

**MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE  
NATIONAL AVIATION UNIVERSITY**

**Faculty of Environmental Safety, Engineering and Technologies**

**DEPARTMENT OF ENVIRONMENTAL SCIENCE**



**PRACTICAL TRAINING**

on the subject «Environmental Audit and Environmental Control»

Educational Professional Program: «Ecology and Environmental Protection»

Field of study: 10 Natural Sciences

Specialty: 101 Ecology

Compiler: Saienko T.V. Doctor in Pedagog. Scienc., Profesor, Prof. of Department of Environmental Sciences

(Name, Scientific Degree, Academic Title, Position)

Lecture notes were discussed and approved by the Department of Environmental Science

Minutes No\_7\_as of «16» June 2023

Head of the Department

T. Dudar

## **Practical training № 1**

**Topic: Concept of environmental audit, its features, meaning.**

### **The aim and main tasks of the training**

1. Connection of academic discipline with special subjects.
2. The history of the development of environmental auditing in the world, Europe, and Ukraine.

### **Recommendations for implementation**

1. Subject and tasks of the discipline "Environmental Audit and Environmental Control".
2. Law of Ukraine "On Environmental Audit" dated June 24, 2004.
3. Objects of environmental audit (EA).
4. Environmental audit activity. Subjects of EA.

### **Sources:**

1. Shevchuk V. Ya., Satalkin Yu. M., Bilyavskiy G. O. and others. Environmental management: a textbook. - K.: Lybid, 2004. - 432 p.
2. Dmytrenko I.A. Environmental Law of Ukraine: Textbook / I.A. Dmytrenko. - K.: Yurinkom Inter, 2020. - 352 p.
3. The Law of Ukraine "On Environmental Protection" dated June 25, 1991.
4. Law of Ukraine "On Environmental Audit" dated June 24, 2004

## **Practical training № 2**

**Topic: Legislative and regulatory framework of environmental audit.**

### **The aim and main tasks of the training**

1. Criteria and principles of environmental audit.
2. Evidence and conclusion of environmental audit.
3. Rights and obligations of the customer and the executor of the environmental audit.
4. The purpose and main tasks of EA.

### **Recommendations for implementation**

1. Legal regulation of EA. EA principles.
2. Areas of EA. EA forms.

### **Sources:**

1. Dmytrenko I.A. Environmental Law of Ukraine: Textbook / I.A. Dmytrenko. - K.: Yurinkom Inter, 2020. - 352 p.
2. The Law of Ukraine "On Environmental Protection" dated June 25, 1991.

3. Law of Ukraine "On Environmental Audit" dated June 24, 2004
4. The Law of Ukraine "On Environmental Audit": current version dated October 16, 2020, <https://zakon.rada.gov.ua/laws/show/1862-15#Text>

### **Practical training № 3**

**Topic: Legislative and regulatory framework of environmental audit.**

#### **The aim and main tasks of the training**

1. Requirements for performers and customers of environmental audit.
2. Rights and obligations of managers (owners) of EA facilities.
3. Law of Ukraine "On State Environmental Control" (draft).

#### **Recommendations for implementation**

1. Definition of terms: auditor, environmental management system, continuous improvement, adjustment, document, environmental aspect, environmental impact, environmental task, interested party, internal audit, non-conformity, preventive action, prevention of environmental pollution, protocol, environmental audit planning, checking the environmental condition of the enterprise.

2. General provisions of the Law of Ukraine "On State Environmental Control": to ensure a high level of compliance with environmental legislation, which is an integral condition for the sustainable economic and social development of Ukraine.

