UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2012/13/1
Course:	Low- Waste Technologies
Code:	VEMKKVT122H
Responsible department:	Department of Environmental Engineering
Department code:	MKKV
Responsible instructor:	Róbert Kurdi

Course objectives:

Students summarize their knowledge origin from lecture of Low waste technology reflected to the practical methods used in industrial practice for evaluation of low waste production as a first step.

Course content:

1. Material balance for animal skin preparation process. 2. Case study for sugar production: material flow rates int he diffusion process. 3. Case study for sugar production: material balance for saturation technological step 4. Case study for sugar production: energy demand for sugar solution concentrate 5. Development in waste water cleaning technology used in pantings and adhesives production 6. Heat balance calculation for burning systems (boilers) 7. Continuation of heat balance calculation for burning systems (boilers) 8. Material balance calculation for brick and tile production technology. Raw materials 9. Heat balance for tile production (heat recovery) 10. Cooling liquids reuse: material streams 11. Laboratory practice: Determination of sampling port by GPS 12. Calculation of the effeciency for chemical reactions used in practice. Equilibrium and reaction rate 13. Calculation of the effeciency for biochemical reactions used in practice. Equilibrium and reaction rate 14. Material and energy balanco for waste material treatment technological processes 15. Presentation of idividual case studies, Consultation.

Requirements, evaluation and grading:

Active practical works on seminars, individual case study and introduction, written examination

Required and recommended readings:

Garbai László; Bánhidi László: Hoátvitel az épületgépészeti és ipari berendezésekben. Számítási módszerek és példatár Muegyetemi Kiadó , 2002