

# Statistical Process Control

## Course Outlines

- ❖ The course is divided into 5 units as follows:
  - **Unit 1:**
    - Introduction to SPC
    - Basic statistical concepts
    - SPC applications
  - **Unit 2:**
    - What variation is and why it's a problem in manufacturing
    - Using a histogram to measure the variation in a process.
    - Types of patterns of variation, what they tell you, and what to do about them.
  - **Unit 3:**
    - Statistical measures of variation: Mean, range, and standard deviation.
    - Properties of the normal distribution and normalization
    - The importance of a stable process in manufacturing
  - **Unit 4:**
    - What are Control Charts and types of Control Chart
    - Calculating Control Limits
    - What a Control Chart Looks Like
    - Interpreting Control Charts & Taking Action
    - Types of Control Charts
  - **Unit 5:**
    - What process capability means and why it's important.
    - Capability Indices: Cp/Cpk/Pp/Ppk
    - Attribute Control Charts
    - Example of SPC software (Minitab)
    - Process Capability and Six Sigma