

H-Form ISE 344

Course Information:	
Code and Title:	ISE 344 Metrology
Prerequisites:	ISE 230 + MATH 265 -2
Co requisite (if any)	-
Credit Hours: 3	Lecture Hrs. (30), Tutorial Hrs. (30), Lab (15), Total Credits (75)
College/ Department:	College of Engineering/Industrial and Systems Engineering

Course Description:
In today's world of high-technology products, the most important requirements of dimensional and other accuracy controls are becoming very stringent as a very important aspect in achieving quality and reliability in the service of any product in dimensional control. Unless the manufactured parts are accurately measured, assurance of quality cannot be given. In this context, the course deals with the basic principles of dimensional measuring instruments and precision measurement techniques.

Course Objectives:
This course covers the principles of engineering metrology as well as the measurement techniques considering appropriate methods and tools. At the end of the course students should have the ability to design tolerances and fits for selected product quality. They can choose appropriate method and instruments for inspection of various gear elements and thread elements. They can understand the standards of length, angles, they can understand the evaluation of surface finish and measure the parts with various comparators.

Course Learning Outcomes		
		PLO
Knowledge Understanding		
1.1	Identify the principles of Engineering Metrology	K1
1.2	Select appropriate method and instruments for inspection of elements	K3
1.3	Recognize the standards of measurement	K4
Skills		
2.1	Establish measurable product quality definitions for improvement	S2
2.2	Develops appropriate design parameters (use, dimensions, economics, life cycle) considering identified constraints and criteria	S3
Values		
3.1	Judge the impact of the optimized solution in the engineering context	V2

Textbook:			
Title:	Engineering metrology and measurements		
Author(s):	Krishnamurthy, L., Raghavendra, N. V,		
Publisher:	Oxford University Press	Year and Edition:	2013
Other Useful Resources:	Engineering Metrology – K.J. Hume, Macdonald and Co.(publisher) London. The Springer handbook of metrology and Testing, Czichos (Ed), 2011		