SYLLABUS CURRICULUM

COURSE	**Course Name : ELEMENT OF MACHINE II**
	Course Code : TM184522
	Credit : 3 sks
	Semester : 5

COURSE DESCRIPTION

In this course the student will how the procedure in designing various kinds of power generation with revolving round which includes spur gear, helical gear, worm gear, and bevel gera. In addition, the students also studied flexible power transfer design procedures which included belt, chain, and rope. After that the students are taught how to understand the characteristics of lubricants and lubrication system, choose the appropriate type of bearing, and analyze the material strength of the selected power transfer and bearings. To know the depth of understanding of the concept of design and the power of machine elements, students will present the examples of design cases and failures that occur due to improper design procedures.

LEARNING OUTCOMES

LO6	Understand the engineering principles in mechanical system to identify, formulate and solve the problem of mechanical engineering.
LO9	Able to find the source of engineering problems in mechanical system through research that includes identification, formulation, analysis, data interpretation based on engineering principles.
LO10	Able to formulate the solution of engineering problem in mechanical system by considering economy, safety, environment and energy conservation.

COURSE LEARNING OUTCOMES

Students are able to analyze various types of gear transmission system and flexible transmission system, able to design transmission system based on its velocity ratio and its material strength, as well as determine appropriate bearing type, and able to understand the characteristics of clutch, brake, continuous variable transmission, lubricants and lubrication system, either individually or together in a group.

MAIN SUBJECT

The focus of this course are as follows:
- The characteristics of bearing, clutch, and brake
- The movement and strength of gears (spur, helical, worm, and bevel gear)
- The movement and strength of flexible power transfer (belt, chain, and rope)
- The characteristics of Continuous Variable Transmission (CVT)
- The design of machine elements lubrication

PREREQUISITES
Elements of Machine I
REFERENCE
1. Shigley, Joseph E., Mechanical Engineering Design, 10th Edition, Mc Graw Hill 2014