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MINISTRY OF EDUCATION AND SCIENCE OF UKRAINE

National Aviation University

**Educational and Research Humanities Institute**

Department of Foreign Languages and Applied Linguistics

APPROVED

Acting Rector

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

“\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2017



Quality Management System

**SYLLABUS**

**on**

**“Foreign Language”**

Field of study: 10 “Natural Sciences”

Speciality: 101 “Ecology”

Specialization: “Ecology and Environmental Protection”

Year of Study – 1st Semester – 1st, 2nd

Classroom Sessions – 66 Graded Test – 1st semester

Self-study – 54 Examination – 2nd semester

Total (hours/ ECTS credits) – 120/4

Index CB-5-101/16-1.4

**QMS NAU S 12.01.04 – 01-2017**

The Syllabus on “Foreign Language” is based on the educational and professional program and Bachelor Curriculum № CB-5-101/16 for Speciality 101 “Ecology” and Specialization “Ecology and Environmental Protection”, correspondent normative documents and the order 307/od dated on 20.06.2017.

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Discussed and approved by the Department of Foreign Languages and Applied Linguistics, Minutes № \_\_\_\_ of “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_ 2017.

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Discussed and approved by the Graduate Department for the Speciality  101  “Ecology” and Specialization “Ecology and Environmental Protection” – Department for Ecology, Minutes № \_\_\_\_ of “\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_ 2017.

Head of the Department \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ S. Boichenko

Discussed and approved by the Scientific-Methodological-Editorial Board of the Educational and Research Humanities Institute, Minutes № \_\_\_ of “\_\_\_”\_\_\_\_\_\_\_\_\_\_\_2017.

Head of SMEB \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ S. Yahodzinskyi

“Agreed”

Director of ER HI Director of the Center

of Advanced Technologies

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ A.  Gudmanian \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ V. Kazak

“\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_. “\_\_\_\_\_” \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 20\_\_.

Document level – 3b

The planned term between the revisions – 1 year

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**1. EXPLANATORY NOTES**

The Syllabus on the subject “Foreign Language” is developed on the basis of “Methodical instructions for development and preparation of a syllabus and a course training program of subjects” adopted on 16.06.2015 by №37/order.

Teaching English is of great importance in the higher educational system of Ukraine. The subject “Foreign Language”, directed on communication and linked with social and special subjects, makes significant contribution into the education of young people.

The objective of teaching “Foreign Language” is the formation of students’ professional language competence that will facilitate their effective functioning in the cultural diversity of educational and professional environment. The main purpose of studying “Foreign Language” by the students of the speciality 101  “Ecology” is to obtain practical skills in the foreign language. These skills must be acquired on the basis of learning profession-oriented topics defined by this syllabus.

The tasks of mastering the subject are the following:

* to learn professional terminology and everyday English;
* to be able to read and make oral/written translation of original scientific and technical texts on specialty;
* to understand recorded and live foreign speech;
* to be able to communicate with foreigners on general and professional topics.

As a result of mastering the discipline a student shall

**KNOW**:

* basic professional and technical terminology;
* main grammar and lexical features of technical translation;
* main rules of handling scientific and technical literature;
* term-building morphemes and models;
* main grammar structures, correlation of forms and meanings;
* linguistic clichés, typical for business correspondence and for writing research papers.

**LEARNING OUTCOMES:**

* reading and comprehensing the original literature, including literature on the specialty, to obtain the necessary information;
* participation in discussions;
* comprehension of monologue and dialogue speech;
* making reports on professional and socio-political topics defined by this syllabus;
* rendering information obtained from foreign and native-languages sources (in oral and written forms);
* analyzing grammar structures, correlating forms and their meanings in reading and translating texts.

The training material of the subject is structured in a modular manner and consists of two training modules, including:

* training **module №1 “Ecology and Ecosystems. Biosphere. Man and Environment”**
* training **module №2  “Geoecology. General pollution problem. Technonoecology.  Industrial Pollution”,** which are logically completed, relatively independent, as integral parts of the curriculum, learning of which provides with the module tests and analysis of the results.

