



"ISMAIL QEMALI" UNIVERSITY, VLORE
FACULTY OF TECHNICAL AND NATURAL SCIENCES
DEPARTMENT OF BIOLOGY

APPROVED
Head of the Biology Department
Dr. Aurora BAKAJ

COURSE PROGRAM BIO 451 Applied Ecology

SUBJECT:	Applied ecology
Head/Teacher of the subject:	PhD. Ina Nasto
Charge:	2 hours of lecture / 2 hours of seminar / 2.5 days of practice
Subject typology:	Of the characteristic formation of the program
Academic year/semester when it takes place:	Spring 2018
Subject type:	Mandatory
Study program:	Master of Science in Environmental Biology
Credits:	6 credits
Subject code:	BIO 451
E-mail address of the holder/pedagogue:	ina.nasto@yahoo.com

summary AND LEARNING OUTCOMES:

The Environmental Knowledge subject has the human-environment relationship at the center of its study. It deals with various environmental issues and the role that man should play in improving the state of the environment in Albania. Topics of applied ecology are also addressed, such as: Energy, food, health and population; conservative biology; sustainable development, global human impact on biodiversity, environmental dimension, economic dimension, social dimension.

BASIC CONCEPTS:

- 1 The main cycles in nature
- 2 The nature of pollutants and their role in the ecosystem.
- 3 Classification of pollutants into physical, chemical and biological pollution.
- 4 Measures of conservative biology.
- 5 The role of the elderly in nature, sustainable development.

COURSE TOPICS:

Topics to be covered in the lectures:

- Topic 1** Ecological factors. Concept of ecological factor, classification of ecological factors. Climate. Main climatic factors. Climatic indicators, climatograms. Climate of some environments.
- Topic 2** The ecological role of temperatures. The role of extreme temperatures, optimal temperature. The ecological role of moisture. The influence of humidity on the activity of animals, the simultaneous action of temperature and humidity.
- Topic 3** The ecological role of light. Photoperiod. Secondary ecological factors. Climatic factors. Abiotic factors in water. Edaphic factors. Food as an ecological factor.
- Topic 4** Demographic - Ecological factors of the population. Populations and their characteristics. Intraspecies biotic factors. Interspecies biotic factors. Interspecies competition. Changes and sustainability of populations in nature.
- Topic 5** General characteristics of the biocenosis ecosystem. The concept of ecosystem.
- Topic 6** Energy flow and matter cycling in ecosystems. Ecological pyramids, definition of food regimes.
- Topic 7** Energy flow in the Biosphere. Primary production. Secondary production. Biosphere. The structure of the biosphere.
- Topic 8** Pollution: pollution as a global problem, types of pollution, environmental pollution. Energy, food, health and population: energy, food production and organic agriculture, the role of the environment in health and disease, poulsia.

- Topic 9** Land use, wildlife management, conservation of natural areas, ethical ethics.
- Topic 10** Conservation biology: status of oceans and reefs, insects and other groups threats to biodiversity, measurement of extinction.
- Topic 11** Systematic conservation planning, economic value and natural capital, concepts of strategic species.
- Topic 12** Biological control of pests: conservation, effects on biological control on biodiversity, classical biological control, increase in number.
- Topic 13** Sustainable development: definition, history, principles and concepts, consumption (population, technology, resources), global human impact on biodiversity, environmental dimension, economic dimension, social dimension.
- Topic 14** Conservation of biodiversity and the situation in Albania: how can biodiversity be preserved, biodiversity in Albania.
- Topic 15** Teaching practice

Topics to be covered in the seminars:

- Topic 1** Ecological factors. Concept of ecological factor, classification of ecological factors. Climate. Main climatic factors. Climatic indicators, climatograms. Climate of some environments.
- Topic 2** The ecological role of temperatures. The role of extreme temperatures, optimal temperature. The ecological role of moisture. The influence of humidity on the activity of animals, the simultaneous action of temperature and humidity.
- Topic 3** The ecological role of light. Photoperiod. Secondary ecological factors. Climatic factors. Abiotic factors in water. Edaphic factors. Food as an ecological factor.
- Topic 4** Demographic - Ecological factors of the population. Populations and their characteristics. Intraspecies biotic factors. Interspecies biotic factors. Interspecies competition. Changes and sustainability of populations in nature.
- Topic 5** General characteristics of the biocenosis ecosystem. The concept of ecosystem.
- Topic 6** Energy flow and matter cycling in ecosystems. Ecological pyramids, definition of food regimes.
- Topic 7** Energy flow in the Biosphere. Primary production. Secondary production. Biosphere. The structure of the biosphere.
- Topic 8** Pollution: pollution as a global problem, types of pollution, environmental pollution. Energy, food, health and population: energy, food production and organic agriculture, the role of the environment in health and disease, poulsia.
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- Topic 14** Conservation of biodiversity and the situation in Albania: how can biodiversity be preserved, biodiversity in Albania.
- Topic 15** Teaching practice

Topics that will be covered in other obligations related to the course: laboratory work, practices, course assignments, etc.:

Teaching practice

Day 1 Nartes lagoon.	5 hours
Day 2 Orikum lagoon.	4 hours
Day 3 Waste collection and recycling center.	3 hours

FORM OF KNOWLEDGE CONTROL

control	Percentage assessment
Annual assessment Seminars and teaching practice	20%
Final check	80%

ATTENDANCE:

The student, who results in less than 75% attendance for the period that belongs to each partial exam, the period for which he will be tested, will not be included in the relevant exam, will be evaluated with M.

If the student has attended the course, but does not appear in the next exam, he is assessed NP (Did Not Appear).

COURSE FORMAT:

The subject will be evaluated on the basis of two partial exams, assignments and the final exam. Points earned will be cumulative. The exams will not be repeated, for any reason. If you miss an exam without any major reason, then you will lose points for that exam that you did not appear for.

COMMUNICATION:

Homework exercises, course assignments and any other announcements will be given in class or at the official address of the "Ismail Qemali" University of Vlora on the Internet:www.univlora.edu.al or to the teacher's e-mail addressina.nasto@univlora.edu.al.

Email: It is the duty of every student to check e-mail regularly. There will be tasks and notifications will be given only via e-mail.

HONESTY CODE:

Students are encouraged to work in groups for the exercises and tasks that are given to them. Copying from one another in exams, course assignments, homework, etc. is not allowed. Violation of this rule will be accompanied by punitive measures up to the expulsion of the student from the university.

LITERATURE

a)Mandatory basic literature:

N. Peja (2012). Basics of Ecology. Stepia of the university book, Tirana.
Prepared lectures - Environmental Knowledge

b) Recommended literature:

DeSanto, RS (2012). Concepts of applied ecology. Springer Science & Business Media.

Jørgensen, SE, Xu, L., & Costanza, R. (Eds.). (2016). Handbook of ecological indicators for assessment of ecosystem health. CRC press.

Newman, EI (2008). Applied ecology and environmental management. John Wiley & Sons.

Palmeri, L., Barausse, A., & Jorgensen, SE (2013). Ecological processes handbook. CRC Press.

Wetzel, R. 2001. Limnology - Lake and river ecosystems. Academic Press.

Yang, Z. (Ed.). (2012). Eco-cities: a planning guide. CRC Press.

FINAL REMARKS FROM THE SUBJECT TEACHER

Homework exercises, coursework and any other notices will be given in class.

Students are also encouraged to work in groups for the homework exercises. Copying from one another in exams, coursework, homework, etc. is not allowed. Violation of this rule will be accompanied by punitive measures up to expulsion from the university.

The use of mobile phones and smoking in the auditorium is not allowed.

SUBJECT TEACHER

Ina Nasto

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