#### **Sources:**

1. Law of Ukraine dated June 25, 1991, No. 1264-XII "On Environmental Protection".
2. Dmytrenko I.A. Environmental Law of Ukraine: Textbook / I.A. Dmytrenko. - K.: Yurinkom Inter, 2020. - 352 p.
3. Law of Ukraine "On Environmental Audit": current version dated 10.16.2020, <https://zakon.rada.gov.ua/laws/show/1862-15#Text>
4. Draft Law of Ukraine dated February 19, 2020 No. 3091 (Received by the Verkhovna Rada of Ukraine) "On State Environmental Control". [https://ips.ligazakon.net/document/ji01459a?an=3&ed=2020\\_02\\_19](https://ips.ligazakon.net/document/ji01459a?an=3&ed=2020_02_19)

### **Practical training № 4**

**Topic: System of environmental management and audit (SEMA), standards of the ISO 14000 series.**

#### **The aim and main tasks of the training**

1. DSTU ISO 14001:2006, 14004:2006. Definition of terms: auditor, environmental management system, continuous improvement, adjustment, document, environmental aspect, environmental impact, environmental task, stakeholder, internal audit, non-conformity, preventive action, environmental pollution prevention, protocol, environmental audit planning, environmental audit state of the enterprise.

## **Recommendations for implementation**

1. DSTU ISO 14001 standard - requirements for the environmental management system.
2. National Standard of Ukraine DSTU ISO 19011:2003 "Guidelines for conducting audits of quality management systems and (or) environmental management".

### **Sources:**

1. Shevchuk V. Ya., Satalkin Yu. M., Bilyavskiy G. O. and others. Environmental management: a textbook. - K.: Lybid, 2014. - 432 p.
2. DSTU ISO 14001:2015 "Environmental management systems. Requirements and guidelines for use".
3. DSTU ISO 14004:2016 "Environmental management systems. General guidelines for implementation".
4. DSTU ISO 19011:2012 "Guidelines for audits of management systems".

## **Practical training № 5**

### **Topic: The purpose and tasks of environmental certification of territories and enterprises.**

#### **The aim and main tasks of the training**

1. Environmental and economic safety of enterprises. The essence and significance of environmental certification of territories and enterprises.
2. Assessment of environmental aspects of enterprises: data on emissions and discharges of industrial facilities, waste generation; consumption of raw materials, energy, and water in production.
3. The environmental policy of the enterprise, the system of environmental management and its audit.

#### **Recommendations for implementation**

1. The purpose of environmental certification of enterprises.
2. The task of environmental certification of enterprises, territories, water areas.
3. Examples of ecological passports of enterprises, natural objects.

### **Sources:**

1. Mishchenko L. V., Hrytsyuk M. G. Ecological audit of territories: training. manual / edited by O. M. Adamenko. - Ivano-Frankivsk: IME "Halytska Academy", 2008. - 268 p.
2. Environmental management and audit: study guide / S. M. Litvak et al. - K.: V. D. "Professional", 2005. - 112 p.
3. Modern problems of environmental control and audit. - Abstracts of the International Internet Conference 02/24/2021 - Kharkiv National University named after V. N. Karazin, Educational and Scientific Institute of Ecology. - 80 p.
4. Chernyakova O.I. Environmental audit: training. manual. Kind of Odesa ecol. Institute - 2018. - 134 p.

## **Practical training № 6**

**Topic: Conceptual provisions on the introduction of environmental audit in Ukraine.**

### **The aim and main tasks of the training**

1. Environmental management, marketing, audit, regulation in the system of environmental management.

### **Recommendations for implementation**

1. Environmental management system according to DSTU ISO 14001:2015. 2. Environmental management at enterprises of Ukraine: realities and prospects.

### **Sources:**

1. Kibych I.V. Management of the organization of environmental protection activities: training. manual – Chernivtsi: Ruta, 2019. – 104 p.
2. Sinzynys B.I., Tyantova E.M., Melehova O.P. Environmental risk: Education. guide for universities / Ed. G.V. Kozmina. - K.: Logos, 2005. - 168 p.
3. Environmental management: Training manual / Ed. V. F. Semenova, O. L. Mykhailiuk. - K.: Znannia, 2006. - 366 p.
4. Modern problems of environmental control and audit. - Abstracts of the International Internet Conference 02/24/2021 - Kharkiv National University named after V. N. Karazin, Educational and Scientific Institute of Ecology. - 80 p.

## **Practical training № 7**

**Topic: Types of environmental audit in Ukraine and environmental safety of enterprises.**

### **The aim and main tasks of the training**

1. Privatization, investment and energy environmental audit.
2. Comprehensive audit of modernizing enterprises. Environmental management system audit.
3. Environmental safety of enterprises. A typical list of goals.

