

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

Vibration Analysis and Condition Monitoring Fundamentals

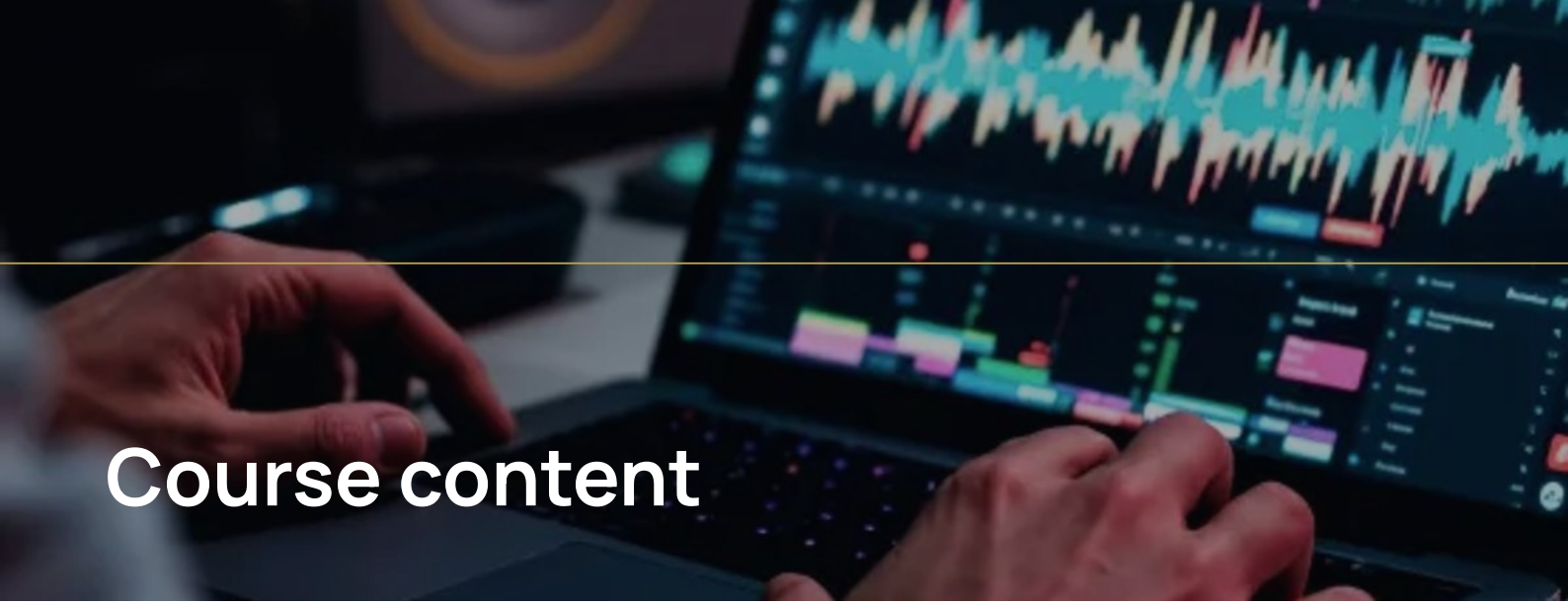
5 days | Classroom training | English

SMART HORIZON

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Amsterdam
The Netherlands

Explore current programmes

https://smart-horizon.eu



Course content

Why attend

Vibration analysis is one of the most effective condition monitoring techniques for rotating machinery. This course covers vibration basics, measurement and sensors, data collection routes, spectrum analysis, common fault signatures such as imbalance, misalignment, looseness and bearing defects, alarm setting and integrating condition monitoring into maintenance.

Detecting faults early prevents breakdowns and unplanned downtime. This course gives practical skills in vibration analysis and condition monitoring.

