



The University of Jordan
School of Engineering
Industrial Engineering Department
2nd Semester 2020/2021

Course name:	Manufacturing Processes Lab. (MfgE- Lab 0916515)			
Course code:	IE 0916515			
Credits hours	1hr			
Contact hours:	3hr. per week			
Course instructor's name, E-mail, and phone:	Dr. Yazan Al-Zain			
	y.alzain@ju.edu.jo			
	Phone: 22732			
Course Coordinator:	Dr. Yazan Al-Zain			
Text book:	Principles of Modern Manufacturing, Global Edition, by Groover (2016). Wiley.			
Other reference(s):	<ul style="list-style-type: none"> • Instructor's notes and Lab. sheets • Manufacturing Engineering and Technology, 6th edition. Serope Kalpakjian and Steven Schmid (2010). Prentice Hall. 			
Course Description:	Laboratory experiments in the practice and analysis of some formation, machining, casting and welding. Linking the variables involved in the operations with the characteristics and quality of final products, and the behavior of products during operations (As per 2019-2020 plan catalog description).			
Providing Department:	Industrial Engineering			
Prerequisite Course:	IE 0946513 (Metallurgical processes)			
Course type	Required (Mandatory)			
Assessment Methods:	Method	Weight %	Date	
	Reports/ Project/ Quizzes	20	Frequently	
	Mid Exam	30		
	Final Exam	50		
Course Learning Outcomes:	#	After successful completion of this course, the student will be able to	Mapping with SOs	Target %
	CLO1	Understand mechanical behavior of materials under forming operations, and testing for their properties	1	Final
	CLO2	Describe the most common aspects of some metallurgical processes like casting technology	7	Quiz
	CLO3	Integrate some variables of machining processes with product quality	7	Final
	CLO4	Analyze the deep drawing Process	6	Final
	CLO5	Design and conduct experiments, as well as to analyze and interpret data.	6	Final

Brief list of topics	Week #	Topic
	1	General Course Orientation
	2	Workshop and related-Labs visits.
	3-4	Casting and welding technologies
	5-8	Material hardness, and Jominy test of hardenability
	9-11	Properties and mechanical behavior of materials.
	12-13	Effects of cutting conditions on surface roughness of metals
	13-16	Deep Drawing Process

Important Notes:	
	<ul style="list-style-type: none"> • Do not hesitate to ask questions • You are required to bring a notebook and take notes in classes. • Students are expected to attend every class session and they are responsible for all material, announcements, schedule changes, etc., discussed in class. • Discuss the assignments among yourselves • Don't Cheat; direct copying of others work will NOT be allowed or tolerated and will result in a reduction of grade. If you are found to be cheating in any way, on an exam or assignment, even signing the roll sheet for another student, you will be given an "F" for the course. There will be no exceptions. • All cases of academic dishonesty will be handled in accordance with university policies and regulations. JU policy requires the faculty member to assign ZERO grade (F) if a student misses 15% of the classes that are not excused, and 20% of the classes that are excused • Students are expected to be ready to take a quiz any time they have a class. There will be no make-up quizzes or home works. • Any students with disabilities who need accommodations in this course are encouraged to speak with the instructor as soon as possible to make appropriate arrangements for these accommodations.

<i>The B.Sc. in industrial Engineering program enables students to achieve, by the time of graduation the following program learning outcome (SOs)</i>			
1	<i>An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics</i>	5	<i>An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives</i>
2	<i>An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors</i>	6	<i>An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions</i>
3	<i>An ability to communicate effectively with a range of audiences</i>	7	<i>An ability to acquire and apply new knowledge as needed, using appropriate learning strategies</i>
4	<i>An ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts</i>		