

Metrology & Measurement Laboratory

Details of Laboratory:

Lab in-charge: Mr. Shishir K. Biswas

Metrology & Measurement Laboratory is a well equipped laboratory which provides ideas on hands on experience with various measuring instruments to utilize in industries. on evaluating mechanical properties of a given specimen or structure. This laboratory is scheduled for 5th semester Mechanical engineering students. Apart from curriculum, some additional experimental setups are there which helps the students to enhance their knowledge. Students also get opportunity to implement their ideas through various application oriented micro projects.

Major Equipments.

1	Vernier Caliper
2	Micrometer
3	Slip Gauge
5.	Vernier Height Gauge and Vernier Depth Gauge.
6.	Gear Tooth Vernier.
7.	Sine Bar
8.	Universal Bevel Protractor
9.	Strain Gauge
10.	Profile Projector
11.	Taylor Hobson Talysurf

List of Experiments.

Sl.	Description
1	Measurement of Outside and Inside diameter of Given specimen by vernier Caliper.
2	Measurement of Outside diameter of Given specimen by Micrometer.
3	Comparison and measurements using vernier calliper and micrometer.
4	Calibration of Vernier calliper using Slip Gauge.
5.	Comparison and Measurement Using Vernier Height Gauge and Vernier Depth Gauge.
6.	Measurement of Gear Parameters Using Gear Tooth Vernier.
7.	Taper Angle Measurement Using Sine Bar and Slip Gauge
8.	Measurement of Angle Using Universal Bevel Protractor.
9.	To Measure the Deflection of a Given Cantilever Beam Using Strain Gauge.
10.	Measurement of Different Parameters Using Profile Projector.
11.	Measurement of Surface Finish.

Lab Occupancy

JIS College of Engineering
Lecture and Lab schedule for odd semester 2017-2018 STREAM/BATCH: ME-3A
B.Tech 3rdYear classes Room No 401(CMS) – Traditional

DAYS	10 am to 11 am	11 am to 12 am	12 pm to 1pm	1 to 2pm	2 to 3pm	3 to 4 pm	4 to 5 pm	5 to 6 pm
MON						ME 592,Gr.ME3A(1)[PB+AM]		
						ME 591Gr.ME3A(2)[SS+UR]		
TUE						ME 593 Gr.ME3A(1)[AP]		
						ME581,Gr.ME3A(2)[MRI]		
WED						ME 593 Gr.ME3A(2)[SKB]		
						ME581,Gr.ME3A(1)[AM]		
THU								
FRI	ME 592,Gr.ME3A(2)[PB+AM]				ME594A [ALL ME3A](RSS)			Speakers Corner
	ME 591Gr.ME3A (1)[SS+UR]				ME 594B[ALL ME3A][SH]			

Subject: ME 501- Fluid Machinery , ME 502- Dynamics of Machines, ME 503- Design of Machine Elements-I, ME 504- Metrology & Measurement, HU(ME), 501- Values & Ethics , ME505A - Refrigeration & Air Conditioning, **ME 505B** - Mechatronics, ME 591- Fluid Mechanics & Hydraulic Machines Lab, **ME 592-** Dynamics of Machines Lab, ME 593- Metrology & Measurement Lab, ME 594 A- Refrigeration & Air Conditioning Lab, ME 594 B- Mechatronics Lab, ME581- Seminar

Faculty name: SS-Mr. Sujay Saha, UR- Mr. Uttam Roy, AM-Mr. Abhishek Mondal RSS-Mr. Rabi Sankar Singh, PB- Mr. Palash Biswas, MRI- Mr.Munshi Rasidul Islam, SKB- Mr.Shishir Kumar Biswas, AS-Mr. Anirban Sarkar, AK- Mr. Arnab Kundu, Mr.Subhasish Halder, KB-Mr. Kunal Banerjee

Routine Coordinator
(Prof. P. Biswas)

HOD
(Prof. (Dr.) S. Ghosh)

Principal
(Prof. (Dr.) M. R. Dave)

JIS College of Engineering
Lecture and Lab schedule for odd semester 2017-2018 STREAM/BATCH: ME-3B
B.Tech 3rdYear classes Room No 402(CMS) – Traditional

DAYS	10 am to 11 am	11 am to 12 am	12 pm to 1pm	1 to 2pm	2 to 3pm	3 to 4 pm	4 to 5 pm	5 to 6 pm	
MON						ME594A [ALL ME3B](RSS)			
						ME 594B[ALL ME3B][SH]			
TUE						ME 592,Gr.ME3B(1)[KB+AS]			
						ME 591Gr.ME3B(2)[AK+DM]			
WED						ME 592,Gr.ME3B(2)[KB+AS]			
						ME 591Gr.ME3B(1)[AK+DM]			
THU									
FRI	ME 593 Gr.ME3B(1)[AP]				ME 593 Gr.ME3B(2)[SKB]			Speakers Corner	
	ME581,Gr.ME3B(2)[AM]				ME581,Gr.ME3B(1)[MRI]				

