Name of subject: **Physics I.**	***NEPTUN-code:*** RKXFI1ABNE	***Number of hours:*** ***lec+gs+lab*** 1+1+0	***Credit*****:** 3 ***Requirements:*** practice mark
Course coordinator: Sándor Pekker PhD	***Title:*** research professor	***Prerequisite:*** -	

Curriculum

Dividing of physics. Physical quantities. Optics (light reflection and refraction, optical devices). Mechanics of liquids and gases (hydrostatic pressure, Archimedes's principle, equation of continuity, Bernoulli's equation). Basics of acoustics (speed of sounds, sound intensity level, Doppler effect, Mach number). Basics of relativistic physics, Einstein's special theory of relativity (velocity transformation, increase of mass, mass-energy relationship). Thermodynamics. Thermal expansion of solids and liquids. State equation of ideal gases, special changes of state and their description. Heat. Laws of thermodynamics. Special processes. Thermal conduction. Heat engines.

Competences to be mastered:

a) knowledge

- Knowledge of general and specific mathematical and natural scientific principles, rules, relations, and procedures as required to pursue activities in the special field of product design.

Bibliography:

1. Serway Jewett: Physics for Scientist and Engineers
2. Lóránt Szabó: Physics for Undergraduate Students
3. www.physicsslassroom.com