



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

Course Code & No	IE331		رقم المقرر ورمزه
Course Name	Human Factor Engineering		اسم المقرر
Credit Hours	3 (2+1+2)		عدد الساعات المعتمدة
Pre-requisite	IE 301		المتطلب السابق

General Description	توصيف عام
Introduction to human factors; Human-Machine Systems; Information theory; Human Capabilities, environmental and thermal factors; Display and control Design, Hand Tools and Devices, Workplace Design, Physical Work and Manual Materials Handling and Speech Communications.	

Course Objectives	أهداف المقرر
<p>The course introduces the students to the field of human factors so that they can make full recognition of the abilities and limitations of human beings (operator or user) in order to enhance certain desirable values such as safety, job satisfaction, efficiency, and wellbeing. The course helps the student in understanding how to optimize the relationship between people and technology</p> <p>By the end of the course, each student should be able to :</p> <ul style="list-style-type: none"> Recognize the principles and applications of ergonomics and human factors . Explain and apply human factors engineering concepts in both evaluation of existing systems and design of new systems . Illustrate designs that avoid occupation related injuries . Define and apply the principles of work design, motion economy, and work environment design . Recognize the basic human sensory, cognitive, and physical capabilities and limitations with respect to human-machine system performance . Describe the impact of workplace design and environment on productivity. 	

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Course Outlines	مفردات المقرر
<ul style="list-style-type: none"> • Introduction to Human Factors and Ergonomics. • Information Processing Theory • Workspace Design Using Anthropometric Data. • Body Mechanics at work. • Static Work Design. • Repetitive Task Design. • Manual Handling Tasks. • Stress and Fatigue (Physical Work Capacity). • Environmental Conditions. • Mental Workload. • Display and Control Design. • Human Error, Accidents, and Safety. 	

References	المراجع
<p>Required Textbooks Introduction to Ergonomics, Third Edition, R. S. Bridger Publisher: CRC Press, Taylor & Francis Group. ISBN-13: 978-0-8493-7306-0 latest edition</p> <p>Essential References Materials An Introduction to Human Factors Engineering by Wickens, Lee, Liu, & Gordon Becker, latest Edition.</p>	