



AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title		Reverse Engineering							
Course Code		MME537		Course Level		Second Cycle (Master's Degree)			
ECTS Credit	8	Workload	203 (<i>Hours</i>)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course		In this course; It is aimed to gain the competencies of making reverse engineering applications. It is to design new systems within the scope of engineering applications, to analyze the designed system, to optimize the analysis results by considering certain system parameters and to make dynamic analysis of the selected materials in the part production system.							
Course Content		Setting up the system for 3D Optical Measurement, Calibrating, Scanning, Optimizing the Data, Reverse Engineering, Quality Control, Setting up the system for photogrammetric measurement, Positioning the auxiliary equipment, Shooting, Digitizing the photos, Exporting the points							
Work Placement		N/A							
Planned Learning Activities and Teaching Methods				Explanation (Presentation), Project Based Study, Individual Study, Problem Solving					
Name of Lecturer(s)									

Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	20
Final Examination	1	60
Assignment	1	20

Recommended or Required Reading

1	1. Kadir GÖK, Revers Eng., 1. Baskı, Seçkin Yayınevi, 2020.
2	2. Python QT 3.2.3 Eğitim Seti Revers Engineering. Haziran 2019.

Week	Weekly Detailed Course Contents	
1	Theoretical	The system setting up for 3D Optical Surveying
2	Theoretical	Calibration
3	Theoretical	Scanning
4	Theoretical	Scanning
5	Theoretical	Optimizing Data
6	Theoretical	Reverse Engineering
7	Theoretical	Reverse Engineering
8	Intermediate Exam	Midterm Exam
9	Theoretical	Quality Control
10	Theoretical	Quality Control
11	Theoretical	Setting up the system for photogrammetric measurement
12	Theoretical	Positioning of auxiliary equipment
13	Theoretical	Shooting
14	Theoretical	Digitizing photographs
15	Theoretical	Exporting Point
16	Final Exam	Final Exam

Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	5	3	112
Assignment	1	10	0	10
Individual Work	7	4	4	56
Midterm Examination	1	7	3	10



Final Examination	1	12	3	15
Total Workload (Hours)				203
[Total Workload (Hours) / 25*] = ECTS				8
*25 hour workload is accepted as 1 ECTS				

Learning Outcomes

1	Making 3D Optical Measurements
2	Making Photogrammatic Measurements
3	Ability to Design Parts for Reverse Engineering
4	Part Analysis for Reverse Engineering
5	Quality Control of Manufactured Parts to be Compatible with the System

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
P1	5	4	5	4	5
P2	5	4	5	4	5
P3	4	3	4	5	4
P4	4	4	3	5	4
P5	4	5	4	4	5
P6	5	4	5	3	4
P7	4	4	5	5	3

