UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2013/14/1
Course:	Water Management - Wastewater Treatment Laboratory Practice
Code:	VEMKKVM432V
Responsible department:	Department of Environmental Engineering
Department code:	MKKV
Responsible instructor:	dr. Árpád Kárpáti

Course objectives:

Giving a whole picture on water end wastewater technologies and possible reuse of their waste residues.

Course content:

1. Removal of organic micro pollutants with advanced oxidation and AC adsorption.
2. Measuring the remaining acetic acid content after the oxidation and its biological removal.
3. Study of AS removal.
4. Oxidation of Ferro and Manganese and filtering their precipitate from the water phase.
5. Measuring the efficiency of RO for removal of organic micro pollutants.
6. Measuring the biodegradability through oxygen uptake rate.
7. Measuring and improving sludge flocculation before anaerobic sludge treatment.
8. Measuring the water and organic material content of AS.
9. OUR for control of stability of the composts.
10. Mixing of compost raw composition according the N content of the digested sludge.
11. Chemical P removal with MAP production. Control of efficiency and economy.
12. Microscopic investigation of the AS.
13. Preliminary treatment of the mixed wastewaters before biological treatment (AO).
14. Design of WWTP using the dynamic simulation for control of the conventional design.

Requirements, evaluation and grading:

Preliminary proving the knowledge of the given topics, fulfilling the measurements and making a proper report on them.

Required and recommended readings:

Letölthető anyagok a Környezetmérnöki és Kémiai Technológia Tanszék honlapjáról.
A szennyvíztisztítás általános minőségbiztosítása és a gyökérteres szennyvíztisztítás. Tanulmány-gyűjtemény No. 7. Domokos Endre - Kárpáti Árpád - Pásztor István, VE, KmKT Tanszék (2003), pp. 92.

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Required and recommended readings:

A víz és a szennyezők hatása a szennyvíztisztítás lehetőségeire távlataira. Tanulmánygyűjtemény No. 9. Kárpáti, Á. – Pásztor, I. – Pulai, J. – Thury, P. VE, KmKT Tanszék (2003), pp. 92.
Szennyvíztisztítás hazai tapasztalatai, s a szennyvíziszap kezelés, hasznosítás lehetőségei. Tanulmány-gyűjtemény No. 10. Horváth A. - Juhász E. - Kárpáti Á. - Pásztor I. – Pulai J. - Radács A. - Szentgyörgyi H - Taxner Gy. – Thury P. VE, KmKT Tanszék (2003), pp 99