


Sub.	Course Description – توصيف مقرر دراسي	الموضوع	 <b>كليات المعرفة</b> ALMAAREFA COLLEGES
Date		التاريخ	

Course Code & No	IE451		رقم المقرر ورمزه
Course Name	Industrial Facility Design and Material Handling		اسم المقرر
Credit Hours	4 (3+1+2)		عدد الساعات المعتمدة
Pre-requisite	IE 322, IE 332		المتطلب السابق

<b>General Description</b>	توصيف عام
<p>Facility design concept and industrial feasibility study, Facility design stages of Industrial Factory design product and production analysis; capacity analysis of material, machines, assembly stations, and labor. Concepts and methodologies for the analysis and design of material handling systems. Automated material handling systems. Concept of storage analysis and design, and automated storage and retrieval system. Area allocation and space analysis. Flow analysis. Plant layout and plan. Computerized facility layout. Location problem analysis.</p>	

<b>Course Objectives</b>	أهداف المقرر
<p>The course aims to provide the knowledge and skills to design and evaluate an industrial facility capacity, space areas, and layout plan. Also it gives the design of subsystems of the plant such as material handling and storage system.</p> <p><b>By the end of the course, each student should be able to</b></p> <ul style="list-style-type: none"> <li>Recognize the strategic planning concept for industrial facility and the design stages</li> <li>Demonstrate ability of applying basic knowledge of design techniques in solving problems and design of facility</li> <li>Analyze product data to estimate production volume and develop product specifications</li> <li>Design manufacturing process and calculate factory the capacity (machines, material, and labours).</li> <li>Construct the facility departments and calculate their areas</li> <li>Design facility layout plan</li> <li>Analyze location problems and site selection</li> </ul>	

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Course Outlines	مفردات المقرر
<ul style="list-style-type: none"> <li>The course aims to provide the knowledge and skills to design and evaluate an industrial facility capacity, space areas, and layout plan. Also it gives the design of subsystems of the plant such as material handling and storage system.</li> <li>By the end of the course, each student should be able to</li> <li>Recognize the strategic planning concept for industrial facility and the design stages</li> <li>Demonstrate ability of applying basic knowledge of design techniques in solving problems and design of facility</li> <li>Analyze product data to estimate production volume and develop product specifications</li> <li>Design manufacturing process and calculate factory the capacity (machines, material, and labours.)</li> <li>Construct the facility departments and calculate their areas</li> <li>Design facility layout plan</li> <li>Analyze location problems and site selection</li> </ul>	

References	المراجع
<p><b>Required Textbooks</b></p> <ul style="list-style-type: none"> <li>Manufacturing Facility Design and material handling, F.E. Mayer, M.P. Stephen, Prentice Hall, latest edition.</li> <li>Facility Planning, Tompkins, J &amp; White J., John, Wiley &amp; Sons, latest edition.</li> </ul> <p><b>Essential References Materials</b></p> <ul style="list-style-type: none"> <li>Manufacturing Facility Design and material handling, F.E. Mayer, M.P. Stephen, Prentice Hall, latest edition.</li> <li>Facility Planning, Tompkins, J &amp; White J., John, Wiley &amp; Sons, latest edition.</li> </ul>	