

**ENVIRONMENTAL
SYSTEM
ANALYSIS**

-course presentation-

Sarajevo, Sep 29 2007

Title of the course

**ENVIRONMENTAL
SYSTEM
ANALYSIS**

Course lecturers

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KTH, Sweden

Course data

- ECTS 6
- Lectures 24h
- Tutorials 24h
- Study visit 4h

Goal

- Environmental systems analysis includes analysis and ways of finding influences and dependencies of social-economical systems to ecology systems. This analysis is aimed to decision making towards sustainable behavior in different areas and levels of social activities.
- The course covers different decision making situations and is in direct liaison with the environment and sustainable development that engineers are faced with in their every day work.

Goal

The course goal is *to be applicable* which means to deal with issues such as:

- how to make an analysis and determine consequences of technical, economical and social activities,
- how to improve environmental decision making in companies and various institutions.

Goal

The final goal of the course:

- all participant to acquire knowledge about global and local problems related to environment pollution including social, ecological, technical, tehnological and cultural problems.
- all participants to know more about present environment pollution, consequences, causes of the condition and measures that have to be taken. Specially, sustained development will be processed (balance between nature and economy).

Learning outcomes

After completion of this course, a student will be able to:

- identify and describe different frames of environmental decision making, both in companies and various institutions,
- have knowledge about different tools and approaches to environmental system analysis,
- to judge which tools will be chosen in different cases of decision making.

Course structure

- Theory of decision making and environmental decision making. Systematic theory. Systematic thinking and analysis.
- Environmental systems analysis, environmental decision making, evaluation.
- Tools for environmental systems analysis (defining the level of environmental influence and life cycle, analysis of material, defining the costs reduction and technology, overall definition, integrated defining and position analysis).

Course syllabus

- General problems due to environmental protection
- Social-ecological problems
- Environment pollution
- List of pollutants (environmental strategy and policy)
- Pollutants analysis
- Consequences of environment pollution
- Causes of environmental pollution (unbalance)
- Urbanization and industrialization
- Health and hygiene issues
- Technical and technological issues

Course syllabus

- Cultural and social economic issues
- Preventive measures in protection from pollution (balance between nature and development)
- Air and water quality standards
- Licence for building and reconstruction of object which can pollute environment
- Obligations of economic subject which pollute the environment
- Supervision over regulations and measures in environmental protection
- Legal standardizing of environmental protection
- Sanctions to subject due to infringe of the environmental protection law

Course syllabus

- Environment pollution tracking process
- Criteria for stations location
- Possibilities of environmental advancement
- Technological processes without waste materials
- Methods of waste waters and waste gas cleaning
- Secondary raw materials from waste waters
- Land pollution prevention
- Solid waste treatment
- Education in function of environment protection and advancement

Teaching methods

- Video presentations of course material
- Workshops upon completion of every sub-course , where participants may present their practical experience and view regarding the issues covered in the presented sub-course

Examination form

- Project assignment (1 theme)
- Oral presentation of the project
- Active participation during workshops and lectures

Final mark will be based on all the above mentioned.

Necessary teaching materials

- G.Kiely: ENVIRONMENTAL ENGINEERING, International Editions 1998.
- Z. Petković, J. Đuković, S. Begić: SOCIO-EKOLOŠKI PROBLEMI ZAGAĐENJA ŽIVOTNE OKOLINE, Međunarodni forum «BOSNA» Sarajevo 2003.
- S. Begić: EKOLOGIJA (ZRAK, VODA, TLO), EKO_ZELENI TUZLA, 2000.
- R. Banović, E. Arpadžić: ZAŠTITA OKOLICE, INFOGRAF Tuzla, 2000.

THANK YOU

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Mr.sc. Salko Ćosić, Teaching Assistant

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