Study program: Waste management

Course title: Wastewater treatment technology

Professor/assistant: PhD Mladen Nikolic

Type of course: elective

ECTS credits:7

Pre-requisites: -

Aims of the course:

Preparing the student to:
- recognized spring and waste water,
- recognized polluting materials in the waste water,
- used the method of waste water treatment of urban communities,
- he / she perceived optimal action, technology and facilities for treatment of communal and industrial wastewater,
- recognized the advantages and disadvantages of the method for treating wastewater in relation to the composition of wastewater,
-knew how to comply with a statutory regulation.

Learning outcomes

Student is able to:
- analyze and solve a particular practical problem in the system of wastewater treatment,
- select wastewater treatment technology for a particular case.
- send and suggest corrections in the process of treatment of wastewater,
- send and receive a corresponding legal regulation.

Syllabus

Theoretical part

Generally characteristic of waste water. Communal drops off water. Industrial water is wasted. Method for treatment of waste water. Mechanical treatments (flow measurement, deposition, flotation, aggregate deposition, grid ...). Physico-chemical treatments (coagulation, PH levels, oxidation, adsorption, aeration). Biological treatments (active mud, suspending matter, bioinfiltration, methane production). Disinfection. Law regulations and standards for wastewater treatment.

Practical part

Application of theoretical knowledge to solve specific problems of wastewater.

Literature

1. M. Stanojević i dr, *Areacija otpadnih voda*, ETA, 2006.
2. D.Parenović, M.Knežević, *Osnove tehnologije prečišćavanja otpadnih voda*, Tehnološko-metalurški fakultet Beograd, 2013.
3. D. Ljubisavljević, A. Đukić, B. Babić,*Prečišćavanje otpadnih voda*, Građevinska knjiga, 2004.
4. P. M. Stanisavljević,*Tehnologija prerade otpadnih voda i industrijskog opasnog otpada*, Visoka tehnička škola strukovnih studija Požarevac, 2010

Number of active classes			Other forms of teaching:
Lectures: 3	Practical classes: 2	Research work:	

Teaching methods Teaching is interactive in terms of lectures, auditory, laboratory and Rachunar exercises. On the lecture the theoretical partition is propagated by a characteristic example for the sake of laxed sense of construction. The racecourse training uses information communication technology in acquiring knowledge from a post-paid company. Before and after lectures and exercises, consultations are held.

Grading system (maximum 100 points), **grading scale**from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade7 from 61-70 points, grade8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.

Pre-exam obligations	**points**	**Final exam**	**points**
activity during theoretical lectures	**10**	written exam	
practical training	**20**	oral exam	**30**
colloquium(s)/seminar papers	**30+10**		
Sum	**70**	**Sum**	**30**