UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2016/17/1
Course:	Chemometrics
Code:	VEMKAV4143K
Responsible department:	Department of Analytical Chemistry
Department code:	MKKA
Responsible instructor:	dr. Tamás Pap

Course objectives:

Understanding the basics of chemometrics.

Course content:

1. General characterization of analytical instruments and analytical processes.
2. Statistical evaluation of measured data. Theoretical basis. Distribution functions. Statistical moments.
3. Random and systematic errors.
4. Functions of error propagation.
5. Test of outliers, t-test, F-test.
6.-7. Analysis of variance. Techniques for one-way analysis of variance. Two-way analysis of variance.
8. Correlation analysis.
9. Regression analysis. Linear and non-linear regression.
10. Principles of calibration. Modes of calibration. Test for linearity.
11. Intercalibration. Reference Materials.
12. Experimental design. 2^n type factorial design.
13. Simplex method. Latin square design.
14. Classification of samples by statistical method. Pattern recognition.
15. Clusteranalysis. Nearest neighbour and k-th nearest neighbour method.

Requirements, evaluation and grading:

Required and recommended readings:

Dr. Inczédy János: Folyamatos és automatikus analízis. Műszaki Könyvkiadó, Budapest, 1984.

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Required and recommended readings: