UNIVERSITY of DEBRECEN

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Name of the course:	**Thermal Engineering**
Course type:	Optional
Responsible lecturer:	Dr. Ákos Lakatos
Content:	Heat and mass transfer. Thermal conduction, physical and mathematical background. Definition and presentation of material constants used for thermal calculations. The practical role of thermos-physical parameters (thermal conductivity, specific heat capacity, sorption, combustion heat) and their laboratory measurements. Presentation of methods used for measuring the temperature dependence of material constants. Conventional and super thermal insulation materials definitions, types and properties. Application possibilities of thermal insulation materials, reduction of the energy use of buildings and vehicles. Mechanical and chemical fixing of thermal insulation, laboratory measurements on building masonry.
Literature:	• Lakatos, Á.: Thermophysics of materials. Debreceni Egyetem, Debrecen, 55 p., 2018. ISBN: 9789634900122 • Grimwall G. Thermophysical Properties of Materials 1st Edition, Hardcover ISBN: 9780444827944, eBook ISBN: 9780080542867, Imprint: North Holland • Kittel, C., 1981: Introduction to Solid State Phsysics. ISBN: 9631032566