



MINISTRY OF EDUCATION AND CULTURE
UNIVERSITAS NEGERI PADANG
MAJORING IN MECHANICAL ENGINEERING

Address: Jl. Prof. Dr. Hamka, Air Tawar UNP Campus, Padang 25131
Tel. (0751) 7055644, Fax (0751) 7055628, website: www.ft.unp.ac.id, e-mail: info@ft.unp.ac.id

MID SEMESTER EXAM

Courses : Fluid Mechanics
Code / SKS : MES1.61.3103
Nature of the Exam : Closed Book
Lecturer : Dr. Remon Lapisia, M.Sc
Time : 90 minutes
Maximum Grade : 35 points

No.	Question	Grade
1	Describe the classification of fluids and their applications in mechanical engineering	3
2	Describe the characteristics of the fluid and give examples of its application	4
3	Explain the relationship between pressure and depth. Describe the measuring instrument used to measure pressure?	4
4	Calculate the pressure value of an object submerged in water with a depth of 10 m with various positions.	6
5	Explain what is the difference between streamlines and streamtubes?	3
6	Calculate the metacentrum value of an object floating on the surface of the liquid	7.5
7	Calculate the difference in velocity between two points on a flow line (the implementation of the bernoulli equation	7.5
	Total Score	30



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SEMESTER FINAL EXAM

Courses : Fluid mechanics
Code / SKS : MES1.61.3103
Nature of the Exam : Closed Book
Lecturer : Dr. Remon Lapis, M.Sc
Time : 90 minutes
Maximum Grade : 35 points

No.	Question	Grade
1	Please provide an analysis of the momentum at work in a volume control	5
2	Calculate the head loss flow in a pipe flowing by water with diameter x , velocity y !	7.5
3	Calculate the fluid flow rate of water flowing in an overflow	7.5
4	Calculate the lift value of a water foil if you know that the weight of the object being lifted is x kg, the velocity y m / s.	7.5
5	Name several types of fluid machines and explain how they work	7.5
Total Score		35



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COURSE ASSIGNMENT PROBLEMS

Courses : Fluid Mechanics
Code / SKS : MES1.61.3103
Nature of Duty : Individual Mini Project
Lecturer : Dr. Remon Lapisa, M.Sc
Presentation time : 60 minutes
Max Grade : 30 points (maximum) for each participant

Group	Question	Grade
1	Design a report / working paper from a simple domestic tool that works using fluid mechanics principles accompanied by	
	a. The working drawing of the designed tool	10
	b. How to work and performance	10
	c. Economic analysis (manufacturing and maintenance costs)	10
