

**PM 15 Mandatory (normative) components of EP 15**

<b>Discipline</b>	<b>Mechanics of liquid and gas</b>
Course	2, spring semester
Amount	3,5 ECTS credits (105 hours)
Language of teaching	Ukrainian
Department	Fluid mechanics and mechatronics
Teachers	Olegh Yahno
Requirements for starting studies	Successful mastering of the knowledge and skills acquired during the study of the disciplines: «Higher mathematics», «Physics», «Theoretical foundations of heat engineering», «Materials science»
What will be studied	The basic laws, equations of fluid and gas mechanics, applied laws of fluid movement, theories of hydraulic losses will be studied.. And the basics of calculating pressure losses during the movement of liquid and gas in hydraulic and pneumatic drives are also studied.
Why is it interesting/should be studied?	Today, the concept of hydraulics is used in a very wide range: from elementary decorative fountains to massive industrial units. Therefore, the questions in this course are considered comprehensively, taking into account modern requirements for knowledge of the technical, technological and economic aspects of the machine-building industry.
Why you can learn (learning outcomes)	Ability to analyse materials, structures and processes based on laws, theories and methods of mathematics, natural sciences and applied mechanics. Knowledge and understanding of the subject area and understanding of professional activity.
How to use acquired knowledge and skills (competencies)	Choose and apply for solving problems of applied mechanics suitable mathematical methods. To use knowledge of theoretical bases of mechanics of liquids and gases, heat engineering and electrical engineering for the decision of professional problems. Know and understand related fields (fluid and gas mechanics, heat engineering, electrical engineering, electronics) and be able to identify interdisciplinary links in applied mechanics at the level required to meet other requirements of the educational program.
Lesson (study)	Lectures, practical, laboratory
Information support	Textbooks, study guides, virtual laboratory work, packages of group laboratory work, packages of professional application programs
Individual semester assignments	Calculation work
Current control	Modular control work / implementation and protection of the results of laboratory and practical work, express control, etc
Semester control	Test