World University of Bangladesh
Department of Mechatronics Engineering

02/05/2023

Course Plan (Summer-2023)

Course Title: Electromechanical Design
Course Code: MTE 1101
Credit: 3.0 Theory
Course Teacher: Ahmed Farhan

Course Outline

Week	Unit Learning Outcomes	COURSE CONTENTS	Assessment
1.	To introduce Course curriculum and Electromechanical Design	Course Introduction and introduction to electromechanical design	Forum-1
2.	To learn Mechanical Power Transmission	Mechanical power transmission system Importance of mechanical power transmission	Quiz-1
3.	To learn mechanical Power Transmission Elements	Mechanical power transmission elements Functions of mechanical power transmission elements	Forum-2
4.	To discuss Electromechanical energy conversion	Principles of electromechanical energy conversion Principles of electromechanical energy conversion to forces and torques in electric machine models	Quiz-2
5.	To analyze Gear Drive System	Features of gear trains and gear teeth Speed ratio and train value	Forum-3
6.	To introduce design of Project: Manufacturer's information, Selection of Gearbox	Concept of transmission Applications of gearbox	Assignment-1
7.	To demonstrate bearing, its types and applications	Construction of bearing Types and applications of bearing	Quiz-3
MIDTERM EXAMINATION			
8.	To discuss the design of Gear Trains and Related Formulas	Differentiation of simple and compound gear train Computing maths related to simple and compound gear train	Forum-4
9.	To demonstrate Shaft Design	Types of shaft Design shaft with formula	Quiz-4
10.	To discuss Electromechanical Assembly and Differential System	Electromechanical assembly Parts of differential	Forum-5
11.	To discuss the Selection and Use of Electrical Actuators	Comparing different types of actuators' working principle Selection process of actuators	Assignment-2
12.			Quiz-5
FINAL EXAMINATION			