Obuda University
Bánki Donát Faculty of Mechanical and Safety Engineering
Institute of Mechatronics and Vehicle Engineering

Engineering Physics

1. Fluid properties: density and specific weight.
2. Fluid properties: viscosity.
3. Fluid properties: compressibility.
4. Fluid properties: surface tension, capillarity.
5. Conservation laws.
6. Properties of an ideal gas.
7. First law of thermodynamics.
8. Other thermodynamics quantities: enthalpy, ratio of specific heats.
9. Isotropic, isochoric, isobar, and adiabatic processes.
10. Fluid statics: show that pressure is a scalar quantity.
11. Fluid statics: derive a general equation to predict the pressure variation.
12. Pressure in liquid at rest.
13. Manometers.
14. Pressure in liquid contained in a linearly accelerating container.
15. Pressure in liquid contained in rotating cylinders.
16. Derive the Bernoulli equation (along a streamline).
17. Total head, static pressure, total pressure, piezometer, Pitot probe, Pitot static probe.

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