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Department of Mechanical Engineering	
Mechanics of Machines &Vibration Lab. (67416)	
Total Credits	**1**
major compulsory	
Prerequisites	P1 : Mechanical Vibrations (67414) OR Mechanical Vibrations (67422) P2 : Theory of Machines (67310) OR Mechanics of Machinery (67323)

Course Contents

Practical experiments related to the given topics in the courses of vibrations, theory of machines and machine design.

	Intended Learning Outcomes (ILO's)	Student Outcomes (SO's)	Contribution
1	Ability to conduct experiments and analyze interpret data related to vibrations and mechanics of machine including different kinds of mechanisms and joints	B	50 %
2	Be able to use the devices of the lab properly and write scientific report	K	40 %
3	Be able to work in team	D	10 %

Textbook and/ or Refrences

... Dr. Bashir Nouri , Vibrations and mechanics of machine Lab.

Assessment Criteria	Percent (%)
Mid. Term Exam	20 %
Quizzes	10 %
Reports	40 %
Final Exam	30 %

Course Plan

Week	Topic
2	Experiment No.1: Natural frequency of single degree of freedom system
3	Experiment No.2: Center of mass and mass moment of inertia
4	Experiment No. 3: , Springs, mechanisms and joints
5	Experiment No. 4: Static and dynamic balancing
6	Experiment No. 5: Harmonic motion and reciprocating mechanisms
7	Experiment No. 6: Mechanics of transmitting mechanical power
8	Midterm exam
9	Experiment No. 7: Balance of reciprocating masses
10	Experiment No. 8: Friction based driving mechanisms
11	Experiment No. 9: speed control using mechanical governors
12	Experiment No. 10: Torsional vibrations and rotating shafts
13	Experiment No. 11: Pulleys and winches
14	Experiment No. 12:Un-damped forced vibrations (oscillations)
15	Discussion
16	Final exam