

QUALITY & OPERATIONAL EXCELLENCE | COURSE BROCHURE

Statistical Process Control (SPC) for Quality Professionals

5 days | Classroom training | English

SMART HORIZON

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Course content

Why attend

Statistical process control helps organisations understand process variation, detect problems early and make decisions based on data rather than opinion. This course covers the essential statistics for quality professionals, types of variation, control charts for variables and attributes, process capability analysis, measurement system basics and how to use SPC to drive improvement. Participants use realistic datasets and spreadsheet or statistical software to build and interpret charts and capability studies.

Reacting to every change in results wastes time and can make processes worse, while ignoring real signals allows defects to reach customers. This course teaches you how to distinguish normal variation from meaningful change and use SPC confidently to monitor and improve processes.

Professional Problems This Course Is Designed to Solve

• Difficulty translating subject knowledge into practical workplace decisions.
• Inconsistent approaches to the activities covered in the course outline.
• Lack of a structured plan for applying and reviewing new skills.

Course methodology

The course is practical, combining short statistical explanations with hands-on exercises using datasets, control chart construction, capability calculations, case studies and process improvement projects.

Course objectives

By the end of this course, participants will be able to:
• Explain variation and its impact on quality
• Apply basic statistics to process data
• Select, build and interpret appropriate control charts
• Calculate and interpret process capability indices
• Understand measurement system analysis basics
• Use SPC to identify improvement opportunities and sustain gains



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Target audience

This course is suitable for:

- Quality engineers and quality managers
- Production and process engineers
- Laboratory and inspection professionals
- Continuous improvement practitioners
- Supervisors responsible for process performance

Target competencies

Participants will develop competencies in:

- Descriptive statistics
- Control charts
- Process capability
- Measurement system analysis
- Data-driven problem solving
- Process monitoring

Course outline

Day 1: Understanding Variation

09:00–09:54	Common cause and special cause variation
09:54–10:48	The cost of variation
10:48–11:00	Data types and data collection
11:00–11:30	**Coffee break**
11:30–12:12	Data types and data collection (continued)
12:12–13:06	Descriptive statistics and distributions
13:06–14:00	Exercise: Analysing process data

Day 2: Control Charts for Variables

09:00–09:54	X-bar and R charts, individual and moving range charts
09:54–10:48	Control limits versus specification limits
10:48–11:00	Rules for detecting special causes



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11:00–11:30	**Coffee break**
11:30–12:12	Rules for detecting special causes (continued)
12:12–13:06	Rational subgrouping
13:06–14:00	Lab: Building and interpreting variable control charts

Day 3: Control Charts for Attributes

09:00–09:54	p, np, c and u charts
09:54–10:48	Choosing the right chart
10:48–11:00	Charts for low-volume and service processes
11:00–11:30	**Coffee break**
11:30–12:12	Charts for low-volume and service processes (continued)
12:12–13:06	Common mistakes in SPC use
13:06–14:00	Lab: Attribute control chart exercises

Day 4: Process Capability and Measurement

09:00–09:54	Capability indices Cp, Cpk, Pp and Ppk
09:54–10:48	Capability for non-normal data
10:48–11:00	Measurement system analysis and gauge studies
11:00–11:30	**Coffee break**
11:30–12:12	Measurement system analysis and gauge studies (continued)
12:12–13:06	Linking capability to customer requirements
13:06–14:00	Case study: Improving a process with poor capability

Day 5: Implementing SPC

09:00–09:54	Selecting critical characteristics
09:54–10:48	Reaction plans and out-of-control action
10:48–11:00	Training operators and supervisors



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11:00–11:30	**Coffee break**
11:30–12:12	Training operators and supervisors (continued)
12:12–13:06	SPC software and automation
13:06–14:00	Capstone: SPC implementation plan

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the sessions. They are indicative only and do not constitute a binding commitment.

Dates, venues and fees

Current published course plans. Fees are per participant in EUR, excluding unconfirmed taxes.

