



Jordan University of Science and Technology
Faculty of Engineering
Industrial Engineering Department

IE740 Reliability And Quality Control

First Semester 2022-2023

Course Catalog

3 Credit Hours. Introduction to statistically based quality improvement methods useful in industrial settings. Study and application of statistical models and methods for defining, measuring and evaluating reliability of products, processes and services: life distribution, reliability functions, reliability configurations, reliability estimation, parametric reliability models, accelerated life testing, and reliability improvement.

Teaching Method: On Campus

Text Book

Title	An Introduction to Reliability and maintainability Engineering
Author(s)	Charles E. Ebeling
Edition	2nd Edition
Short Name	1
Other Information	

Course References

Short name	Book name	Author(s)	Edition	Other Information
2	An Introduction to Reliability & Quality Engineering	John Bentley	2nd Edition	
3	The Management and Control of Quality	Evans, J. R. and Lindsay	6th Edition	

Instructor

Name	Dr. KHALID ALZOUBI
Office Location	N1L2

Office Hours	Sun : 10:30 - 11:30 Sun : 13:30 - 14:30 Tue : 10:30 - 11:30 Wed : 09:00 - 10:00 Thu : 10:30 - 11:30 Thu : 13:30 - 14:30
Email	kmalzoubi4@just.edu.jo

Class Schedule & Room
Section 1: Lecture Time: Thu : 14:30 - 17:30 Room: M5124

Tentative List of Topics Covered		
Weeks	Topic	References
Weeks 1, 2	Introduction to Reliability	
Weeks 3, 4	Basic Reliability Models	
Weeks 5, 6	Physical Reliability	
Weeks 7, 8	Data Collection and Empirical Methods	
Weeks 9, 10	Cumulative Sum and Exponentially Weighted Moving Average Control Chart	
Weeks 11, 12	Other Univariate Statistical Process Monitoring and Control Techniques	
Weeks 13, 14	Multivariate Process Monitoring and Control	
Weeks 15, 16	Term Project Presentations	

Mapping of Course Outcomes to Program Outcomes	Course Outcome Weight (Out of 100%)	Assessment method
Understanding reliability functions, reliability estimation, parametric reliability models, and accelerated life testing,	50%	
Understanding quality improvement tools and methods	50%	

Relationship to Program Student Outcomes (Out of 100%)						
SLO1	SLO2	SLO3	SLO4	SLO5	SLO6	SLO7

Policy

Course Policies	<p>** NO audio or video recording is permitted</p> <p>** Attendance will be checked at the beginning of each class. University regulations will be strictly followed for students exceeding the maximum number of absences. No make-up test will be given without an official university-approved excuse.</p> <p>** Students are responsible for all email messages sent by the instructor</p> <p>** Academic Honesty: Students will abide by JUST policy on academic honesty listed in the University Bulletin. Failure to abide by this policy will result in serious consequences, such as a zero grade and possibly an F for the course.</p> <p>** NOTE: If you are a student with special needs (disability), please contact me as soon as possible.</p>
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