(Textile Engineering Department)

Undergraduate

Course Title: Statistical Quality Control
Prerequisite: Engineering statistics and probabilities
Number of Credits: 2
Lecturer: Dr. Abdolhosein Sadeghi

Course Topics:

- **Quality and its History: 1) Quality Concept and its dimensions 2) Quality of Design and Conformance Quality 4) Quality and Competitiveness 5) Quality Costs and Its Management**

- **Quality Design and Management: 1) Customer Orientation, 2) Quality Function Deployment**
- **Statistics review: 1) Descriptive Statistics- 2) Sampling Methods, 3) Sampling Distribution, Deductive Statistics and Estimation Theory, 5) Analysis of Variance**
- **Quality Improvement Basic Tools: 1) Data Sheets , Check Sheets 2) Histogram Data presentation Methods 3)Pareto Chart and Analysis 4)Cause and Effect Diagram and Analysis 5)Defect Concentrations Diagram 6) Scatter Diagram**
- **Statistical Process Control:1) Random and Assignable Causes of Product Variability, 2) Principals of Control Charts, 3) Attributes Control Charts, 4) Variables Control Charts**
- **Acceptance Sampling: 1) Concepts, Lot definition, Sample Selection, O.C. curves, 2)Acceptance Sampling for Attributes: Single Sampling Plans, Double Sampling Plans & Multiple Sampling Plans, 3) Acceptance Sampling Variables**
- **Quality Control Organization**

Reading Resources:

- Montgomery, Doglas C.; "Introduction to Statistical Quality Control", Translated to Farsi : Noor As Sana, R.; Science and Industry University Press; 1376
- Chuter, A.J.; “Quality Management in the Clothing and Textile Industries”; Textile Institute; 2002; Chapters 1-3; PP 1-65
- Mehta, Pradip V.; “An Introduction to Quality Control for the Apparel Industry”; Japan, S.N. International Inc.; 1985; PP 1-32, 111-113