Industrial Mechatronics 2

Basic Course Information			
Course Number	01005115	Subject Category	Compulsory (M)
Class Format	Cectore	Credit Type and Number of Credits	1
Department	Mechatronics	Student Category	Year 4
Period of Study		Classes per Week	2
Required Materials	Provided by the course teach	er	
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Course Objective
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Evaluation(Rubric)	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
To be able to explain the motion of a rigid body when a force is applied to it.	To be able to discuss and explain correctly the motion of a risid body when a force is applied to it.	To be able to calculate each parameter and explain the motion of a rigid body when a force is applied to it.	Cannot be able to calculate each parameter and explain the motion of a rigid body when a force is applied to it.
To be able to explain the concept of work and motion in view of the law of conservation of energy.	To be able to discuss and explain correctly the concept of work and motion in view of the law of conservation of energy.	To be able to calculate each parameter and explain the concept of work and motion in view of the law of conservation of energy.	Cannot be able to calculate each parameter and explain the concept of work and motion in view of the law of conservation of energy.
To be able to explain the motion in view of the law of conservation of momentum.	To be able to discuss and explain correctly the motion in view of the law of conservation of momentum.	To be able to calculate each parameter and explain the motion in view of the law of conservation of momentum.	Cannot be able to calculate each parameter and explain the motion in view of the law of conservation of momentum.
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Relationship with Learning Outcomes M(1) Ability to design, process and develop robotic/ mechatronic systems to solve specific problems M(5) Ability to design, process and develop mechatronic adultions/ existens for robotic/ mechatronic systems for robotic/ mechat

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Outlins:
Class Formst
Please Note:

Please Note :	If you have any questions, please ask me anytime during the lecture,		l
Course Plan Semester 2	en en		1
Semester 2	Contents and Method of Course	Goale	Related MCC
	class introduction : explaining to class objective.	Understanding class objective, criteria of score, and expected output, overview of mechanics dynamics, units and	V-A 3 3
1st week	class introduction i explaining to class objective, oriteria of score, expected output, Overview of mechanics dynamics Units and dimensions	and expected output.	
	Units and dimensions	dynamics, units and	
		dimensions	V-A 3 3
			V-A 3 3: V-A 3 4:
2nd week	Particle Kinematics : Position, velocity, and acceleration	Understanding concepts of particle kinematics	
	acceleration	particle kinematics	
			V-A 3 4
3rd week	Newton's Laws for Particles : Force and mass	Understanding concepts of newton's Laws for Particles	
Srd Week	Newton 8 Laws for Particles - Pords and mass	Particles	
			V-A 3 4
4th week	Equations of Motion : Rectangular coordinates	I Inderstanding concents of	V-A 3 4
4th week	Equations of Motion : Hectangular coordinates	Understanding concepts of Equations of Motion	
5th week	holiday	-	
			V-A 3 4
6th week	Energy Methods : Work-energy principle	Understanding concepts of energy methods	l
			1/-A 9 4
			7 A 3 4
7th week	Impulse and Momentum: Linear and angular	Understanding concepts of	
	momentum	impulse and momentum	
-			
8th week	De teu Contra	Review and summarize learning	
8th week	Review Session	learning	
9th week	holiday	-	
10th week	Midterm examination	Check understanding covers Weeks 1-9	
		VV0000 1 0	
11th week	Reflection and Feedback	Reflect midterm examination and feedback to foster understanding.	
	10000010010000000	understanding.	
			V-A 3 5
12th week	Rigid Body Kinematics : Rotational motion	Understanding concepts of Rigid Body Kinematics	
12.01 Week	TIED DAY FURTIERS - FOREIGNETHOLD	Rigid Body Kinematics	
			V-A 3 5
		I ladoratonday concepts of	
13th week	Rigid Body Kinetics: Moment of inertia	Understanding concepts of Rigid Body Kinetics	
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			V-A 3 5
		Understanding concents of	
14th week	Equations of Motion for Rigid Bodies : Euler's equations	Understanding concepts of Equations of Motion for Rigid Bodies	l
		Hgd Bodes	
		 	V-A 3 4
		Lindonstanding concerns of	V-A 3 4
15th week	Energy Methods for Fligid Bodies : Work-energy principle for rigid bodies	Understanding concepts of Energy Methods for Rigid Bodies	
	principle for rigid bodies	Bodies	
			V-A 3 4
16th week	Impulse and Momentum for Rigid Bodies : Angular momentum	Understanding concepts of	1
TOU I WOOK	momentum	Understanding concepts of Impulse and Momentum for Rigid Bodies	
	1		
		Understanding concerts of	
17th week	Special Topics : Gyroscopic motion	Understanding concepts of Gyroscopic motion	
17th week	Special Topics : Gyroscopic motion	Understanding concepts of Gyroscopic motion	
17th week	Special Topics : Gyroscopic motion	Understanding concepts of Gyroscopic motion	
17th week	Special Topics : Gyroscopic motion		
17th week 18th week	Special Topics : Gyroscopic motion Special Topics : Lagrangian Dynamics		
		Understanding concepts of Gyroscopic motion Understanding concepts of Lagrangian Dynamics	
18th week	Special Toolos : Lagrangian Dynamics	Understanding concepts of Lagrangian Dynamics Check understanding covers	
		Understanding concepts of Lagrangian Dynamics	
18th week	Special Toolos : Lagrangian Dynamics	Understanding concepts of Lagrangian Dynamics Check understanding covers	
18th week	Special Toolos : Lagrangian Dynamics	Understanding concepts of Learnesien Dimernics Check understanding covers Weeks 11-18.	
18th week	Special Topics : Lazrengien Dynamics Final exemination	Understanding concepts of Learnesien Dimernics Check understanding covers Weeks 11-18.	
18th week	Special Toolos : Lagrangian Dynamics	Understanding concepts of Learnesien Dimernics Check understanding covers Weeks 11-18.	
18th week	Special Topics : Lazrengien Dynamics Final exemination	Understanding concepts of Lagrangian Dynamics Check understanding covers	

	Examination	Chair	Mutual Evaluations between students	Recort	Partielo	9
Basic Ability	35	20				
Technical Ability	15	15				
Interdisciplinary Ability	10	5				