Subject: ME 501- Fluid Machinery , ME 502- Dynamics of Machines, ME 503- Design of Machine Elements-I, ME 504- Metrology & Measurement, HU(ME), 501- Values & Ethics , ME505A - Refrigeration & Air Conditioning, **ME 505B** - Mechatronics, ME 591- Fluid Mechanics & Hydraulic Machines Lab, **ME 592**- Dynamics of Machines Lab, ME 593- Metrology & Measurement Lab, ME 594 A- Refrigeration & Air Conditioning Lab, ME 594 B- Mechatronics Lab, ME581- Seminar

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AK- Mr. Arnab Kundu, Mr.Subhasish Halder, KB-Mr. Kunal Banerjee, Mr. Arijit Patra

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Name of the Course: Metrology & Measurement Lab

Course Code: ME 593

Prerequisite: Metrology & Measurement Theory, Physics.

Course Objective: Hands on experience with various measuring instruments to utilize in industries.

Course Outcomes:

Upon completion of this course Students are able to

ME593.1. Demonstrate and use different length measuring instruments like vernier calipers and micrometers.

ME593.2. Explain different angle measuring instrument like universal bevel protractor, sine bar

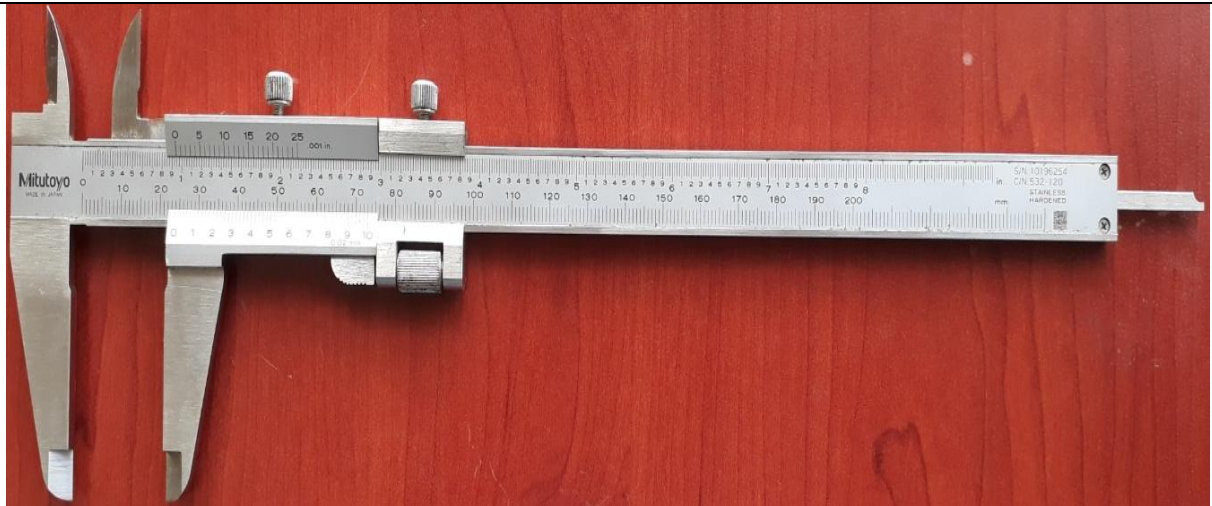
ME593.3. Formulate some unknown quantity or parameter of engineering interest.

ME593.4. Evaluate the surface quality of a given specimen which is important in all kind of manufacturing.

Course Articulation Matrix.

CO Codes	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
ME593.1	1	2	2	-	1	-	-	-	3	1	-	-	-	-	-
ME593.2	1	1	2	-	2	-	-	-	3	1	-	-	-	-	-
ME593.3	1	1	3	-	2	-	-	-	2	1	2	2			1
ME593.4	1	1	3	-	3	-	-	-	2	1	2	1			3
Avg.	1	1.25	2.5	-	2	-	-	-	2.5	1	2	1.5			2

Apparatus Details:



Vernier Caliper



Universal Bevel Protector



Vernier Depth Gauge



Slip Gauge



Screw Thread Micrometer



Vernier Micrometer



Dial Indicator



Strain Measuring Instrument



Profile Projector

