

Course Description

Discipline: Industrial Ecology

Training programme for university staff “Technosphere safety”

Department of Ecology and Life Safety

Lecturer Yury V.Borodin, PhD

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Learning Outcomes:

Course Objectives and Content:

The objective of the course “Industrial Ecology” is to develop professional competence, which means the the formation of students' of ecological worldview and the ability to use environmental laws and principles for making the design decisions in their professional activity.

By the end of the course, The application of ecological principles of nature protection and environmental management; Knowledge of global and local environmental problems, types of protective equipment and technology; Knowledge of organizational and legal means to protect the environment; Using the basic laws of ecology in professional activities; The ability to choose the technical means and technologies, taking into account the environmental impacts of their use; Predicting the consequences of their professional activities in terms of biospheric processes; Knowledge of methods of choosing the rational way to reduce the impact on environment in the professional activity.

Course Outline:

Section 1. Industrial Ecology: An Introduction

Section 2. Goals of Industrial Ecology

Section 3. Key Concepts of Industrial Ecology

Section 4. Strategies for Environmental Impact Reduction

Section 5. Life Cycle Assessment .

Section 6. Life Cycle Design and Design for Environment

Course Delivery: seventh semester, 18 weeks

Prerequisites: Ecology, Noksologiya, Technosphere Chemistry, Environment Chemistry

Co-requisites: Low-waste and Resource-saving Technologies

Final Assessment: exam

Course Developer: Yury V.Borodin, PhD