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

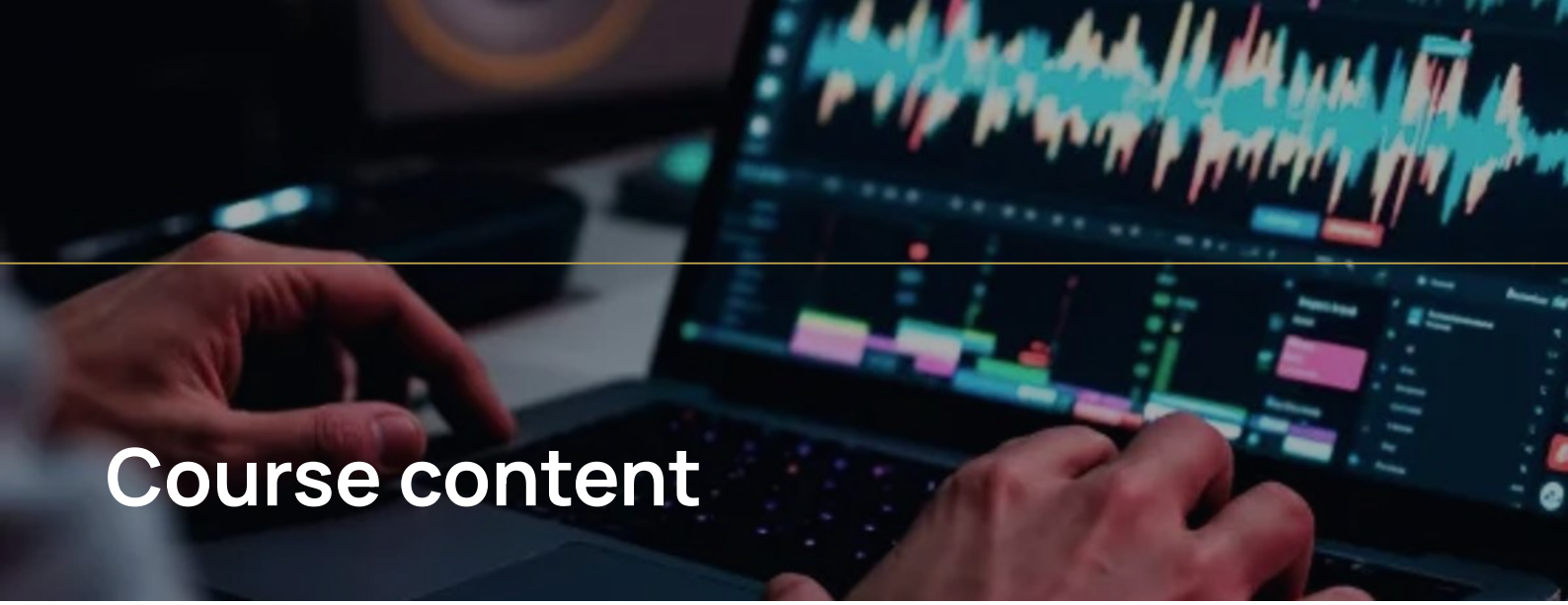
The course uses demonstrations, data analysis exercises, fault case studies and programme design.

Course objectives

By the end of this course, participants will be able to:
• Explain vibration fundamentals and measurement
• Select sensors and measurement locations
• Collect reliable vibration data
• Analyse time waveforms and spectra
• Identify common machinery faults
• Implement a condition monitoring programme

Target audience

This course is suitable for:
• Maintenance engineers and technicians
• Reliability engineers
• Condition monitoring technicians
• Plant engineers
• Maintenance planners



Course content

Target competencies

Participants will develop competencies in:
- Vibration measurement
- Data collection
- Spectrum analysis
- Fault diagnosis
- Alarm setting
- Condition monitoring programmes

