

Waste water treatment (Milenko Roš, Ph.D, Full Prof.)

Subject code: WWT

Academic year: 2.

Lectures: 20

Seminars: 15

Tutorials: 15

ECTS: 5

Aims of the course:

The students will be acquainted with the most important sources of pollution (point and non-point sources) of water. The further objective and purpose of this study subject is to make students acquainted with the basic procedures of waste water treatment, such as physical, physical-chemical, chemical and biological treatment of waste waters.

Subject content:

The study subject comprises: pollutants of waste waters (organic matter, nitrogen and phosphorus compounds, heavy metals, detergents, hydrocarbons and oils, and dangerous pollutants), point and non-point or diffuse sources of water pollution, types of waste water pollution (pollution coming from settlements, industrial zones and from agriculture). The students will be acquainted with the basic legislation that applies to the field of water pollution, and with strategies of reducing water contamination and different systems of waste water treatment, such as chemical, physical and physical-chemical, and biological procedures of waste water treatment. A special attention is paid to the removal of organic compounds and nutrients (N and P-compounds)

Teaching methods:

Lectures, seminar work, active teaching, cooperative learning, lab work, field work, discussions.

Study obligations

completed tutorials, seminar paper (production, defence) and written exam.

Literature

1. Burton, F.L., Tchobanoglous, G., Stensel, H.D.: *Wastewater Engineering: Treatment and Reuse*, Metcalf & Eddy, McGraw-Hill Higher Education, New York, 2003.
3. Henze, M., Harremoës, P., Jensen, J.C., Arvin, E.: *Wastewater Treatment, Biological and Chemical Processes*, Springer Verlag, London, 2002.
6. Roš, M.: *Biološko čiščenje odpadne vode*, GV Založba, Ljubljana, 2001.
7. Roš, M., Simonič, M., Šostar-Turk, S.: *Priprava in čiščenje vod (Treatment of Waste Waters)*, Fakulteta za strojništvo, Oddelek za tekstilstvo, Maribor, 2005.