



SUBJECT DATASHEET

Semester:	2009/10/1
Subject:	Chemistry and Application of Lubricants
Code:	VEMKOL5112L
Responsible department:	Department of Hydrocarbon and Coal Processing
Responsible department code:	MKOL
Responsible lecturer:	Dr. László Bartha

Educational objectives:

Introduction to the research, development, production and use of lubricants.

Detailed content of the subject:

Week 1. Introduction to the technology of lubricants. Theory and practice of tribology. 2. Properties of lubricants. 3. Base oils. 4. Synthetic oils. 5-6. Production and the properties of additives. Additive types, physical and chemical properties. 7. Test methods. 8. Processes of additive production. 9. Additive packages. 10. Lubricating compositions, their types, processes of formulation, requirements. 11. Specification of performance levels. 12. Used lubricating oils, regeneration, the trends of development, environmental aspects. 13. Marketing of lubricants. Properties of the lubricant market. 14. The trends of research and development of lubricants. 1-14. Practical methods of the package formulation of lubricating oil compositions. Blending charts performance requirements. Determination of the tribological parameters.

Requirements:

The oral examination is based on the main points given in the content of this subject. The time range of examination is 20-40 min in which the student answer two questions (a general and a special). Time of 10 min can be used for preparation before the exam. It is expected to explain the most important definitions, facts, relationships related to the production process of lubricants and the tribological aspects of their use in practice. Wrong answers related to essential knowledge in this field cannot be accepted. The mark is pass (2) or medium (3) if the student can find a creative way to solve a tribological problem given by the examiner. The answer containing only little unimportant failings can be evaluated by a mark of good (4).

Required and suggested references:

Vámos E.: Tribológiai kézikönyv. Műszaki Könyvkiadó, Budapest, 1983. Aseff, P.A.: Lubrication Theory and Practice., Lubrizol Spec. Bull. 1986. Mortier, R.M. Chemistry and technology of lubricants. VCH Publishers. New York. 1992..