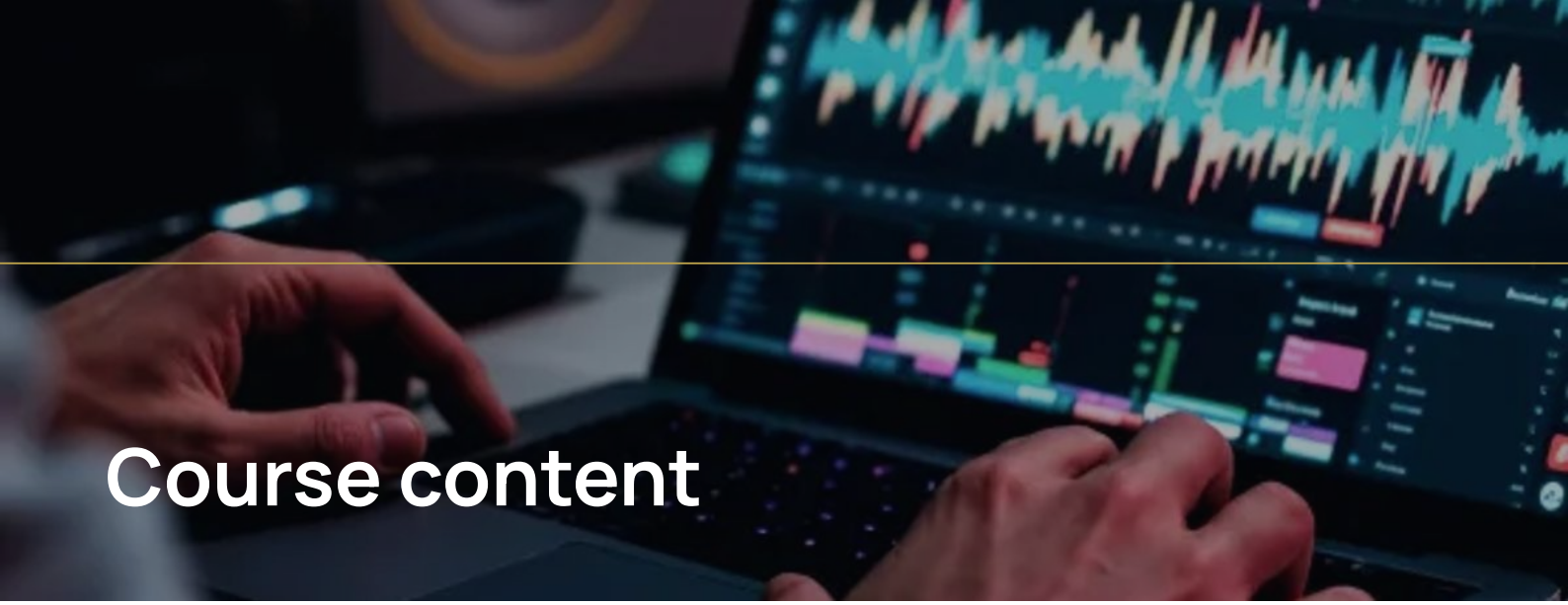
Course outline

Day 1: Condition Monitoring

09:00–09:54	Maintenance strategies
09:54–10:48	Condition monitoring techniques
10:48–11:00	P-F curve
11:00–11:30	**Coffee break**
11:30–12:12	P-F curve (continued)
12:12–13:06	Benefits
13:06–14:00	Exercise: Asset selection

Day 2: Vibration Basics

09:00–09:54	Amplitude, frequency and phase
09:54–10:48	Units
10:48–11:00	Sensors
11:00–11:30	**Coffee break**
11:30–12:12	Sensors (continued)
12:12–13:06	Mounting
13:06–14:00	Demonstration: Measurement



Course content

Day 3: Data Collection and Analysis

09:00–09:54	Routes
09:54–10:48	Time waveform
10:48–11:00	FFT spectra
11:00–11:30	**Coffee break**
11:30–12:12	FFT spectra (continued)
12:12–13:06	Trending
13:06–14:00	Lab: Spectrum analysis

