



FACULTY: ENVIRONMENTAL ENGINEERING

COURSE TITLE: ALTERNATIVE WATER TREATMENT

Number of contact hours: 30 (lectures and seminars)

Duration: 1 semester (spring)

ECTS credits: 4

Programme description:

Main aim of the module is to gain both theoretical and practical knowledge regarding unconventional improvement of potable water quality, process sequences, in-situ treatment as well as problems associated with changes of physic-chemical and microbiological quality during water transportation through the network. Unconventional treatment processes being focused on possible application in developing countries will be a secondary aim of the module. This module is especially recommended for those students, who would like to develop their career based on working for European and or UN organization in developing countries, or for Polish construction enterprises being engaged in these countries.

Students will obtain theoretical background of these subjects., besides they will gain significant practical abilities regarding application of these technologies. Practical application of these knowledge may be applied in two general ranges: first to be applied locally it will be problems associated with a water quality decrease both raw water (in-situ treatment) and in the network (de crease prediction) , prediction of dissemination of quality deterioration; second –to be applied in developing countries -low cost, low chemical technologies (non-chemical coagulation, solar disinfection) Case study –adjustment of alternative technology to specific conditions. Students will develop then present essays focused on one of general subjects: world-wide problems associated with unconventional water treatment and prediction of deterioration of water quality in a network.

Literature: NAC „Alternatives for Ground Water Cleanup”; R.Morris (ed) Health Related Water Microbiology 2002; R.Stuetz (ed.) New research in Water and Wastewater, Other books and papers will be proposed by teaching staff at the beginning of module

Assessment method: Presentation of written essay

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