

# Statistical Quality Control in Textiles - Web course

## COURSE OUTLINE

Introduction to quality & quality control, statistical description of quality, statistical inferences on quality, control charts for variables and attributes, process capability analysis, acceptance sampling schemes for variables and attributes, six sigma.

## COURSE DETAIL

S.No	Modules	No. of Hours
1	<b>Introduction to Quality &amp; Quality Control:</b> Concept of quality, quality characteristics, quality standards, quality cost, concept of quality control, quality control methodology, statistical methods of quality control, quality philosophy and management strategies.	5
2	<b>Statistical Description of Quality:</b> Population and sample, techniques of sampling, simple random sample, analysis of sample data, representation of sample data, practical examples.	5
3	<b>Statistical Inferences on Quality:</b> Population and sample distributions, estimation of population parameters, statistical hypothetical test, practical examples.	5
4	<b>Shewhart Control Charts:</b> Basis of control chart, types of control chart, design of control chart, analysis of control chart, control charts for variables and attributes, case studies.	5
5	<b>Process Capability:</b> Concept of process capability, measures of process capability, potential process capability, actual process capability, process capability analysis, case studies.	5
6	<b>Other Control Charts:</b> Moving average control chart, cumulative sum control chart, exponentially weighted moving average control chart, case	5



NP-TEL

# NPTEL

<http://nptel.iitm.ac.in>

## Textile Engineering

### Additional Reading:

Textile related journals and magazines, examples include but not limited to Textile Research Journal, Journal of Textile Institute.

### Coordinators:

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	studies.	
7	<b>Acceptance Sampling Schemes:</b> Basis of sampling schemes, types of sampling schemes, acceptance sampling schemes for variables and attributes, operating characteristic curve, producer's risk, consumer's risk, rectifying inspection.	5
8	<b>Six Sigma:</b> Concept of six sigma, methods of six sigma, DMAIC methodology, DFSS methodology, six sigma control chart, case studies.	5

**References:**

1. Leaf, G. A. V., Practical Statistics for the Textile Industry-Part I & II, The Textile Institute, UK, 1987.
2. Montgomery, D. C., Introduction to Statistical Quality Control, John Wiley & Sons, 2002.
3. Dhillon, B. S., Applied Reliability and Quality: Fundamentals, methods, and Procedures, Springer, London, 2007.