Syllabus
Course Program

Environmental Education

Specialty
101 – Ecology

Institute
Institute of Education and Science in Mechanical Engineering and Transport

Educational Program
Engineering Ecology

Department
Chemical Engineering and Environment Protection (154)

Level of Education
Master's level

Course type
General Compulsory

Semester
2

Language of Instruction
English

Lectures and course developers

Nataliia Zabiiaka

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PhD, senior lecturer

Work experience – 4 years. Author and co-author of more than 40 scientific and educational-methodical works. Leading lecturer in disciplines: "Environmental engineering and construction of environmentally safe reactors and reactor systems", "Environmental Education" and "Theory of designing reactors and devices in food, processing and chemical industries".

More about the lecturer on the department's website

General Information

Summary

Environmental education is a dynamic and joint process for human awareness that allows identifying ecological problems at both global and local levels. It also aims at identifying interactions between humans and the environment, as well as concerning the harmonization of human activities with nature based on sustainable development to ensure the quality of life of future generations.

Course objectives and goals

The aim is to form students' understanding of the theory and methodology of environmental education, its goals and tasks; to help future specialists in mastering the basic theoretical knowledge and practical skills regarding the formation of environmental consciousness and ecological culture, and to teach them to apply this knowledge and skills in future professional activities.

Format of classes

Lectures, practical classes, consultations. Individual task - essay. Final control - credit.

Competencies

GC -1. Ability to learn and master modern knowledge.
GC -3. Ability to generate new ideas (creativity).
GC -5. Ability to communicate knowledge and personal conclusions to specialists and non-specialists.

Learning Outcomes

RE -1. Know and understand the fundamental and applied aspects of environmental sciences.
RE -4. Know the legal and ethical norms for assessing professional activities in the development and implementation of socially significant ecological projects amid conflicting requirements.
RE -8. Be able to communicate clearly and unambiguously professional knowledge, own reasoning, and conclusions to specialists and the general public.

Student workload

The total volume of the discipline is 90 hours (3 ECTS credits): lectures – 16 hours, laboratory classes – 16 hours, self-study – 58 hours.

Course prerequisites

Possession of competencies and learning outcomes provided by the higher education standard in the specialty 101 "Ecology" of the first bachelor's level.

Features of the course, teaching and learning methods, and technologies

Lectures are conducted interactively using multimedia technologies. Reproductive and problem-searching methods of teaching are used in practical classes, with an emphasis on solving ecological problems.

Programme of the Course

Topics of lectures

Topic 1 The specifics of the interaction between society and nature.
Topic 2 Stages of interaction between society and nature.
Topic 3 Environmental awareness and environmental culture.
Topic 4 Environmental ethics.
Topic 5 Environmental education for sustainable growth.
Topic 6 The concept of environmental education in the World.
Topic 7 The system of environmental education in the World. Forms, methods and means of environmental education.
Topic 8 Environmental education for different age groups.

Topics of the workshops

1. The relationship between human and nature at the dawn of civilisation
2. The current environmental crisis and ways to overcome it
3. Eco-friendly attitude to nature: principles, rules, motives and responsibilities
4. Roderick Nash and the moral laws of nature
5. Regulatory and legal support for the protection of animals from cruelty
6. Anti-consumerism as a way of life.

Topics of the laboratory classes

Laboratory classes is not provided in this course.

Self-study

The course involves completing an individual assignment in the form of an article with a presentation. Students are also expected to study certain topics independently, for which they are provided with additional material in the form of videos, articles, and links to websites to learn more about their work.

Course materials and recommended reading

1. Wei-Ta Fang, Arba at Hassan, Ben A.LePage. The Living Environmental Education. Sound Science Toward a Cleaner, Safer, and Healthier Future: Springer, 2023. 297 p. https://library.oapen.org/bitstream/handle/20.500.12657/58658/1/978-981-19-4234-1.pdf
2. Environment Education and Water Security. Standard twelve: Maharashtra State Bureau of Textbook Production and Curriculum Research, Rune, 2020. 84 p. https://cdn1.byjus.com/wp-content/uploads/2023/01/MSBSHSE-Class-12-Environment-Education-and-Water-Security-textbook-2022-23-PDF.pdf
3. Joy Palmer, Philip Neal. The Handbook of Environmental Education: London and New York, 2003. 267 p. https://catalogue.unccd.int/1375_handbook_%20environmental_%20education.pdf
4. Environmental Education: Bharathidasan university, Central for distance education. 197 p. https://www.bdu.ac.in/cde/docs/ebooks/B-Ed/II/ENVIRONMENTAL%20EDUCATION.pdf

Assessment and grading

Criteria for assessing student performance and distribution of points

100% of the final grade is based on the results of the current assessment. Assessment: practical works 40%, essay 40%, control test 20%.

Grading scale

Total points	National	ECTS
90–100	Excellent	A
82–89	Good	B
75–81	Good	C
64–74	Satisfactory	D
60–63	Satisfactory	E
35–59	Unsatisfactory (requires additional learning)	FX
1–34	Unsatisfactory (requires repetition of the course)	F

Norms of academic ethics and course policy

The student must adhere to the Code of Ethics of Academic Relations and Integrity of NTU "KhPI": to demonstrate discipline, good manners, kindness, honesty, and responsibility. Conflict situations should be openly discussed in academic groups with a lecturer, and if it is impossible to resolve the conflict, they should be brought to the attention of the Institute's management.
Regulatory and legal documents related to the implementation of the principles of academic integrity at NTU "KhPI" are available on the website:http://blogs.kpi.kharkov.ua/v2/nv/akademichna-dobrochesnist/

Approval

Approved by

2023/08/31 Head of the department
Oleksii SHESTOPALOV

2023/08/31 Guarantor of the educational program
Musii TSEITLIN