



<b>SUBJECT:</b> Experimental Techniques in Industrial Metrology		
<b>MASTER DEGREE:</b> Master in Industrial Mechanical <b>Professor:</b> José Luis San Román García	<b>ECTS:</b> 3	<b>QUARTER:</b> 1st

TIMETABLE FOR THE SUBJECT								
WEEK	SESSION	DESCRIPTION OF EACH SESSION	GROUP (X mark)		Indicate if a different lecture room is needed (computer, audiovisual, etc.)	HOMEWORK PER WEEK		
			1	2		DESCRIPTION	ATTENDING HOURS	HOMEWORK Max. 7H/WEEK
1	1	Introduction to the subject: lectures, laboratory, teamwork and exam. Measurement Systems. Introduction	X		Audiovisual classroom	Review of contents and study.	1,5h	0,5h
2	2	Measurement Systems. Metrology concepts I	X		Audiovisual classroom	Review of contents and study.	1,5h	1h
3	3	Measurement Systems. Metrology concepts II	X		Audiovisual classroom	Review of contents and study.	1,5h	1h
4	4	Calibration and uncertainty: calibration.	X		Audiovisual classroom	Review of contents and study.	1,5h	1h
5	5	Calibration and uncertainty: uncertainty, GUM.	X		Audiovisual classroom	Review of contents and study.	1,5h	1,5h
6	6	Calibration and uncertainty: practical exercise. Relationship between Tolerance and Uncertainty	X		Audiovisual classroom	Review of contents and study. Practical exercise	1,5h	2h



						Start of teamwork (continuous assessment).		4h
7	7	Relationship between Tolerance and Uncertainty: practical exercise.	X		Audiovisual classroom	Review of contents and study. Practical exercise	1,5h	2h
						Teamwork (continuous assessment).		4h
8	8	Laboratory: calibration of bourdon gauges and calibration of a Vernier or a micrometer centesimal. Uncertainties calculation.	X		Practice classroom (Mechanical Engineering Area)	Calculations and practical report.	1,5h	1h
		Teamwork tutorial		X		Teamwork (continuous assessment).	1h	4h
9	9	Laboratory: calibration of bourdon gauges and calibration of a Vernier or a micrometer centesimal. Uncertainties calculation.		X	Practice classroom (Mechanical Engineering Area)	Calculations and practical report	1,5h	1h
		Teamwork tutorial	X			Teamwork (continuous assessment).	1h	4h
10	10	Laboratory: measurement tests. Calculation of uncertainty with a three-dimensional coordinate measuring machine.	X		Practice classroom (Mechanical	Calculations and practical report	1,5h	1h



		Teamwork tutorial		X	Engineering Area)	Teamwork (continuous assessment).	1h	4h
11	11	Laboratory: measurement tests. Calculation of uncertainty with a three-dimensional coordinate measuring machine.  Teamwork tutorial	X	X	Practice classroom (Mechanical Engineering Area)	Calculations and practical report  Teamwork (continuous assessment).	1,5h  1h	1h  4h
12	12	Laboratory: measurement tests. Calculation of uncertainty with a universal traction / compression machine.  Teamwork tutorial	X	X	Practice classroom (Mechanical Engineering Area)	Calculations and practical report  Teamwork (continuous assessment).	1,5h  1h	1h  4h
13	13	Laboratory: measurement tests. Calculation of uncertainty with a universal traction / compression machine.  Teamwork tutorial	X	X	Practice classroom (Mechanical Engineering Area)	Calculations and practical report  Teamwork (continuous assessment).	1,5h  1h	1h  4h



14	14	Work Exhibition (continuous assessment)	X		Audiovisual classroom	Making of the work exhibition	1,5h	1h
15	15	Written exam	X		Classroom	Study (for exam)	1,5h	6h
<b>TOTAL HOURS</b>							<b>21h</b>	<b>54h</b>