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|  | **THE HASHEMITE UNIVERSITY**  **INDUSTRIAL ENGINEERING DEPARTMENT** |  |

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| **Course Number and Name** | **IE 110403242** |
| **Course Description** | Topics in Industrial Engineering that involve random processes. Applications and backgrounds for topics in reliability, inventory systems, and queuing problems, including absolute and conditional probabilities, discrete and continuous random variables, probability distribution, and other topics included in the first text book through Chapter 6 and Chapter 7 of the second text book. |
| **Credits and contact hours** | 3 Credit hours; 3 hours per week |
| **Pre- or Co-requisites** | Eng. Workshop (0403101) and Strength of Materials (0401212). |
| **Required/ Elective** | Required |

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| **Instructor** | Dr. Sahar M. ALMashaqbeh |
| **Office Location** |  |
| **Office Phone** | 05-3903333 |
| **Email** | *s.mashaqbeh25@yahoo.com* |
| **Office Hours** |  |

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| **Text Book(s) & References** | 1. Walpole R. Myers R. Myers S. and K. Ye, Probability and Statistics for Engineers and Scientists, last Edition, Prentice Hall.   Extra notes that will be provided by the instructor throughout the class |

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| **Course Objectives** | In this course students will learn the basic fundamentals of probability and statistics. This course is designed to not only introduce students to the basics, but to develop students’ probabilistic and statistical intuition for application in their discipline  To understand the basic concepts of probability theory, discrete and continues random variable, to apply those concepts to solving numerical problems especially those relating to probability distributions, to perform descriptive and inferential statistical analyses of data, and to understand the collected data and simplify it in different ways |
| **Measured Outcomes** | a, b, c, and k |

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| **Class Schedule** | Sun., Tues. and Thu. 9-10 , 11-12 AM and Mon. Wed. 9.30-11 |

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| **Evaluation** | |
| First Exam (Electronic)  Ch1+Ch2 | 25 points |
| Second Exam  (Electronic)  Ch3+Ch4 | 25 points |
| 2 Quizes | 10 points |
| Final Exam | 40 points (Covers all chapter equally) |

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| **Topics** | **Chapters in Text** | Note |
| Introduction to Statistics and Data Presentation | Chapter 1 |  |
| Probability and counting methods | Chapter 2 |  |
| Random Variables and Probability Distribution | Chapters 3 |  |
| Mathematical Expectations | Chapter 4 |  |
| Some Discrete Probability Distribution | Chapter 5 |  |
| Some Continues Probability Distribution | Chapter 6 |  |