The subject “Foreign Language” is based on the knowledge of the following subjects: “Fundamentals of General Ecology”, “Higher Mathematics”, “Chemistry”, “Geology and Fundamentals of geomorphology”, “Soil Science”, “Physics”, “Biology”, “Hydrology”, “Biogeochemistry” and others.

**2. SUBJECT CONTENT**

**2.1. Module №1 “Ecology and Ecosystems. Biosphere. Man and Environment”.**

**Topic 2.1.1. Education in Ukraine.**

The system of general and Higher education in Ukraine. Testing and the rules for entering into Higher educational establishments. Types of Higher educational institutions. Technical Higher educational institutions: areas of education.

**Topic 2.1.2. National Aviation University. History of the university.**

The National aviation university as a leading higher educational establishment of Ukraine. Areas of professional education. University structure: institutes. History of the university.

**Topic 2.1.3. Educational - Research Ecological Safety Institute.**

History of institute foundations. Teaching staff. Areas of education and specialities. Training process: lectures and practical classes. Social activities of students. Students’ leisure, sections and sport.

**Topic 2.1.4. Education in Great Britain and the USA.**

Systems of general and Higher education in Great Britain and the USA. Types of Higher educational institutions in both countries. Identities and differences between Higher education of these countries and Ukraine.

**Topic 2.1.5. Ecology and ecological systems.**

Definition of ecology. The meaning of term “ecology”. Scientific contribution of German biologist Ernst Hekkel. Scientists studies of interrelations living organisms and nonliving components of ecosystems. Ecosphere. Goal of ecology.

**Topic 2.1.6. Classification of ecosystems components.**

Role of biosphere for living organisms existence. Biosphere extension in hydrosphere, lithosphere and ecosphere. Living and nonliving components of ecosystems. Characteristics of physical and chemical factors, their affection on living organisms.

**Topic 2.1.7. Living organisms.**

Classification of living organisms in any ecosystem. Producers. Consumers. Decomposers. Their functions and interdependence. Interrelation of living and nonliving components in nature. Food chains.

**Topic 2.1.8. Global ecosystem.**

Geosphere. Geosphere components. Lithosphere. Hydrosphere. Atmosphere.

Energy significance of the sun, wind and water. Origin of life on the Earth. Types of mater. Single-celled plants – the first samples of life on the planet.

**Topic 2.1.9. Green plants. Photosynthesis.**

Soil formation process. Water as a breaking down factor of solid rock.

Role of porous lava. Accumulation of nutrients for living organisms. Evolution of complex vegetation life. Photosynthesis significance for animal life.

**Topic 2.1.10. Characteristics of ecosystems types.**

Ecosystems and ecotones. Interrelations of plants and animals communities in terrestrial ecosystems. Functions of producers, consumers and decomposers. Ecosystems of forests, meadows, deserts. Aquatic ecosystems: salty and fresh.

**Topic 2.1.11. Theory of biosphere.**

Academician V.I.Vernadsky study of biosphere. Modern researches of biosphere. Biosphere as a complex of phisical, chemical and biotic factors. Migration of chemical elements. Contribution of living matter into geological process.

**Topic 2.1.12. Theory of noosphere.**

Academician V.I.Vernadsky – a founder of the theory about biosphere. Definition of noosphere. Modern scientists about noosphere. Noosphere as a geological phenomenon. Significance of noosphere for a future generation and environment.

**Topic 2.1.13. Nature and society.**

Rational usage of non-renewable natural resources. Purposeful interaction of all the countries in the world: coordinated strategies of development to solve global ecological issues.

**Topic 2.1.14. Man and environment.**

Human progress: intensive research of nuclear and solar energies, exploration of space. Modern ecological research.

**Topic 2.1.15. Ecological education.**

World ecological organisations and their objectives. Ecological education in Higher educational establishments in Ukraine. Ecological projects for school pupils and students.

