

**DEPARTMENT OF INDUSTRIAL ENGINEERING
COURSE SYLLABUS**

<i>COURSE TITLE</i>	<i>ENGLISH CODE/NO</i>	<i>ARABIC CODE/N O.</i>	<i>CREDITS</i>			
			<i>Th.</i>	<i>Pr.</i>	<i>Tr.</i>	<i>Total</i>
Industrial Engineering Practice	IE 491	حص ٤٩١	3	1	-	3
<i>Pre-requisites:</i>	IE 341, IE 351					
<i>Course Role in Curriculum</i>	<i>Required or Elective:</i>		Elective			
<i>Catalogue Description:</i> Overview of all areas of Industrial Engineering (IE). Identification of specific IE tools for industrial and business enterprises. Brainstorming sessions of several pre selected industrial and business enterprises. Visiting the sites and conducting walk-through surveys. On-site studies of IE applications and practices. Preparation of visit-reports containing findings, comments and recommendations pertaining to every visit. Multimedia-based presentation of visit-reports.						

Textbooks:

PRODUCTION AND OPERATION MANAGEMENT, 7th Ed., Heizer, J. and Render, B., (2005), Pearson Prentice Hall.

References:

- **FACILITIES PLANNING**, 3rd Ed., Tompkins, W., et al., (2003), John Wiley & Sons.
- **INTRODUCTION TO WORK STUDY**, 4TH Ed., Kanawati, G. (Ed), (1992), International Labour Organization, Geneva.
- **INDUSTRIAL SAFETY AND HEALTH MANAGEMENT**, 5TH Ed., Asfahl, C.R., (2005), Prentice Hall.

Supplemental Materials:

Course Learning Outcomes:

By the completion of the course the student should be able to:

1. Use industrial engineering knowledge in actual life situations, in general, and in particular as related to the following aspects.
2. Apply the skills of "productivity-enhancement" in industrial and non-industrial environments of work; as well as comparing and contrasting the prevalent economic systems, verifying the significance of human resource management, the organization structure and design in professional life.
3. Understand the strategic role of Information Systems in organizations, and their application for promoting business process integration and improving organizational performance.
4. Anticipate, recognize and suggest controls for work and environmental hazards, as well as accident causes.
5. Work efficiently in multidisciplinary team, and work efficiently in assigned work.

6. Communicate effectively in written/oral communication skills.

<u>Topics to be Covered:</u>		<u>Duration in Weeks</u>
1	<p>The students visit selected industrial and business enterprises (twelve visits during one semester) with the following objectives:</p> <ol style="list-style-type: none"> 1. Walk-through survey of the industrial operations, reviewing: <ol style="list-style-type: none"> a) Facility layout and general design of workplace and workstations. b) Job design and performance. 2. Discussion with key manager(s) as related to the application of IE principles in: <ol style="list-style-type: none"> a) Operation planning and control. b) Management systems design. c) Work measurement and design. d) Application of information systems. e) Quality control. f) Financial and personnel management(s). <p>The students are divided into 5-6 teams, who are rotating their interest in the field visits towards the different IE aspects. The teams prepare and present in one class outlines and basic information for the forthcoming visit, as well as present reports in class for the previous visit, including students' observation, comments, recommendations, and have discussion among each other, directed by the coordinator(s), of all their technical interests in the visit</p>	14

Student Outcomes addressed by the course: (Put a √ sign)

(a) an ability to apply knowledge of mathematics, science, and engineering	
(b) an ability to design and conduct experiments, as well as to analyze and interpret data	
(c) an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
(d) an ability to function on multidisciplinary teams	√
(e) an ability to identify, formulate, and solve engineering problems	√
(f) an understanding of professional and ethical responsibility	√
(g) an ability to communicate effectively	√
(h) the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context	
(i) a recognition of the need for, and an ability to engage in life-long learning	
(j) a knowledge of contemporary issues	
(k) an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.	√

Key Student Outcomes assessed in the course: () and ()

Instructor or course coordinator: Dr. Hisham M Alidrisi

Last updated: Jan. 2015