UNIVERSITY OF PANNONIA

COURSE DATASHEET

Semester:	2015/16/2
Course:	Examinations in the Petroleum Industry and Petrochemistry
Code:	VEMKMOL132A
Responsible department:	Department of Hydrocarbon and Coal Processing
Department code:	MKOL
Responsible instructor:	Dr. Árpád Stumpf

Course objectives:

Introduction of the special analytical methods of the hydrocarbon industries for the students.

Course content:

1. Introduction lecture (safety issues) Sample taking as the base of the reliable measures.
2. Methods for measuring density and viscosity. (aerometer, U-tube density meter, etc.).
3. Cold climate properties. (CFPP, freezing point, cloud point, etc.).
4. Distillation methods (Engler , TBP, etc.).
5. Vaporization properties (flash point – open cup and closed cup, vapour pressure).
6. Elementary analysis (CHNSO, XRF, UVF, TOX, ICP).
7. Determination of water content and mechanical inpurities. (distillation method, KF titrimetry, centrifugation, etc.).
8. Ash content and coke residue determination. (Conradson-carbon, oxide-ash, sulphate-ash).
9. Titrimetry methods (acid number, base number, peroxide number, iodine number, etc.).
10. Chromatography (RGA, SIMDIS, Chromoctane, Reformulyzer, 2DGC-MS, HPLC).
11. Spectroscopy methods (UV/VIS, FTIR, NIR, NMR).
12. Stability measurement (induction periods, reside content, oxidation stability, RANCIMAT).
13. Indicators of engine properties (RON/MON, Cetane number, IQT).
14. Typical methods for white products (gases, gasoline, gas oil, bio-fuels).
15. Typical methods for dark products (crude oil, fuel- and heating oils, lubes and greases, paraffin's, bitumen).

Requirements, evaluation and grading:

Attending of the laboratory practices is compulsory. Evaluation is done on the base of written lab reports and oral examinations.

Required and recommended readings:

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