

# Human and the Environment (Anja Bubik, Ph.D., lecturer)

**Subject code:** HE

**Academic year:** 1.

**Lectures:** 45

**Seminar work:** 15

**ECTS:** 6

## **Aims of the course:**

Fundamental aim of the subject is to give students general knowledge about interdisciplinary nature of the environmental issues. The environment involves human basic needs for food, energy and raw materials with consequences of exploiting natural resources, what is reflected in different forms of environmental pollution and their effects on ecosystems and the humans as well. This requires adequate environmental management with adequate statutory and economic measures to protect the environment.

The students will acquire:

- understanding of basic environmental phenomena and problem solving in terms of preserving the quality of the environment;
- understanding of entanglement of various natural sciences with social ones;
- ability of integrating and synthesis of knowledge given by various sciences, and
- learning about the nature of human needs about exploiting its environment and the consequences arising from this exploitation and possible measures for improvements.

## **Subject content:**

- Environment: fundamental issues of the environment, critical view on the environment;
- The earth as a system: systems and changes, biogeochemical circulation;
- Life and the environment: humankind as an environmental problem, ecosystems and ecological associations, biological diversity and biogeography, biological production and the flow of energy, response of the ecosystems to disturbances.
- Preservation of life resources: global food supplies and stocks, effects of agriculture on the environment, food sources in the wilderness, land and the sea, effects on health and toxicology.
- Energy: basics, fossil fuels and the environment, alternative energy sources and the environment, nuclear energy and the environment.
- Aquatic environment: water sources, use and management, pollution and water treatment.
- Air pollution: atmosphere, climate and global warming, atmospheric pollution, air pollution in living quarters, depletion of the ozone layer.
- Environment and the society: environmental economics, urban areas, waste management, mineral raw materials and the environment, effects on the environment and planning of use and consumption, integration of values and knowledge.

## **Teaching methods:**

Lectures, seminar work involving field work.

**Study obligations:**

written examination, preliminary exam, from seminar work and oral examination

**Literature**

D. Botkin, E. Keller: *Environmental Science*, Wiley, New York, 2007