

# LEAN MANUFACTURING

1	Course Title:	LEAN MANUFACTURING
2	Course Code:	YLUS221
3	Type of Course:	Optional
4	Level of Course:	Short Cycle
5	Year of Study:	2
6	Semester:	3
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Dr. Öğr. Üyesi İdil YİĞİT
15	Course Lecturers:	Meslek Yüksekokulları Yönetim Kurullarının görevlendirdiği diğer elemanlar
16	Contact information of the Course Coordinator:	betul@uludag.edu.tr + 90 (224) 294 20 88 Uludag University, Faculty of Engineering-Architecture, Department of Industrial, Gorukle Campus, Bursa 16059, Turkey
17	Website:	
18	Objective of the Course:	Lean production and management, as a general meaning, aims to increase overall system performance by eliminating wastes. The entire system should be redesigned according to the definition of customer value. The aim of this course is to present methods and tools designed for these concepts
19	Contribution of the Course to Professional Development:	This course provides students to gain skills about how to design and operate a lean production environment
20	Learning Outcomes:	
	1	Being able to gain knowledge about the concept of Lean Thinking, and make the definition of waste.
	2	Being able to gain the knowledge and the application of lean manufacturing techniques.
	3	Being able to evaluate the results of the lean manufacturing implementations.
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice

1	Instructor Introduction; Course Overview Lean manufacturing concepts			
2	Production strategies Comparison of Lean Production with other Production Systems Lean Thinking, Fundamentals of Lean Thinking and Development Principles of Lean Thinking			
3	Value, Value Stream, Flow, Pull, and Perfection			
4	Value Stream Mapping Current State Mapping			
5	Future State Mapping			
6	Continuous Flow			
7	Production leveling, Heijunka			
8	U-shaped line Layouts and Design			
9	Pull, Just-in-Time Production Systems, Kanban Systems, Kanban Rules, Selection of the Number of Kanbans			
10	Pull, Just-in-Time Production Systems, Kanban Systems, Kanban Rules, Calculate the number of Kanban			
11	Perfection: KAIZEN, Continuous Improvement			
12	Perfection: 5S Rules			
Activites		Number	Duration (hour)	Total Work Load (hour)
13	Perfection: TPM – Total Productive Maintenance	14	2.00	28.00
Practicals/Labs		0	0.00	0.00
22	Self study, Textbooks, References and/or Other	1	10.00	10.00
Homeworks		1	10.00	10.00
Projects		Your Corporation, Womack, James P. and Jones, Daniel The New York Times, 8 Oct. 2009		
Field Studies		0	0.00	0.00
Midterm exams		1	5.00	5.00
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT	
Others		0	0.00	0.00
Midterm Exam		1	5.00	5.00
Total Work Load				90.00
Homework project		1	20.00	3.00
ECTS Credit of the Course				3.00
Total		3	100.00	
Contribution of Term (Year) Learning Activities to Success Grade		50.00		
Contribution of Final Exam to Success Grade		50.00		
Total		100.00		
Measurement and Evaluation Techniques Used in the Course		Measurement and evaluation are performed according to the Rules & Regulations of Bursa Uludağ University on Undergraduate Education.		
24	ECTS / WORK LOAD TABLE			

25	CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS															
	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0
ÖK2	0	0	0	2	3	3	0	0	2	0	0	0	0	0	0	0
ÖK3	0	0	0	2	3	3	0	0	3	0	0	0	0	0	0	0
LO: Learning Objectives    PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			