



UNIVERSITETI / UNIVERSITY
"ISA BOLETINI"
MITROVICË

SYLLABUS- FLUID MECHANICS – Mechanical engineering		
Faculty:	Faculty of Mechanical Engineering and Computers	
Department	Mechanical Engineering	
Level	Bachelor	
Code of the Course	203 ME	
Course	Fluid Mechanics	
Course status	Mandatory	Mandatory, Elective
Semester	(III)	Winter/Summer
Nr.of hours per week	2+2	
ECTS	5	
Schedule/Room	Tuesday, 10 ³⁰ ÷12 ⁰⁰ , S302	
Academic Year	2024/2025	
Lecturer	Lecturer: Mr Melihate Shala	
Assistent	Msc. Granit Hajra	
Contact	Professor	Assistant
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Phone		

Course Description	This course provides a comprehensive understanding of the fundamental principles and concepts in fluid mechanics. Covering topics from the physical properties of fluids to the application of equations governing fluid dynamics, the course aims to equip participants with a strong foundation in fluid mechanics.
Purpose	Knowledge in physics meaning of laws and equations of fluid mechanics and development of capabilities to solve problems in relation of the field of fluid mechanics and creation of independent jobs and projects for different problems which are included in mechanics of fluid.
Learning outcomes	Upon completion of this course students are expected: - to be familiar with physical particularities of fluid, static, cinematic and dynamics of fluid - to know about flowing regimes of fluid, streaming of fluid through pipes, canals, different holes and muzzles to know about hydraulic strikes and theory of similarity.

P r	Weeks	Lecture
	First week:	General knowledge for mechanics of fluid. Physical particularities of fluid.

o g r a m	Second week:	Hydrostatic pressure, Euler's equation, basic equation of hydrostatic, Pascal law, communication vessels, force of pressure in a plane surface
	Third week:	Force of pressure in a cubic surface. Hydrostatic pushing, (Archimedes law), swimming and solids stability
	Fourth week:	Relative fluid stillness. Basic meaning of hydro dynamics
	Fifth week:	Euler's equations and Continuity equations
	Sixth week:	Continuity equation, equation of Barnaul for elementary flow of real fluid, equation of Barnaul for full flow, application of Barnaul equation
	Seventh week:	The first evaluation test
	Eighth week:	Laminary and turbulent regimes of fluid movement
	Ninth week:	Basic equality of fluid transport.
	Tenth week:	Lengthwise and local losses during fluid streaming.
	Eleventh week:	Streaming of fluid through holes and nuzzles.
	Twelfth week:	Dynamic activity of fluid current
	Thirteenth week:	Hydraulic strikes
	Fourteenth week:	Theory of similarity and dimensional analyze
	Fifteenth week :	The second evaluation test

L i t e r a t u r e	Literature
	Principal literature : • Prof.dr. Avni Terziqi, Prof.ass.dr. Fisnik Osmani, ligjërata të autorizuar, UMIB Mitrovicë, 2019 • Prof.dr. Avni Terziqi, Prof.ass.dr. Fisnik Osmani, permbledhje detyrash me bazat teorike, UMIB Mitrovicë, 2019 • Philip M. Gerhart, Andrew L. Gerhart, John I. Hochstein Fundamentals of Fluid Mechanics, 8th Edition Wiley, 2016. • Yunus A. Çengel, John M. Cimbala, Fluid mechanics: fundamentals and applications, McGraw-Hill Companies, New York, 2006 Recommended Literature: • Bruce R. Munson, Alric P. Rothmayer, Theodore H. Okiishi, Wade W. Huebsch, Fundamentals of Fluid Mechanics, 7th Edition Wiley, 2023. • William P. Graebel, Engineering Fluid Mechanics: Solutions Manual, London, 2022.

Teaching methodology	Lectures, exercises, individual work, experimental work, seminar papers, colloquia, essays, field work, group work, etc. Completed according to the specifics of your subjects!			
	Contribution to student workload (which should correspond to student learning outcomes - 1 ECTS credit = 25 hours)			
	Activity	Hours	Days/weeks	Total
	Lectures	2	15	30
	Exercise sessions (with TA)	2	15	30
	Practical work			
	Office hours	2	8	16
	Fieldwork			
	Midterms, seminars	2	2	4
	Homework	3	3	9
	Self-study	4	4	16
	Final exam preparation	4	3	12
	Time spent in exams	2	4	8
	Projects, presentations, etc	3	3	9
Total				134

Evaluation	Teaching methodology:		
	(according to the Statute and Regulation for studies of UMIB)		
	Tests / Colloquia (First Test) (Second test)		10%
			10%
	Practical test during exercises (Essay)		
	Workshop seminar		
	Interpretation and presentation of artistic creativity and other works.		
	Assignments and courses during the semester		10%
	Professional practice.		
	Other, Continuity		10%
	Final exam		60%
	Total		100%
	Final grade	Pikët (%)	Nota
	Practical test during exercises (Essay)	91 – 100	10
		81 - 90	9
		71 - 80	8
		61 - 70	7
		51 - 60	6

A c a d e m i c p o l i c i e s	Criteria for regular attendance and rules of etiquette during the organization of the lesson are set. Computer work: Graphic works, I have to draw and write with a computer. In the works it is obligatory to respect the criteria for both the visual and the content aspect of the required works. Ethics in teaching: Graphic works should be personal works of each student. There will be no tolerance for copying, "borrowing" from the Internet or any other material. The same or similar works will have negative evaluations in the final evaluation of the student. Time: In agreement with the students, the deadlines for submitting works will be determined. There will be no tolerance for delays in the submission of works. Failure to arrive at the time when the assignment is explained does not justify the student for not submitting the paper. The deadline will be given earlier. If you are going to travel abroad, then you need to submit the paperwork in advance. The student has the right to request a consultation with the professor whenever he / she deems it reasonable and necessary for the performance of his / her work. Rules of conduct and academic policies: • active participation of students in lectures o participation in discussion, comments and free expression of opinion, opinion and academic position (with arguments) • Mandatory independent work and use of additional sources of information (various scientific websites, scientific journals, conference proceedings, etc.) • Respecting lecture schedules without compromising academic freedom (silent cell phones) of respecting the word, thoughts and ideas of colleagues, • It is not allowed to arrive late and leave without a valid reason from the lecture, test or exam o preparation and holding of relevant lectures, (obligation of the teacher). • if the student is absent more than four times without reason in lectures and exercises, does not receive the signature for attendance. o the student cannot take the exam without an official document, • if the student is dissatisfied with the grade obtained, has the right to complain in writing to the dean, within two working days after the announcement of the results, UMIB Statute o if the student does not follow the rules, in the exam uses tools that are not allowed, it is evaluated with a negative grade.
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