

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

Course Code & No	IE303		رقم المقرر ورمزه
Course Name	Quality Engineering-I		اسم المقرر
Credit Hours	3 (3+1+1)		عدد الساعات المعتمدة
Pre-requisite	STAT 103, IE 344 (Co-Req.)		المتطلب السابق

General Description	توصيف عام
<p>An understanding of the basic concepts of quality; An appreciation of the functions served by a quality management system; the ability to design quality into products so as to satisfy both internal and external customer; The study of frequency distributions and probability models in quality control; Preparation and use various control charts; Construction of different sampling plans; Quality improvement Methods and analysis of quality costs; Application of computer in the above areas.</p>	

Course Objectives	أهداف المقرر
<p>The course aims to provide the knowledge and skills of quality control to analyze and monitor the process for sustainable improvement. Moreover, the course provides techniques of the qualification tests for the process and acceptance sampling plans. In addition, the course introduces students to quality management systems.</p> <p>By the end of the course, each student should be able</p> <ul style="list-style-type: none"> • Understand the basic concepts of quality control and quality system and use related mathematical tools • Construct variable and attribute control charts and their use to monitor the process • Analyze the control limit, determine the process capability, and diagnose quality problems for sustainable improvement . • Understand the operating characteristic curve and preparing the acceptance sampling plan • Recognize quality management systems (TQM, BSC, ISO9001 and kaizen) 	

Course Outlines	مفردات المقرر
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- Introduction to quality control
- Fundamentals of statistics for quality control
- The basic concepts of quality
- Control charts for variables
- Control charts for attributes
- Processes capability
- Acceptance sampling
- Design quality into products
- Methods of quality improvement
- Quality costs
- Introduction to Total Quality Management (TQM), Six Sigma, Balance Score Card (BSC), ISO 9001, and Kazien.

References	المراجع
<p>Required Textbooks Introduction to Statistical quality control, D. C. Montgomery, John Wiley & Sons, Inc., latest edition.</p> <p>Essential References Materials Introduction to Statistical quality control, D. C. Montgomery, John Wiley & Sons, Inc., latest edition.</p>	