AYDIN ADNAN MENDERES UNIVERSITY
COURSE INFORMATION FORM

Course Title		Engineering Metrology and Quality Control						
Course Code		MME518		Couse Level		Second Cycle (Master's Degree)		
ECTS Credit	8	Workload	202 *(Hours)*	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The aim of this course is to inform the students about metrology and quality control						
Course Content		Metrology and quality concepts, measure the error analysis, quality control, process control methods and the use of statistical techniques,						
Work Placement		N/A						
Planned Learning Activities and Teaching Methods			Explanation (Presentation), Experiment, Discussion, Case Study, Project Based Study, Individual Study					
Name of Lecturer(s)								

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	15
Final Examination	1	60
Quiz	4	15
Assignment	5	5
Term Assignment	1	5

Recommended or Required Reading

1	Whitehouse D.J., "Handbook of Surface and Nanometrology", Institute of Physics, Bristol, (published in 1994), 2003
2	"Measurement in Technology". A textbook from the multimedia courseware METROMEDIA
3	Pfeifer T., "Production Metrology", München, Wien: Oldenbourg Wissenschaftsverlag, August 2002

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to concept of metrology and quality
2	Theoretical	Analysis of errors in measurement
3	Theoretical	Statistical quality control
4	Theoretical	Control charts
5	Theoretical	Control charts
6	Theoretical	Linear measurement, tool used
7	Theoretical	Angular measurement, tool used
8	Intermediate Exam	Midterm Exam
9	Theoretical	Other measurement techniques (optical, laser etc.)
10	Theoretical	Other measurement techniques (optical, laser etc.)
11	Theoretical	Measurement of geometrical shape (roundness, flatness etc.)
12	Theoretical	Measurement of surface texture (surface roughness and waviness
13	Theoretical	Measurement of screw threads
14	Theoretical	Measurement of gears
15	Theoretical	Limits and limit gauges
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	4	3	98
Assignment	5	0	4	20
Term Project	1	15	10	25
Quiz	4	4	1	20
Midterm Examination	1	15	2	17

Final Examination	1	20	2	22
		Total Workload (Hours)		202
		[Total Workload (Hours) / 25*] = **ECTS**		8

*25 hour workload is accepted as 1 ECTS

Learning Outcomes

1	An ability to apply knowledge of mathematics, science and engineering to the field of Mechanical Engineering
2	An ability to design experiments and interpret the results
3	An ability to analyse and as a result improve the systems
4	An ability to multi-disciplinary study
5	An ability to determine of engineering problems
6	An ability to use engineering techniques and modern engineering tools
7	An ability to adapt to changing conditions

Programme Outcomes *(Mechanical Engineering (English) Master)*

1	To be able to access wide and deep information with scientific researches in the field of Engineering, evaluate, interpret and implement the knowledge gained in his/her field of study
2	To be able to complete and implement "limited or incomplete data" by using the scientific methods
3	To be able to consolidate engineering problems, develop proper method(s) to solve and apply the innovative solutions to them
4	To be able to develop new and original ideas and method(s), to develop new innovative solutions at design of system, component or process
5	To be able to gain comprehensive information on modern techniques, methods and their borders which are being applied to engineering
6	To be able to design and apply analytical, modeling and experimental based research, analyze and interpret the faced complex issues during the design and apply process
7	To be able to gain high level ability to define the required information and data
8	To be able to work in multi-disciplinary teams and to take responsibility to define approaches for complex situations
9	To be able to transfer of the process and results of studies at national and international environments systematic and clear verbal or written
10	To be able to be aware of social, scientific and ethical values guarding adequacy at all professional activities and at the stage of data collection, interpretation, and announcement
11	To be able to become aware of new and developing application of profession and ability to analyze and study on those applications
12	To be able to interpret engineering application's social and environmental dimensions and it's compliance with the social environment

Contribution of Learning Outcomes to Programme Outcomes *1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High*

	L1	L2	L3	L4	L5	L6	L7
P1	3	4	3	5	4	3	5
P2	3	4	3	4	4	3	4
P3	3	4	5	5	4	5	5
P4	3	3	5	4	3	5	4
P5	4	5	5	4	5	5	4
P6	3	4	5	4	4	4	4
P7	4	3	3	5	3	3	5
P8	3	4	5	5	4	5	5
P9	3	3	5	4	3	5	4
P10	4	5	5	4	5	5	4
P11	3	4	4	4	4	4	4
P12	3	4	3	5	4	3	5