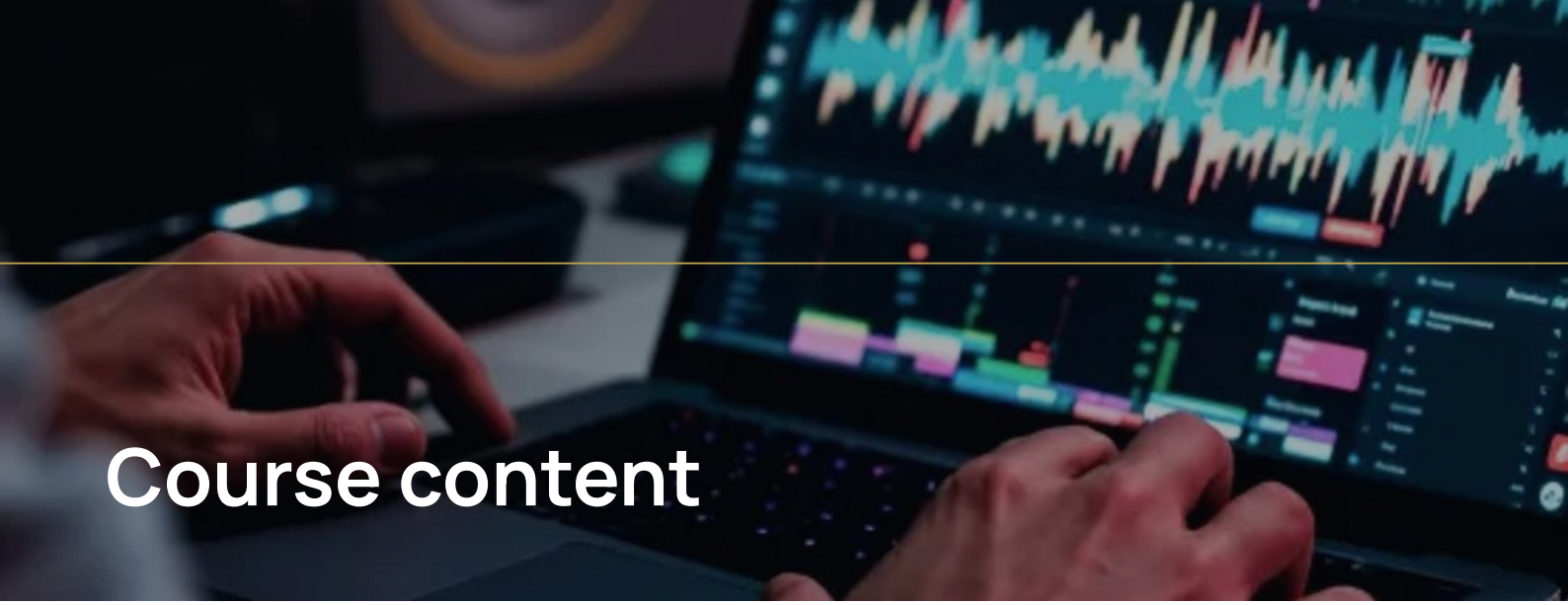
Day 4: Fault Diagnosis

09:00–09:54	Imbalance
09:54–10:48	Misalignment
10:48–11:00	Looseness
11:00–11:30	**Coffee break**
11:30–12:12	Looseness (continued)
12:12–13:06	Bearing faults
13:06–14:00	Case study: Fault diagnosis

Day 5: Programme Implementation

09:00–09:54	Alarm limits
09:54–10:48	Reporting
10:48–11:00	Integration with CMMS
11:00–11:30	**Coffee break**
11:30–12:12	Integration with CMMS (continued)
12:12–13:06	Other techniques
13:06–14:00	Capstone: Condition monitoring plan

The timings provided are estimates and may vary depending on the number of participants and the discussions taking place during the



