

Title Environmental biology and ecology	Code 1010101221010130333
Field Environmental Engineering First-cycle Studies	Year / Semester 1 / 2
Specialty -	Course core
Hours Lectures: 3 Classes: - Laboratory: 1 Projects / seminars: -	Number of credits 4
	Language polish

Lecturer:

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Status of the course in the study program:

- Environmental biology and ecology
Basic course

Assumptions and objectives of the course:

- Information on biology in sanitary engineering processes. Biological processes and phenomena to occurring in environment. General information of ecology.

Contents of the course (course description):

- Structure of organisms. Cell and tissues ? differences in structure of plant and animal organism. Profile of Procaryota and Eucaryota. Basic information on botanic, zoology, morphology and physiology of organisms and micro-organisms. Classification of selected organism living in biosphere and their participation in circulation of matter. General characteristic and effect on biosphere selected unit of classification connected with environmental engineering. Methods of water disinfection ? chlorinating, ozonating and UV-rays. Microbiology of the air ? methods of examination and disinfection. Pollution of the air atmospheric. Basic information about reproduction and genetics of organisms. Basic plant structures living on Earth. Methods of protection of objects and areas which have big natural value. Structure and working of ecosystem. Sources and flow of energy. Biogeochemical cycles. Ecology of organisms, populations, biocenosis, ecosystem and topography. Characteristic of ecological systems and factors. Influence of anthropopression on environmental. Threats of ecological balance and standards and environmental tidiness. Methods of researches and valorisation of environmental.

Introductory courses and the required pre-knowledge:

- Knowledge in biological problem. Self-control information?s in the field of biology and physiology micro-organisms, the basics sanitary biology, microbiology of water, of air and soil, ecology.

Courses form and teaching methods:

- Lectures, laboratory exercises.

Form and terms of complete the course - requirements and assessment methods:

- Examination, tests, exercise reports

Basic Bibliography:

1. M. Michałkiewicz, M. Fiszer Biologia sanitarna. Ćwiczenia laboratoryjne Wydawnictwo Politechniki Poznań 2007
2. H. G. Schlegel Mikrobiologia ogólna PWN Warszawa 2004
3. M. M. Bobrowski Podstawy biologii sanitarnej Wydawnictwo Ekonomia i Środowisko Białystok 2002
4. Z. Kajak Hydrobiologia-limnologia. Ekosystemy wód śródlądowych PWN Warszawa 1998
5. P. Trojan Ekologia ogólna PWN Warszawa 1975
6. W. Lampert, U. Sommer Ekologia wód śródlądowych PWB Warszawa 2001

Additional Bibliography: