

COURSE RECORD

Code	BA 438
Name	Modern Manufacturing System
Hour per week	3 (3 + 0)
Credit	3
ECTS	5
Level/Year	Undergraduate/3-4
Type	Elective
Prerequisites	BA 303
Description	This course provides a foundational knowledge and practical tools for designing, analyzing, and optimizing modern manufacturing systems. It introduces both traditional and advanced manufacturing techniques and evaluates system performance using computer-integrated methods. Key topics include assembly lines, transfer lines, flexible manufacturing systems, material handling, and cellular manufacturing. Students will explore the integration of manufacturing systems into firm-wide strategies and develop a systems-thinking approach to continuous improvement.
Objectives	Introducing concepts, techniques, and tools for designing and improving manufacturing systems. Exploring the strategic role of manufacturing systems within broader business operations. Enhancing system-level thinking and optimization skills. Encouraging the integration of modern technologies into production environments.
Learning Outcomes	<i>By the end of this course, students will be able to</i> LO1. Demonstrate the key dimensions of the manufacturing system in business operations. LO2. Explain the interconnections between manufacturing systems and other functional areas. LO3. Identify current trends and technologies in modern manufacturing. LO4. Measure key performance indicators of manufacturing systems. LO5. Apply optimization techniques to improve manufacturing efficiency and integration.

CONTRIBUTION TO PROGRAMME OUTCOMES*

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
L01	5	3	2	1	2	2	3	3	3	3
L02	5	3	2	1	2	2	2	3	2	3
L03	4	3	2	1	2	2	3	4	3	4
L04	4	4	2	1	2	2	2	3	2	3
L05	5	5	3	1	2	2	3	4	3	4

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

CONTRIBUTION TO INSTITUTIONAL LEARNING OUTCOMES*

	IL01	IL02	IL03	IL04	IL05	IL06	IL07
L01	5	3	3	2	3	3	3
L02	5	3	2	2	3	3	3
L03	4	4	3	3	3	3	3
L04	5	4	2	2	3	3	3
L05	5	5	3	3	3	3	3

* Contribution Level: 0: None, 1: Very Low, 2: Low, 3: Medium, 4: High, 5: Very High

COURSE CONTENT DETAILS

Topic	Outcomes
Introduction, Production Operations, Production Models and Automation	LO1, LO2

Manufacturing Systems	L01, L02
Assembly Lines	L03, L04, L05
Automatic Production Lines	L03, L04, L05
Cellular Production	L03, L04, L05
Flexible Manufacturing Systems	L03, L04, L05
Manufacturing Support Systems	L03, L04, L05

DERS BİLGİLERİ

Kodu	BA 438
İsmi	Modern İmalat Sistemi
Haftalık Saati	3 (3 + 0)
Kredi	3
AKTS	5
Seviye/Yıl	Lisans/3-4
Dersin Dili	İngilizce
Tip	Seçmeli
Ön Şart	BA 303
İçerik	Bu ders, öğrencileri modern üretim sistemlerini tasarlama, analiz etme ve iyileştirme konusunda temel bilgi ve uygulama bilgisi sunar. Ders, geleneksel ve ileri üretim tekniklerini tanıtırken, sistem performansı bilgisayar destekli üretim yöntemleri hakkında bilgi sunar. Temel konular arasında montaj hatları, transfer hatları, esnek üretim sistemleri, malzeme taşıma sistemleri ve hücreli üretim yer alır. Öğrenciler, üretim sistemlerini firma stratejilerine entegre etmeyi öğrenerek sürekli iyileştirmeye yönelik sistematik bir bakış açısı geliştirirler.