Year &	Course	Course Name: Metrology	No. of	L	T&PS	P
Sem:	Code:	and Mechanical	Credits: 4	2	2	0
E2S2	ME2205	Measurements				

UNIT I: Metrology: Introduction, Precision, Accuracy, repeatability. Types of errors in measurement.

UNIT II: Simple measurement tools like height gauges, micrometers, depth gauges, slip gauges, sine bar etc.

UNIT III: Limits, Fits & Tolerances. Inspection gauges. Surface roughness: sources of surface irregularities in manufactures.

UNIT IV: Different element of surface roughness, surface roughness parameters. Measurement instruments,

UNIT V: Profilometers, analysis of roughness signal in frequency domain.

UNIT VI: Coordinate measuring machine CMMs, application, types, construction, probing, hard probing and soft probing.

References/Text Books:

- 1. "Mechanical Measurements" by Beckwith Marangoni and Lienhard
- 2. "Engineering Metrology" by R. K. Jain
- 3. "Mechanical Measurements" by Thomas G. Beckwith and Roy D. Marangoin

Lecture Plan: Unit-I & -II syllabus for MID-I, Unit-III & -IV syllabus for MID-II and Unit-V & -VI syllabus for MID-III examinations.

Video Lectures (Web Links):

1.

2.

Study Materials (Web Links):

1.

2.

Problems & Solutions (Web Links):

1.

2.

Assignments (Web Links):

1.

2.