Statistical Process Control for Technicians
Presented by the
Southwest Center for Microsystems Education

Questions that will be answered during this webinar

- What can the Southwest Center for Microsystems Education (SCME) do for you?
- What is process variation and why do we need to identify special cause variation?
- What is SPC?
- Statistical tools necessary to employ SPC
- Normal distribution and how it is significant in Xbar-charts
- Xbar-charts and how to create them
- Interpreting Control Charts by applying the Shewhart rules

Shewhart rules (aka Western Electric Rules)

Rule 1: A single point outside the $\mu \pm 3\sigma$ zone.

Rule 2: Two out of three successive points outside $\mu \pm 2\sigma$ zone.

Rule 3: Four out of five successive points outside $\mu \pm 1\sigma$ zone.

Rule 4: Eight or more successive numbers either strictly above or strictly below the mean (the center).

Rule 5: Six or more successive numbers showing a continuous increase or continuous decrease.

Rule 6: Fourteen or more successive numbers that oscillate in size (i.e. smaller, larger, smaller, larger)

Rule 7: Eight or more successive numbers that avoid $\mu \pm 1\sigma$ zone.

Rule 8: Fifteen successive points fall into $\mu \pm 1\sigma$ zone only, to either side of the centerline.

Links and references from webinar

- SCME website: scme-nm.org
- List and descriptions of SCME Learning Modules
- List and descriptions of SCME Instructional Kits
- MicroElectroMechanical Systems (MEMS) - Sandia National Laboratories
- YouTube Channel for SCME (17 animations and narrated videos)

  *Participant guides are available for free download at the links provided. Become a registered member of the SCME website and gain access to the Instructor guides (IG).

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SCME Webinars (All recorded webinars are available.)

For information on the Fall 2011 – Spring 2012 webinars, click here.

For information on the Fall 2012 – Spring 2013 webinars, click here