UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2015/16/2
Course:	Inorganic Chemical Technologies
Code:	VEMKKVB112V
Responsible department:	Department of Environmental Engineering
Department code:	MKKV
Responsible instructor:	dr. JózsefKovács

Course objectives:

Students after the semester have knowledge from the principle of production of most important fertilizers, inorganic acids, salts, metals and their technological production processes

Course content:

1. Definition the technological process. Task and development. Basic principle of the cleaner production and best available technics. Case Studies for use them items. 2. Water pretreatment, -cleaning and –using, energy consumption in technological processes. 3. Nitrogen industry: Synthesis gas production and cleaning. Ammonia synthesis processes. 4. Modern production technologies: nitric acid and fertilizers containing nitrogen. 5. Principles and technological processes of sulfuric- and phosphoric acid 6. Technological processes of NPK fertilisers. Hungarian situation of the production of them. 7. Pigment pruduction processes. Paintings containing metallic oxides. 8. Basic principle of bauxite treatment for alumina production. 9. Production technologies for special aluminas: processes for production of catalyst carrier materials and zeolites. 10. Basic principle of alumina electrolisis processes. Waste aluminium reuse technologies. 11. Salt production processes: aluminium-sulphate, sodium-carbonate, sodium-fluorid, potassium-klorid, etc. 12. Industrial technologies for hydrogen gas and chloric gas production. 13. Environmental effects of industrial technologies. Resume. 14. Calculation practice dealing with the inorganic technological processes. 15. Consultation. Written examination

Requirements, evaluation and grading:

According to the requirements of fulfillment.

Required and recommended readings:

Gerecs Á.: Bevezetés a kémiai technológiába, Nemzeti Tankönyvkiadó Budapest 1995 ISBN 96318677404 Muchlenov: Chemical Technology I-II. MIR Publishers Moscow 1979 Pásztor Gedeon: Kémiai metallurgia, Nemzeti Tankönyvkiadó , 1989 Gaál István - Szűcs László: Szervetlen kémiai technológia, Budapest, Tankönyvkiadó, 1992