### **Recommendations for implementation**

1. Examples of the introduction of new mechanisms and tools that provide a preventive system of actions and measures to reduce environmental risk;
2. Examples of harmonization of the regulatory and methodological framework of environmental safety regulation in Ukraine with European standards.

### **Sources:**

1. <https://ec.europa.eu/programmes/erasmus-plus/project-result-content/ead800f4-e35a-445d-bb1b-efe23439b54c/%D0%9D%D0%B0%D0%B2%D1%87%D0%B0%D0%BB%D1%8C%D0%BD%D0%B8%D0%B9%20%D0%BF%D0%BE%D1%81%D1%96%D0%B1%D0%BD%D0%B8%D0%BA.pdf>
2. [http://epl.org.ua/images/pdf/people/EUROPEAN\\_UNION\\_ENVIRONMENTAL\\_LAW.pdf](http://epl.org.ua/images/pdf/people/EUROPEAN_UNION_ENVIRONMENTAL_LAW.pdf)
3. Modern problems of environmental control and audit. - Abstracts of the International Internet Conference 02/24/2021 - Kharkiv National University named after V. N. Karazin, Educational and Scientific Institute of Ecology. - 80 p.
4. Chernyakova O.I. Environmental audit: training. manual. Kind of Odesa ecol. Institute - 2018. - 134 p.

## **Practical training № 8**

**Topic: Methodological foundations and principles of environmental audit.**

### **The aim and main tasks of the training**

1. Actual indicators, documents, characteristics collected during the environmental audit at the enterprise.
2. Functioning of the system of environmental auditing in Ukraine. Scope and limits of environmental audit.
3. Development of DSTU ISO 19011:2003.

### **Recommendations for implementation**

1. Examples of conducting environmental audits at enterprises of Ukraine.
2. Examples of foreign audits.

### **Sources:**

1. Modern problems of environmental control and audit. - Abstracts of the International Internet Conference 02/24/2021 - Kharkiv National University named after V. N. Karazin, Educational and Scientific Institute of Ecology. - 80 p.
  2. Chernyakova O.I. Environmental audit: training. manual. Kind of Odesa ecol. Institute - 2018. - 134 p.
  3. DSTU ISO 19011:2012 "Guidelines for audits of management systems".
  4. <https://ec.europa.eu/programmes/erasmus-plus/project-result-content/ead800f4-e35a-445d-bb1b-efe23439b54c/%D0%9D%D0%B0%D0%B2%D1%87%D0%B0%D0%BB%D1%8C%D0%BD%D0%B8%D0%B9%20%D0%BF%D0%BE%D1%81%D1%96%D0%B1%D0%BD%D0%B8%D0%BA.pdf> 5.
- [http://epl.org.ua/images/pdf/people/EUROPEAN\\_UNION\\_ENVIRONMENTAL\\_LAW.pdf](http://epl.org.ua/images/pdf/people/EUROPEAN_UNION_ENVIRONMENTAL_LAW.pdf)

## **Practical training № 9**

**Topic: Examples of special audit techniques.**

### **The aim and main tasks of the training**

1. Methodology of environmental audit of enterprise waste minimization.
2. Protocol for assessing the environmental condition of the industrial site (locality).

### **Recommendations for implementation**

1. Setting parameters of a point source of emission of an industrial enterprise (Practical work 1, options 1-4).

#### **Sources:**

1. Kibych I.V. Management of the organization of environmental protection activities: training. manual – Chernivtsi: Ruta, 2019. – 104 p.
2. Air pollution. Methodical instructions for course work / comp. Y.F. Zaporozhchenko. - K.: NAU, 2003. - 28 p.
3. Methodological instructions for the performance of control works from the course "Normalization of anthropogenic load on the natural environment" / comp. O.S. Drozdova - Sumy: Publishing House of Sumy State University, 2008. - 17 p.