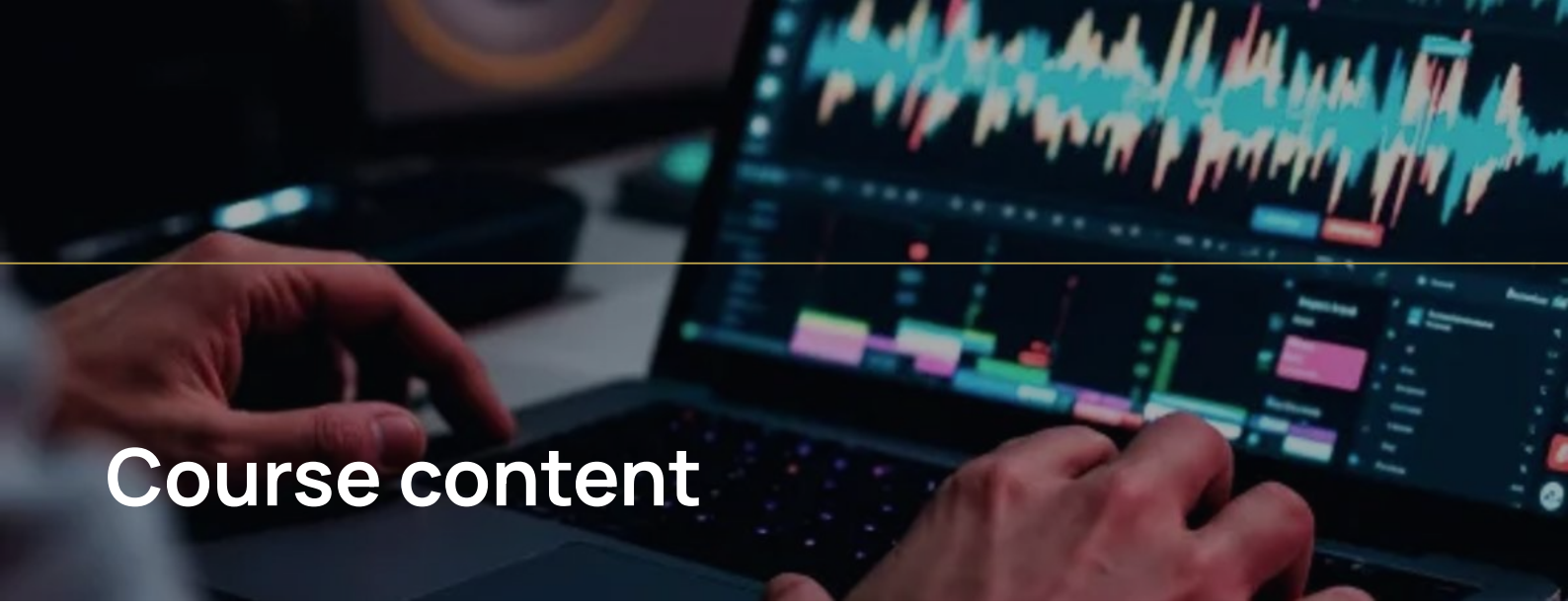
Course content

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.

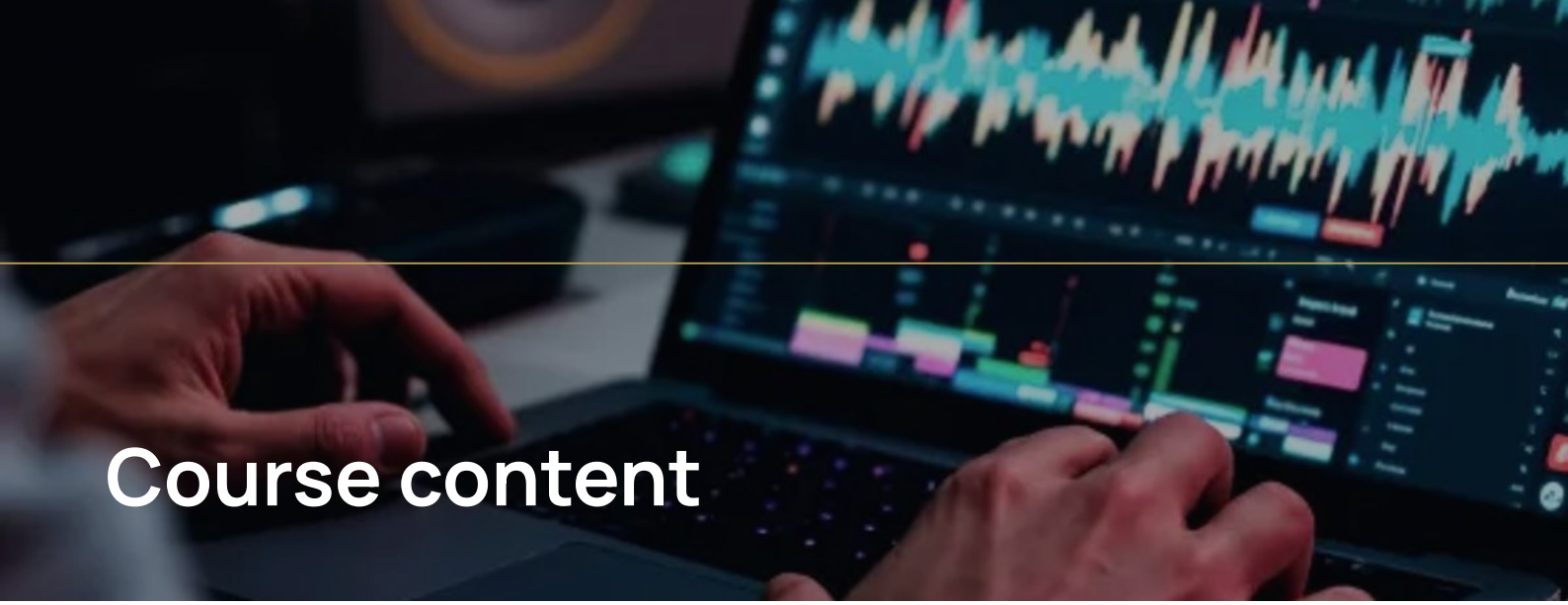
Venue	Start date	End date	Fee (EUR)
Dubai Confirmed dates	16 Nov 2026	20 Nov 2026	**€6,300.–**
Online Confirmed dates	16 Nov 2026	20 Nov 2026	**€1,250.–**
Frankfurt Confirmed dates	7 Dec 2026	11 Dec 2026	**€5,300.–**
Online Confirmed dates	7 Dec 2026	11 Dec 2026	**€1,250.–**
Kuala Lumpur Confirmed dates	14 Dec 2026	18 Dec 2026	**€2,900.–**
Online Confirmed dates	14 Dec 2026	18 Dec 2026	**€1,250.–**
Paris Confirmed dates	4 Jan 2027	8 Jan 2027	**€5,720.–**
Online Confirmed dates	4 Jan 2027	8 Jan 2027	**€1,250.–**