Venue	Start date	End date	Fee (EUR)
Kuala Lumpur Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,450.-**
Online Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,250.-**
Rome Confirmed dates	30 Nov 2026	4 Dec 2026	**€2,450.-**
Online Confirmed dates	30 Nov 2026	4 Dec 2026	**€1,250.-**
Paris Confirmed dates	7 Dec 2026	11 Dec 2026	**€2,860.-**
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**€1,250.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Istanbul Confirmed dates	14 Dec 2026	18 Dec 2026	**€2,650.-**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,250.-**
Amsterdam Confirmed dates	4 Jan 2027	8 Jan 2027	**€2,540.-**
Online Confirmed dates	4 Jan 2027	8 Jan 2027	**€1,250.-**
Singapore Confirmed dates	18 Jan 2027	22 Jan 2027	**€2,820.-**
Online Confirmed dates	18 Jan 2027	22 Jan 2027	**€1,250.-**
London Confirmed dates	1 Feb 2027	5 Feb 2027	**€2,450.-**
Online Confirmed dates	1 Feb 2027	5 Feb 2027	**€1,250.-**
Dubai Confirmed dates	15 Feb 2027	19 Feb 2027	**€3,150.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	15 Feb 2027	19 Feb 2027	**€1,250.–**
Frankfurt Confirmed dates	1 Mar 2027	5 Mar 2027	**€2,650.–**
Online Confirmed dates	1 Mar 2027	5 Mar 2027	**€1,250.–**
Cape Town Confirmed dates	8 Mar 2027	12 Mar 2027	**€1,890.–**
Online Confirmed dates	8 Mar 2027	12 Mar 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	15 Mar 2027	19 Mar 2027	**€1,450.–**
Online Confirmed dates	15 Mar 2027	19 Mar 2027	**€1,250.–**
Paris Confirmed dates	5 Apr 2027	9 Apr 2027	**€2,860.–**
Online Confirmed dates	5 Apr 2027	9 Apr 2027	**€1,250.–**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Istanbul Confirmed dates	19 Apr 2027	23 Apr 2027	**€2,650.-**
Online Confirmed dates	19 Apr 2027	23 Apr 2027	**€1,250.-**
Amsterdam Confirmed dates	3 May 2027	7 May 2027	**€2,540.-**
Online Confirmed dates	3 May 2027	7 May 2027	**€1,250.-**
Rome Confirmed dates	10 May 2027	14 May 2027	**€2,450.-**
Online Confirmed dates	10 May 2027	14 May 2027	**€1,250.-**
Singapore Confirmed dates	17 May 2027	21 May 2027	**€2,820.-**
Online Confirmed dates	17 May 2027	21 May 2027	**€1,250.-**
London Confirmed dates	7 Jun 2027	11 Jun 2027	**€2,450.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	7 Jun 2027	11 Jun 2027	**€1,250.–**
Dubai Confirmed dates	21 Jun 2027	25 Jun 2027	**€3,150.–**
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**€1,250.–**
Frankfurt Confirmed dates	5 Jul 2027	9 Jul 2027	**€2,650.–**
Online Confirmed dates	5 Jul 2027	9 Jul 2027	**€1,250.–**
Barcelona Confirmed dates	12 Jul 2027	16 Jul 2027	**€2,840.–**
Online Confirmed dates	12 Jul 2027	16 Jul 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	19 Jul 2027	23 Jul 2027	**€1,450.–**
Online Confirmed dates	19 Jul 2027	23 Jul 2027	**€1,250.–**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Paris Confirmed dates	2 Aug 2027	6 Aug 2027	**€2,860.-**
Online Confirmed dates	2 Aug 2027	6 Aug 2027	**€1,250.-**
Istanbul Confirmed dates	16 Aug 2027	20 Aug 2027	**€2,650.-**
Online Confirmed dates	16 Aug 2027	20 Aug 2027	**€1,250.-**
Amsterdam Confirmed dates	6 Sept 2027	10 Sept 2027	**€2,540.-**
Online Confirmed dates	6 Sept 2027	10 Sept 2027	**€1,250.-**
Vienna Confirmed dates	13 Sept 2027	17 Sept 2027	**€2,940.-**
Online Confirmed dates	13 Sept 2027	17 Sept 2027	**€1,250.-**
Singapore Confirmed dates	20 Sept 2027	24 Sept 2027	**€2,820.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	20 Sept 2027	24 Sept 2027	**€1,250.-**
London Confirmed dates	4 Oct 2027	8 Oct 2027	**€2,450.-**
Online Confirmed dates	4 Oct 2027	8 Oct 2027	**€1,250.-**
Dubai Confirmed dates	18 Oct 2027	22 Oct 2027	**€3,150.-**
Online Confirmed dates	18 Oct 2027	22 Oct 2027	**€1,250.-**
Frankfurt Confirmed dates	1 Nov 2027	5 Nov 2027	**€2,650.-**
Online Confirmed dates	1 Nov 2027	5 Nov 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,450.-**
Online Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,250.-**



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Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Cape Town Confirmed dates	22 Nov 2027	26 Nov 2027	**€1,890.–**
Online Confirmed dates	22 Nov 2027	26 Nov 2027	**€1,250.–**
Paris Confirmed dates	6 Dec 2027	10 Dec 2027	**€2,860.–**
Online Confirmed dates	6 Dec 2027	10 Dec 2027	**€1,250.–**
Istanbul Confirmed dates	13 Dec 2027	17 Dec 2027	**€2,650.–**
Online Confirmed dates	13 Dec 2027	17 Dec 2027	**€1,250.–**



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Plan your next step

Dates, availability, exact venue, taxes, inclusions and payment terms require written confirmation. This brochure is not a quotation, registration, booking confirmation or visa invitation. Participants receive a Smart Horizon certificate of attendance; programmes are not externally accredited and do not award a professional qualification or designation. Confirm arrangements before booking travel.

For group or in-house training, contact our learning team to discuss your objectives and delivery arrangements.

Contact Smart Horizon

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