



“Mechanized Design Application”  
**Department of Mechanical Engineering**

**Course Name: Theory of Machines – II**  
**Course Code: 302043**

**Class: TE Mechanical Engineering**  
**(2015Pattern)**

**Course Objectives:**

1. To develop competency in understanding of theory of all types of gears.
2. To understand the analysis of gear train.
3. To develop competency in drawing the cam profile.
4. To make the student conversant with synthesis of the mechanism.
5. To understand step-less regulations.
6. To understand mechanisms for system control – Gyroscope.

**Course Outcomes:**

- CO1 - Student will be able to understand fundamentals of gear theory which will be the prerequisite for gear design.
- CO2 - Student will be able to perform force analysis of Spur, Helical, Bevel, Worm and Worm gear.
- CO3 - The student will be able to analyze speed and torque in epi-cyclic gear trains which will be the prerequisite for gear box design.
- CO4 - Student will be able to design cam profile for given follower motions and understand cam Jump phenomenon, advance cam curves.
- CO5 - The student will synthesize a four bar mechanism with analytical and graphical methods.
- CO6 - The student will analyze the gyroscopic couple or effect for stabilization of Ship Aero plane and Four wheeler vehicles.
- CO7 - Student will choose appropriate drive for given application (stepped / step-less).