Title	Code
Fluid Mechanics	**10102513310102102393**
Field: **Mechatronics**	Year / Semester: **2 / 3**
Specialty: **-**	Course: **core**
Hours: Lectures: **1** Classes: **-** Laboratory: **1** Projects / seminars: **-**	Number of credits: **3**
	Language: **polish**

Lecturer:

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Status of the course in the study program:

- Core course at the Mechanical Engineering and Management Faculty to first degree studies.

Assumptions and objectives of the course:

- The student should obtain knowledge of theoretical fundamentals and practice for solution of basic fluid mechanics problems.

Contents of the course (course description):

- Fluid properties: density, specific weight, viscosity, bulk modulus of elasticity, surface tension. Differential equation of equilibrium of fluid in gravity field. Examples of integration of equilibrium equation. Manometric formula. Archimedes law. Pressure forces on surfaces. Stability of submerged and floating bodies. Continuity equation - global form. Bernoulli?s equation. Examples of application of Bernoulli?s equation. Laminar and turbulent flow. Calculation of flow in straight element of pipe. Drag of bodies in flowing fluid. Liquid flow in open channels. Element of gas dynamics. Perfect gas equation. Isothermal flow in straight pipe. Mass flow right from container.

Introductory courses and the required pre-knowledge:

- Knowledge of applied mechanics. Basic knowledge of differential calculus and vector algebra.

Courses form and teaching methods:

- Lectures and practices lectures in computer laboratory.

Form and terms of complete the course - requirements and assessment methods:

- Written test from lectures and practical lectures.

Basic Bibliography:

Additional Bibliography: