



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Quality Engineering in Production Systems							
Course Code		MME519		Couse Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	202 (Hours)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		The course will give a deeper understanding within production and quality engineering							
Course Content		Competition and quality concepts, history of quality, quality gurus, philosophy and principles of TQM, quality culture in companies, and responsibilities in activities, continuous improvement (kaizen), Quality costs, Quality Management Systems.							
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	G. Taguchi, E.A. Elsayed and T. Hsiang, "Quality Engineering in Production Systems", McGraw-Hill, New York, 1989, ISBN: 978-0070628304, 192
2	Osanna P.H., Durakbasa M.N., Afjehi-Sadat A., "Quality in Industry", Mar 2004, printed in Austria (TU Wien: Abteilung Austauschbau und Messtechnik), ISBN: 3-901888-23-3, 147

Week	Weekly Detailed Course Contents	
1	Theoretical	Introduction to quality
2	Theoretical	General terms and definitions for quality management
3	Theoretical	Quality in production systems
4	Theoretical	Quality management philosophies and awards
5	Theoretical	Total quality management
6	Theoretical	Product realization
7	Theoretical	Product realization
8	Intermediate Exam	Midterm Exam
9	Theoretical	Metrology and inspection
10	Theoretical	Quality management and Integration in modern production environment
11	Theoretical	Quality management and Integration in modern production environment
12	Theoretical	Quality management system
13	Theoretical	Quality management system and tools for quality
14	Theoretical	Quality evaluation and quality improvement methods
15	Theoretical	The design of experiments to quality
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	Understand quality concepts
2	Understand the dimensions and factors of quality and define company's quality.
3	Define departments and staff 's responsibilities regarding quality in an organization
4	Measure Modern production system's performance and apply methods to improve performance
5	Understand TQMs implementation steps and implement them on an organization

### Programme Outcomes (Mechanical Engineering Master's Without Thesis)

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 become 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 gain ability 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
P1	5	4	3	5	3
P2	4	4	3	4	3
P3	3	4	5	5	3
P4	4	3	5	4	3
P5	3	5	5	4	4
P6	5	4	4	4	3
P7	3	3	3	5	4
P8	4	4	5	5	3
P9	5	3	5	4	3
P10	3	5	5	4	4
P11	4	4	4	4	3
P12	5	4	3	5	3

