

**DEPARTMENT OF INDUSTRIAL ENGINEERING
COURSE SYLLABUS**

<i>COURSE TITLE</i>	<i>ENGLISH CODE/NO</i>	<i>ARABIC CODE/NO.</i>	<i>CREDITS</i>			
			<i>Th.</i>	<i>Pr.</i>	<i>Tr.</i>	<i>Total</i>
Industrial Safety Engineering	IE 441	حص ٤٤١	3	12	3-	3
<i>Pre-requisites:</i>	IE342					
<i>Course Role in Curriculum</i>	<i>Required or Elective:</i>		Required Core Course			
<i>Catalogue Description:</i> Accident: causes and costs. Appraising safety performance and risk assessment. Analysis of accident causes. Accident reports and records. Job safety analysis. Plant inspection. Accident investigation. Plant layout and arrangement. Plant housekeeping. Maintenance and safety. Material handling and safety. Machine guarding. Explosion and fire prevention. Personal protection. First aid. Planning for emergencies.						
<u>Textbooks:</u> Asfahl, C.R. and Rieske D.W., Industrial Safety and Health Management, 6/e, Pearson, Boston, 2010.						
<u>Supplemental Materials:</u> Instructor notes						
<u>Course Learning Outcomes:</u> <i>By the completion of the course the student should be able to:</i>						
<ol style="list-style-type: none"> 1. Anticipate and recognize work hazards and accident causes, analyze them and assess their impact on productivity. 2. Initiate and maintain a safety program for an organization. 3. Comprehend safety aspects and control of work accidents. 4. Improve communication skills with industry for solving industrial safety problems. 						
<u>Topics to be Covered:</u>						<u>Duration in Weeks</u>
1	Accident during work: cost and causes (4 classes)					1.3
2	Appraising safety performance and risk assessment (2 classes)					0.7
3	Analysis of accident causes (2 classes)					0.7
4	Accident report and records (2 classes)					0.7
5	Job safety analysis (3 classes)					1
6	Plant inspection (2 classes)					0.7
7	Accident investigation (2 classes)					0.7

8	Plant layout and arrangement (2 classes)	0.7
9	Plant housekeeping (2 classes)	0.7
10	Maintenance and safety (2 classes)	0.7
11	Material handling and safety (3 classes)	1
12	Machine guarding (3 class)	1
13	Flammable materials (3 classes)	1
14	Explosion and fire prevention (4 classes)	1.3
15	Personal protection and First Aid (3 classes)	1
16	Electrical hazards (2 class)	0.7
17	Planning for emergencies (2 classes)	0.7

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: (c) and (g)

Instructor or course coordinator: Dr. Mohamed Zytoon

Last updated: February 2015