Science 3 (Physics)	Ι			
Basic Course Information Course Number	01005021	Subject Category	Compulsory/Gi	ł
Class Format	Lecture	Credit Type and Number of Credits	1	ļ
Department Period of Study	Mechatronics Semester 1 NOSEN Texpoor Series Pro- Atoms H Lishin et al Morikit	Student Category Classes per Week	2 Clinicity and wagnedant, and	ţ
Required Materials Instructor	Atoms H Lishin et al. Morikit Anirut Phriksee	Publishing Co. 1 tri ISE	CURDLY SECOND 2010 10 10 10 10 10 10 10 10 10 10 10 10	t
Course Objective There are various topes of engineering p Presics 3 is a continuation of Presics 2, knowledge and concepts of physics in it and heat /specific heat/work and heat/ The exercise and homework are designed	roblems that require a good k It is the physics part of Scieno troduction of fluid mechanics, thermodynamic cycles/heat en d to help the students to deve	nowledge and applicatio a 3. This course provide and intorduction of the ginel, lop knowledge, problem	on of physics, is students with basic rmodynamics (temperature h solving skills and	I
Evaluation (Rubrio)	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)	Į
Understanding concepts of physics and thei Mactarine mathematical and eraphical	Ability to correctly understand and excilein concepts in Physics and connect with real life experiences. Ability to describe equations	Ability to fairly understand and exclain concepts in Physics and connect with real life excertences but with some mistakes Ability to describe	knowledge and understanding of concepts in Physics, Weak connection among these concepts Enu ations are limited or	-
Mastering mathematical and graphical expressions skills. Problem Solving	and show good understanding by using graphs with necessary details and vice versa	equations and show understanding by using graphs and vice verse but not in	Equations are limited or inaccurate, Graphs are incomplete or absent.	+
Produkti Sowing	Ability to provide a clear and logical expression from general concepts/exustoms to solve sexelfic problems with different conditions, all final numerical answers are cornect with appropriate units and calculations	details Ability to provide some logical expression from general consists/equations to solve specific problems with different conditions but with major mistakes in calculations, algebraic or units.	Provide an unclear logical progression or solution which is very difficult to follow. Major algebraic and/or other mathematical mistakes in solution.	
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G(1) Wide knowledge on Science and society. Please change Please change Teachtra: Mathod Outline: Clease Format: Please Note :	Relationship with Learning Engineering and practical Students will study basic Learning to practice the study basic	ability to apply them to	s of fluid mechanics and	
Please Note : Course Plan Semester 1	Contents and Meth	seep photo copies or fire	s of all submitted material to	Related MCC
1st week	Contents and Method of Course Introduction and Fluid mechanics 1		Guidance and appreciation of pressure, buoyant forcos, and Archimedes' principle	
2nd week	Fluid mechanics 2		Appreciation of fluid dynamics. Bernoull's equation, flows of viscous fluid in pipes and Mini-Lab.	
3rd week	Elasticity		Understanding elastic properties of solids.	I-A 1 4
4th week	Introduction to thermodynamics		Checking what students already learned about thermodynamics and understand what they will learn in the course Perform calculators using heat caseality and seedific	I-A 1 4
5th week	Temperature and Heat (1) Specific Heat and Heat Capacity		heat capacity and specific heat of objects, Write a formula representing the law of conservation of heat then calculate heat capacity and specific heat. Appreciation of concepts of	I-A 1 4 I-A 1 5
6th week	Temperature and Heat (2) Thermal expansion and Temperature measurement		Appreciation of concepts of temperature and heat about thermal expansion and temperature measurement Appreciation of concepts of	
7th week	Temperature and Heat (3) Change of State and Latent Heat		Appreciation of concepts of temperature and heat about change of state and latent heat	
8th week	Wrap-up of 1st helf of semester (Review)		Review and summarize learning	
9th week	Midterm Examination		For week 1-8	
10th week	Return Midterm Exam Papers and Feedback		Review learning Perform calculations	I-A 1 4
11th week	Gas laws		relation calculations relating to pressure, temperature and volume of gas using Gas laws and the equation of state for the ideal gas, and Mini-Lab IL Explain the kinetic energy of a gas by utilizing the	
12th week	Kinetic energy of gas		a gas by utilizing the relevant principles associated with its molecular motion and temperature,	I-A 1 4
13th week	Internal energy of gas		Explain the internal energy of gas. Explain the first law of thermochramics, as well as isochoric charge, sobaric	I-A 1 4 I-A 1 5
14th week	First law of thermodynamic process		change, isothermal change and adiabatic change,	I-A 1 4
15th week	Thermodynamics process (2) and Thermal cycle		Continuation from the previous week and introduce of thermal cycles. Perform calculations	I-A 1 5
	Heat engine (1)		Perform calculations relating to thermal efficiency of heat engines.	I-A 1 5
16th week			Perform calculations	
17th week	Heat engin		Perform calculations relating to thermal efficiency of heat engines.	
176° week 188° week	Wrap-up of 2nd half of	semester (Review)	Review and summarize learning	
17th week	Wrap-up of 2nd half of Final Exami	semester (Review)	Review and summarize learning For week 11-18	
178h week 188h week	Wrap-up of 2nd half of	semaster (Review) nation	Review and summarize learning	