**Topic 2.1.16.** **Thematic presentation “Ecology and ecosystems. Types of pollution. Problems of environmental pollution in Ukraine”.**

Ecosystems. Terrestrial and aquatic ecosystems. Physical and chemical factors of ecosystems. Significance of living organisms. Types of pollution.

**2.2. Module № 2 “Geoecology. General pollution problem. Technonoecology.  Industrial Pollution”.**

**Topic 2.2.1. Geoecology.**

Geoecology concept. Geoecology as a science. Geological environment: lithospere, hydrosphere, atmosphere. Interaction with biosphere.

**Topic 2.2.2. General problems of pollution.**

Problems of ecosystems functioning. Maintenance issues of interrelations and survival of vegetation and animal species.

**Topic 2.2.3. Varieties of pollution.**

Biodegradable pollutants. Nonbiodegradable pollutants. Professional diseases and their causes.

**Topic 2.2.4. Water pollution.**

Consequences of chlorine in seawater. .Fresh water resources pollution.

Problems with drinking water.

**Topic 2.2.5. Air pollution.**

Quality air standards. Air pollution in industrial regions and large cities. Air pollution inside placement.

**Topic 2.2.6. Soil pollution.**

Pollution factors of industrial regions soils and agricultural purpose soil. Consequences of urbanization. Non-rational soil using.

**Topic 2.2.7. Technoecology.**

Negative impact on environment due to mining and using of energy resources. Transport system impact. Recreation human activities influence on environment.

**Topic 2.2.8. Industrial waste pollution.**

Industrial revolution and its consequences. Pollution of soil. Water, air with industrial wastes.

**Topic 2.2.9. Oil pollution.**

Consequences of raw and unprocessed oil split for flora and fauna in sea bodies on the planet.

**Topic 2.2.10. Pollution from aircraft and space equipment.**

Water pollution due to airports activities. Air pollution due to aircraft wastes. Impact of lubricant components on soil and water.

**Topic 2.2.11. Noise pollution in large cities.**

Noise pollution varieties. Noise pollution problems from different kinds of transport and industry. Rhythm of life in modern cities.

**Topic 2.2.12. Combustion.**

Types and causes of combustion. Natural factors of combustion. Human factor in combustion fighting. Monitoring of cities and natural resources.

**Topic 2.2.13. Genetic pollution.**

Modern science and genetic engineering. Radiation. Consequences of radioactive pollution environment. Modern food and GMO.

**Topic 2.2.14. Monitoring of environment.**

Industrial control and environment monitoring. Monitoring types of industrial, agricultural production processes. Detection and prevention methods of harmfull impact on environment.

**Topic 2.1.15. Themetic presentation “Geoecology. General problems of pollution. Technoecology. Industrial pollution”.**

Types of pollution. Water pollution. Soil pollution. Air pollution. Industrial wastes pollution.

**3. LIST OF REFERENCES**

**3.1. Basic Literature**

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    2. Davydova N., Nikitchenko I. English for Natural Sciences.– К.,2004 – 407 с.
    3. Іщенко Л.Й., Коваленко О.О., Тарнавська Т.В., Глушаниця Н.В. “Ecological Situation Today” Посібник. К.:НАУ, 2006. – 108 с.
    4. Снопченко В.І. Biosphere. Man and Environment. Посібник.– К.:НАУ, 2005 – 106 с.
    5. Шостак О.Г., Ковалинська І.В. Англійська мова. Екологія. Посібник. К.:НАУ, 2007–124с.

**3.2. Additional Literature**

3.2.1. Голіцинський Ю. Граматика. Збірник вправ. – К., 2004.

3.2.2. Коваленко О.О., Конопляник Л.М. Англійська мова: Метод. розробка для студентів 1 курсу всіх спеціальностей ІЕД. – К.: НАУ, 2003.

3.2.3. Товкач Е.М. “Екологія. Проблеми забруднення.” Метод.розробка. – К.:НАУ, 2003

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**АРКУШ ПОШИРЕННЯ ДОКУМЕНТА**

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**АРКУШ РЕЄСТРАЦІЇ РЕВІЗІЇ**

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**УЗГОДЖЕННЯ ЗМІН**

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