


Sub.	Course Description – توصيف مقرر دراسي	الموضوع	 كليات المعرفة ALMAAREFA COLLEGES
Date		التاريخ	

Course Code & No	IE430		رقم المقرر ورمزه
Course Name	Safety Engineering -1		اسم المقرر
Credit Hours	3 (3+1+1)		عدد الساعات المعتمدة
Pre-requisite	IE-331		المتطلب السابق

General Description	توصيف عام
Introduction to regulations and standards; Industrial hazard avoidance concepts and techniques; Plant safety applications; Management and its safety responsibilities; Analytical trees and fault tree analysis; Risk assessment; Emergency planning.	

Course Objectives	أهداف المقرر
<p>The aim of the course is to train student by providing them the scientific know-how and orientation in theories and practices in the area of Occupational Safety and Health.</p> <p>By the end of the course, each student should be able to</p> <ul style="list-style-type: none"> • Recognize professional and ethical elements of an outstanding safety program. • Recognize ethical standards and professional codes of conduct for engineers, e.g., NSPE Code of Ethics for Engineers. • Define government agencies, regulatory bodies, codes, and standards that govern the global, societal, and environmental impact of plant design projects. • List examples of how unsound science or unethical behaviour had a negative impact on society. • Show how to apply OSHA PSM and EPA RMP in the process industries. • Define and apply the principles and approach of inherently safer design to reduce and eliminate hazards and thereby lower the risk of new or currently operating chemical systems. • Illustrate the operation of industrial processes and equipment and apply engineering fundamentals to the analysis and prediction of performance under adverse circumstances. • 8. Define the potential hazards and hazardous conditions associated with the processes and equipment involved in the chemical process industries. 	

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Course Outlines	مفردات المقرر
<ul style="list-style-type: none"> • Introduction to safety Concepts and Techniques • Risk Management and Analysis • Failure Mode and Effect Analysis, Fault Tree Analysis, Event Tree • Job Safety Analysis and Preliminary Hazard Analysis • Safety Performance Monitoring • Personnel Protective Equipment • Mechanical hazards • Material handling and storage Hazards • Electrical Safety 	

References	المراجع
<p>Required Textbooks</p> <ul style="list-style-type: none"> • Industrial Safety and Health Management; Asfahl, C. Ray, Pearson Prentice Hall, latest edition • Occupational Safety Management and Engineering; Hammer, W, Prentice Hall, latest edition <p>Essential References Materials</p> <ul style="list-style-type: none"> • Heinrich H.W. “Industrial Accident Prevention” McGraw-Hill Company, New York, latest edition. • Krishnan N.V. “Safety Management in Industry” Jaico Publishing House, Bombay, latest edition • Lees, F.P., “Loss Prevention in Process Industries” Butterworth publications, London, latest edition. • John Ridley, “Safety at Work”, Butterworth and Co., London, latest edition. 	