



**JORDAN UNIVERSITY OF SCIENCE AND
TECHNOLOGY
INDUSTRIAL ENGINEERING DEPARTMENT**



Course Number and Name	IE 593 Product Development Lab
Course Description	This course aims at integrating various skills and knowledge gained from previously studied industrial-engineering courses. You will apply these skills in comprehensive, semester-short, team projects on product development with an emphasis on benchmarking QFD, concurrent engineering, reverse engineering, and value engineering in addition to the design of production system and basics of product realizations. Moreover, the knowledge of material selection, engineering drawing, optimization, safety engineering, human factors will be applied to design products that will be selected by each team.
Credits and contact hours	1 Credit hour; 3 hours of lectures
Pre- or Co-requisites	IE420 Mechanics of Machines
Required/ Elective	Required

Text Book(s)	David G. Ullman, <i>The Mechanical Design Process</i> , 4th edition, McGraw Hill, 2009
Software tools	CAD
References	<ul style="list-style-type: none">• Any book containing materials related to product design such as "mechanical drawings, Dynamics, static, strength of materials, machinery and mechanisms, Manufacturing..." may be useful.• Journal of Engineering for Industry• Journal of Engineering Design

Course Objectives	Upon completion of this course, the students will <ul style="list-style-type: none">• Exercise the systematic approach to product design based on customer requirements• Practice teamwork dynamics through the semester-short projects• Communicate technical knowledge through technical drawing• Write technical reports and design documentations• Deliver oral presentations with the aid of various media
Measured Outcomes	3c, 3d and 3g

Topics	Evaluation (%)	
Introduction to Design	Class Work	10
Project 1 (Reverse Engineering)	Individual Project	10
Project 2 (Customer oriented Design and Concurrent Engineering)	Team Project Reports	30
Project 3 (Innovation)	Presentation	10
Final Project	Final Project Report	40