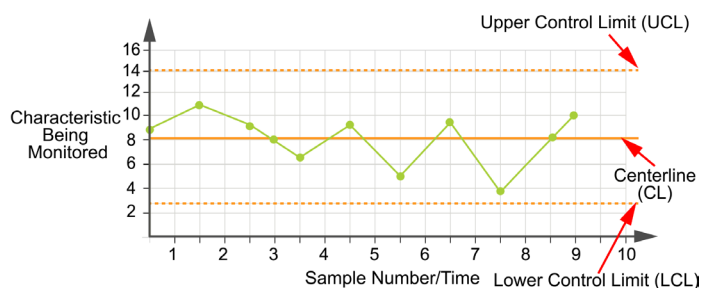


Statistical Process Control (SPC) Fundamentals

eLearning courses designed to increase productivity and profits

Learning Made Simple, Visual, and Interactive



The THORS *Statistical Process Control (SPC) Fundamentals* course serves as a guide to understanding various types of control charts used for Statistical Process Control (SPC) within manufacturing industries. The course provides an interactive learning experience, enabling learners to explore the various types of control charts used for variable data such as the $\bar{X}$ and R chart, $\bar{X}$ and S chart, I-MR chart, and special purpose charts. Learners are then introduced to control charts used for attribute data such as the p chart, np chart, u chart, and c chart. Finally, the course also presents case studies that illustrate the application of the different types of control charts.

Credit Hours **2.5**

Learning Objectives

- 💡 Develop an understanding of the different types of control charts used for variable data.
- 💡 Identify the special purpose charts used for variable data.
- 💡 Develop an understanding of the various types of control charts used for attribute data.
- 💡 Recall the applications for each of the different types of control charts.

Table of Contents

I. Control Chart for Variable Data

- $\bar{X}$ and R Chart
 - Initial Data Calculation
 - Subgroup Average Calculation
 - Subgroup Range Calculation
 - Control Limits Calculation
 - Control Limits Calculation for the R Chart
 - Control Limits Calculation for the $\bar{X}$ Chart
- $\bar{X}$ and S Chart
 - Initial Data Calculation
 - Subgroup Average Calculation
 - Subgroup Standard Deviation Calculation
 - Control Limits Calculation
 - Control Limits Calculation for the S Chart
 - Control Limits Calculation for the $\bar{X}$ Chart

I. Control Chart for Variable Data (continued)

- I-MR Chart
 - Moving Range Calculation
 - Control Limits Calculation
 - Control Limits Calculation for the MR Chart
 - Control Limits Calculation for the I Chart
- Special Purpose Charts
 - Traffic Signal Chart
 - CUSUM Chart
 - EWMA Chart
 - DNOM Chart
 - Sloping Chart

II. Control Chart for Attribute Data

- Control Chart for Defective Units
 - p Chart
 - np Chart
- Control Chart for Defects
 - c Chart
 - u Chart

III. Case Study Examples

- Case Study 1: $\bar{X}$ and R Chart
- Case Study 2: $\bar{X}$ and S Chart
- Case Study 3: I-MR Chart
- Case Study 4: p Chart
- Case Study 5: np Chart
- Case Study 6: c Chart
- Case Study 7: u Chart

