and educational environment.	

* The premises for students' self-studies are subject to **MANDATORY** mention

7. RESOURCES RECOMMENDED FOR COURSE STUDY

Main readings:

1. **Beatley, T.** *Green Urbanism: Learning from European Cities*. Washington, DC: Island Press.
2. **Register, R.** *Ecocities: Rebuilding Cities in Balance with Nature*. New Society Publishers.
3. **Mostafavi, M., Doherty, G. (eds.)** *Ecological Urbanism*. Harvard University Graduate School of Design.
4. **Newman, P., Beatley, T., Boyer, H.** *Resilient Cities: Overcoming Fossil Fuel Dependence*. Island Press.
5. **Gehl, J.** *Cities for People*. Island Press.

Additional readings:

1. **Lynch, K.** *The Image of the City*. MIT Press.
2. **Jacobs, J.** *The Death and Life of Great American Cities*. Random House.
3. **McHarg, I.** *Design with Nature*. Wiley.
4. **Corner, J. (ed.)** *Recovering Landscape*. Princeton Architectural Press.
5. **UN-Habitat.** *Global Report on Human Settlements*.
6. **European Environment Agency.** Reports on sustainable urban development and green infrastructure.

Internet sources

1. Electronic libraries (EL) of RUDN University and other institutions, to which university students have access on the basis of concluded agreements:
 - RUDN Electronic Library System (RUDN ELS) <http://lib.rudn.ru/MegaPro/Web>

- EL "University Library Online" <http://www.biblioclub.ru>
- EL "Yurayt" <http://www.biblio-online.ru>
- EL "Student Consultant" www.studentlibrary.ru
- EL "Lan" <http://e.lanbook.com/>
- EL "Trinity Bridge"
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2. Databases and search engines:

- electronic foundation of legal and normative-technical documentation <http://docs.cntd.ru/>
- Yandex search engine [https:// www .yandex.ru/](https://www.yandex.ru/)
- Google search engine <https://www.google.ru/>
- Scopus abstract database <http://www.elsevierscience.ru/products/scopus/>

*Training toolkit for self- studies to master the course *:*

1. The set of lectures on the course “Introduction to Ecological Design”
2. A laboratory workshop on the course “Introduction to Ecological Design” (if laboratory classes are предусмотрены / if applicable).
3. The guidelines for writing a course paper / project on the course “Introduction to Ecological Design” (if a course paper / project is/ if applicable).

* The training toolkit for self- studies to master the course is placed on the course 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 UPON COURSE COMPLETION

The assessment toolkit and the grading system* to evaluate the competences formation level (competences in part) upon the course study completion are specified in the Appendix to the course syllabus.

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

DEVELOPERS:

**Assistant of the Department of
Landscape Planning and Urban
Ecology**

Borisova E. A.

position, department	signature	name and surname
position, department	signature	name and surname
position, department	signature	name and surname

HEAD OF EDUCATIONAL DEPARTMENT:

**Director of the Department of
Landscape Planning and Urban
Ecology**

Dovletyarova E. A.

name of department

signature

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**HEAD
OF HIGHER EDUCATION PROGRAMME:**

**Director of the Department of
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position, department

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