

ME 403 : Measurements and Instrumentation

Contacts : 3L

Credits : 3

Basic concepts : Definition of terms, calibration, standards, generalised measurement systems, static and dynamic performance characteristics; Analysis of experimental data; Instrumentation for measurement of position and displacement, force, pressure, velocity, temperature, proximity and range. Concept of feedback;

Open and closed loop control systems, Transducers and devices for engineering applications, digital readouts, data acquisition and processing.

Metrology : Standards, Slip gauges, Measurement of angles, tapers, threads, coordinates, inspection of straightness, flatness, alignment and surface finish, Gear Measurements, Measurements of various product features using Mechanical, Pneumatic, Optical and Electronic Instruments, Interferometry and use of optical flats.