### **Practical training № 10**

**Topic: Examples of special audit techniques.**

#### **The aim and main tasks of the training**

1. Ecological express assessment of the industrial site (locality).

### **Recommendations for implementation**

1. Setting parameters of a point source of emission of an industrial enterprise (Practical work 2, options 1-4).

#### **Sources:**

1. Kibych I.V. Management of the organization of environmental protection activities: training. manual – Chernivtsi: Ruta, 2019. – 104 p.
2. Air pollution. Methodical instructions for course work / comp. Y.F. Zaporozhchenko. - K.: NAU, 2003. - 28 p.
3. Methodological instructions for the performance of control works from the course "Normalization of anthropogenic load on the natural environment" / comp. O.S. Drozdova - Sumy: Publishing House of Sumy State University, 2008. - 17 p.

### **Practical training № 11**

**Topic: The practice of introducing an environmental audit in Ukraine.**

#### **The aim and main tasks of the training**

1. Application of environmental audit in various branches of economic activity.
2. A systemic and ecological approach to the development of the enterprise (industry).

### **Recommendations for implementation**

1. Calculation of the parameters of the solid waste disposal station at the enterprise (Practical work 3)

### **Sources:**

1. Kibych I.V. Management of the organization of environmental protection activities: training. manual – Chernivtsi: Ruta, 2019. – 104 p.
2. Air pollution. Methodical instructions for course work / comp. Y.F. Zaporozhchenko. - K.: NAU, 2003. - 28 p.
3. Methodological instructions for the performance of control works from the course "Normalization of anthropogenic load on the natural environment" / comp. O.S. Drozdova - Sumy: Publishing House of Sumy State University, 2008. - 17 p.

### **Practical training № 12**

**Topic: The practice of introducing an environmental audit in Ukraine.**

#### **The aim and main tasks of the training**

1. Evaluation of environmental audit facts according to the priority scheme.
2. Development of recommendations for improving the environmental policy of the enterprise.

#### **Recommendations for implementation**

1. Inventory of mobile sources of emissions into the atmosphere at the enterprise. (Practical work 4)

### **Sources:**

1. Kibych I.V. Management of the organization of environmental protection activities: training. manual – Chernivtsi: Ruta, 2019. – 104 p.
2. Air pollution. Methodical instructions for course work / comp. Y.F. Zaporozhchenko. - K.: NAU, 2003. - 28 p.
3. Methodological instructions for the performance of control works from the course "Normalization of anthropogenic load on the natural environment" / comp. O.S. Drozdova - Sumy: Publishing House of Sumy State University, 2008. - 17 p.

### **Practical training № 13**

**Topic: Experience of using environmental audit abroad.**

#### **The aim and main tasks of the training**



1. Canadian experience - development of current environmental programs: environmental management systems, improvement of atmospheric air, management of hazardous materials, land and flora, waste management, improvement of water quality.

### **Recommendations for implementation**

1. Development of the SPZ (sanitary protection zone) of the enterprise (Practical work 5).

#### **Sources:**

1. Kibych I.V. Management of the organization of environmental protection activities: training. manual – Chernivtsi: Ruta, 2019. – 104 p.
2. Air pollution. Methodical instructions for course work / comp. Y.F. Zaporozhchenko. - K.: NAU, 2003. - 28 p.
3. Methodological instructions for the performance of control works from the course "Normalization of anthropogenic load on the natural environment" / comp. O.S. Drozdova - Sumy: Publishing House of Sumy State University, 2008. - 17 p.

### **Practical training № 14**

**Topic: Experience of using environmental audit abroad.**

#### **The aim and main tasks of the training**

1. Drawing up production waste flow schemes and reducing their quantity and toxicity.

#### **Recommendations for implementation**

1. Practical examples of auditing enterprises (Canadian experience.)

#### **Sources:**

1. Shevchuk V. Ya., Satalkin Yu. M., Bilyavskiy G. O. and others. Environmental management: a textbook. - K.: Lybid, 2004. - 432 p.
2. V. Ya. Shevchuk, Yu. M. Satalkin, V. M. Navrotskyi. Environmental audit. - K: Higher School, 2000. - P. 130-217.

### **Practical training № 15**

**Topic: Preparation for modular control work. Summing up. Surrender of debts.**

