



COURSE DATASHEET

Semester:	2016/17/1
Course:	Analytics in water treatment
Code:	NKMKKAT113A
Responsible department:	
Department code:	MKNK
Responsible instructor:	Krisztián Horváth

Course objectives:

Understanding of physicochemical principles and applications of analytical methods applied in water and waste water treatment technologies.

Course content:

1. Role of analytical chemistry in water and waste water treatment technologies.
2. Most important physical and chemical parameters used for characterization of water.
3. Titrimetric methods: acid-base, redox, precipitation and complex-formation titrations.
4. Spectrophotometry. Methods for determination of carbon and nitrogen content.
5. Elemental analysis: atomic emission, atomic absorption, ICP.
6. Separation methods: gas and liquid chromatography.
7. On-site analytical tests. Sample preparation and pretreatment techniques.
8. Methods for quantitation (calibration, addition, inner standard method).
9. Statistical evaluation of analytical data.

Requirements, evaluation and grading:

After a half an hour's preparation the examinee gives an oral presentation on the topic for about 20-25 minutes. Fail (1) when the examinee is unable to prove either the definition of the basic notions or the short scheme of things connected with the topic.

Pass (2) when the examinee is able to interpret the basic notions of the topic.

Satisfactory (3) when the examinee is well - versed in the basic notions of the topic and is able to present their logic connections - with the help of the examiner.

Good (4) when the examinee provides a logic, well - structured presentation with all the important facts and connections but he does not know or partly knows the required reading material connected with the topic.

Very good (5) when the examinee gives a logic, excellent, well-structured, perfect in details oral presentation that completely reveals the connection of the concepts within the topic.

Required and recommended readings:

Dr. Inczedy János: Folyamatos és automatikus analízis, Műszaki Könyvkiadó, Bp., 1984.

Dr. Kristóf János: Kémiai analízis I. és II., egyetemi jegyzet, Pannon Egyetem, Veszprém, 2000.



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Required and recommended readings:

Dr. Pokol György: Analitikai kémia, Typotex Kiadó, 2011., letölthető:
http://www.tankonyvtar.hu/hu/tartalom/tamop425/0028_PokolGy_Analitikai-kemia/adatok.html