

Introduction of Mechanics

Basic Course Information			
Course Number	0305072	Subject Category	Compu. Scy. IM
Class Format	Lecture	Credit Type and Number of Credits	1
Department	Electrical and Electronics	Student Category	Year 1
Period of Study	Semester 2	Classes per Week	2
Required Materials	N/A		
Instructor	Asst. Prof. Dr. Mehmet Akif		

Course Objective	
In this course, students will learn how mechanical engineering technology is applied to a daily use products. In addition, overview of the individual technologies in the mechanical engineering will be introduced. Through this course, students can be achieved in three main aspects as follows: (1) To be able to explain the mechanical technology in the daily use products. (2) Understand an overview of the individual technologies that consist of mechanical engineering. (3) To be able to explain the role of mechanical engineering.	

Evaluation/Hubrid	Ideal Level of Achievement (Very Good)	Standard Level of Achievement (Good)	Unacceptable Level of Achievement (Fail)
To be able to explain the mechanical technology in the daily use products.	To be able to explain the mechanical technology in detail.	To be able to explain outline the mechanical technology in the daily use products.	Cannot be able to explain the mechanical technology in the daily use products.
Understand an overview of the individual technologies that consist of mechanical engineering.	Deeply understand an overview of the individual technologies that consist of mechanical engineering, and apply it to design.	Understand an overview of the individual technologies that consist of mechanical engineering, and explain how to use it.	Cannot understand an overview of the individual technologies that consist of mechanical engineering.
To be able to explain the role of mechanical engineering.	To be able to explain the role of mechanical engineering in detail, and apply it to design.	To be able to explain outline the role of mechanical engineering.	Cannot be able to explain outline the role of mechanical engineering.

Relationship with Learning Outcomes
E(1) Ability to design, propose and develop electrical and electronic systems to solve specific problems.

E(5) Ability to design, propose and operate infrastructure for energy management.

Please change

Teaching Method

Outline: This course provide an introduction to the basic principles of mechanical engineering, history, basic mechanical drawing and design of mechanical, mechatronic elements, basic analysis of forces, basic strength of materials, fundamental of fluid and thermodynamic for mechatronics engineering.

Class Format: Lecture, groupwork, and presentation

Please Note : If you have any questions, please ask me anytime during the lecture.

Course Plan		Contents and Method of Course	Goals	Related MCC
Semester 2				1-0
1st week		Introduction class explaining to class objective, criteria of scores, and expected output. Introduction history and the field of mechanical engineering.	Understand class objective, criteria of scores and expected output. Understand overview of daily use mechanical and mechatronics application.	
2nd week		Application of mechanics and mechatronics (1)	Understand overview of daily use mechanical and mechatronics application.	
3rd week		Application of mechanics and mechatronics (2)	Understand details of daily use mechanical and mechatronics application.	
4th week		Introduction to Mechanical drawing (1)	Understand basic of mechanical drawing.	
5th week		Introduction to Mechanical drawing (2)	Understand basic mechanical drawing projection method 2 to 3 dimensions.	
6th week		Introduction to Mechanical drawing (3)	Understand basic mechanical drawing projection method 3 to 2 dimensions.	
7th week		Introduction to Mechanical elements (1)	Understand basic of mechanical elements.	
8th week		Introduction to Mechanical elements (2)	Understand basic of mechanical elements, gear transmission, spring, cable and valve.	
9th week		Midterm examination	Check your understanding.	
10th week		Reflection and Feedback	Reflect midterm examination and feedback to foster understanding.	
11th week		Introduction to Strength of material (1)	Understand basic material dynamics for stress and strain.	
12th week		Introduction to Strength of material (2)	Understand basic material dynamics for shearing and bending moment.	
13th week		Introduction to Fluid dynamics	Understand basic fluid dynamics and its application.	
14th week		Introduction to Thermo dynamics	Understand basic thermo dynamics and its application.	
15th week		Introduction to Mechanical materials	Understand basic mechanical materials.	
16th week		Introduction to Manufacturing process	Understand basic manufacturing process.	
17th week		Introduction to measurement and control	Understand basic measurement and control.	
18th week		Exercises for examination	Promote understanding by exercises.	
19th week		Final examination	Check your understanding.	
20th week		Reflection and Feedback	Reflect final examination and feedback to foster understanding.	

	Implementation	Assessment	Total	Pass	Failed	Other
Basic Ability	40	40	80			
Technical Ability	40	40	80			
Interdisciplinary Ability	40	40	80			

Direct