



COURSE DATASHEET

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| Semester: | 2013/14/1 |
| 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 into the 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 paintings 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 efficiency for chemical reactions used in practice. Equilibrium and reaction rate. 13. Calculation of the efficiency for biochemical reactions used in practice. Equilibrium and reaction rate. 14. Material and energy balance for waste material treatment technological processes. 15. Presentation of individual 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