Course content

Dates, venues and fees (continued)

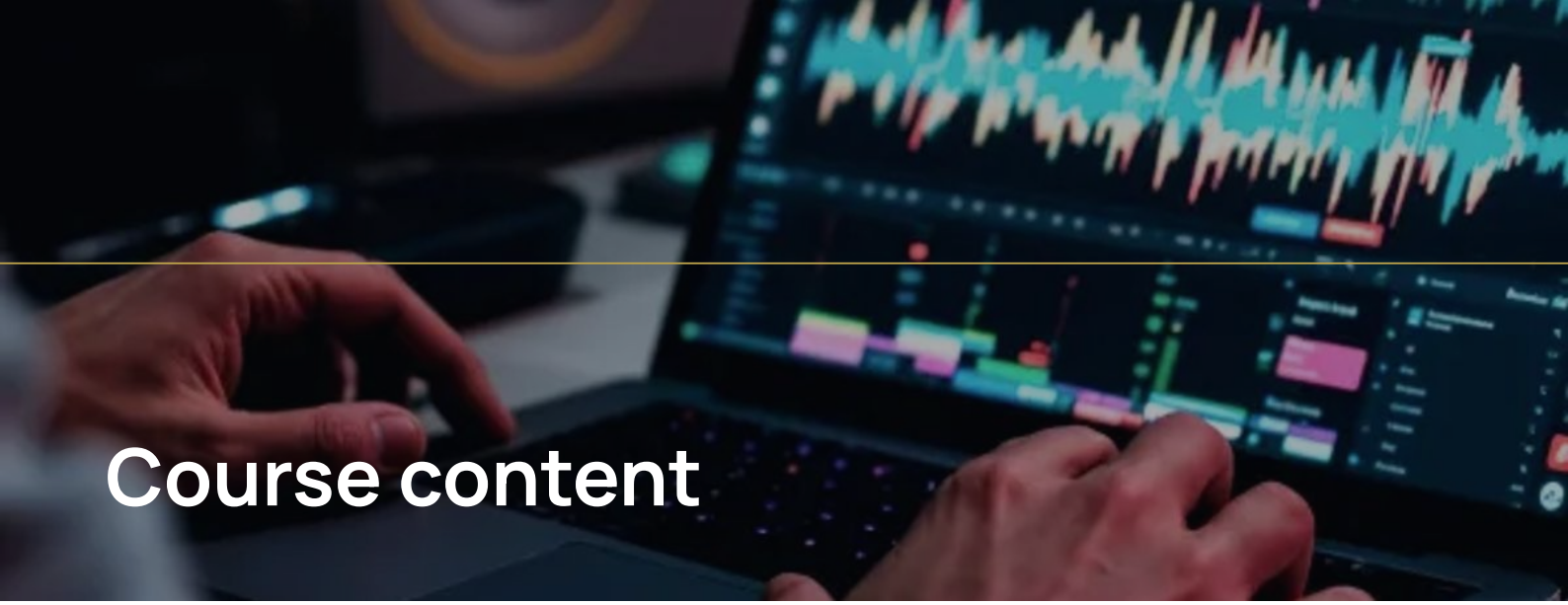
Venue	Start date	End date	Fee (EUR)
Istanbul Confirmed dates	18 Jan 2027	22 Jan 2027	**€5,300.-**
Online Confirmed dates	18 Jan 2027	22 Jan 2027	**€1,250.-**
Rome Confirmed dates	25 Jan 2027	29 Jan 2027	**€4,900.-**
Online Confirmed dates	25 Jan 2027	29 Jan 2027	**€1,250.-**
Amsterdam Confirmed dates	1 Feb 2027	5 Feb 2027	**€5,080.-**
Online Confirmed dates	1 Feb 2027	5 Feb 2027	**€1,250.-**
Singapore Confirmed dates	15 Feb 2027	19 Feb 2027	**€5,640.-**
Online Confirmed dates	15 Feb 2027	19 Feb 2027	**€1,250.-**
London Confirmed dates	1 Mar 2027	5 Mar 2027	**€4,900.-**



Course content

Dates, venues and fees (continued)

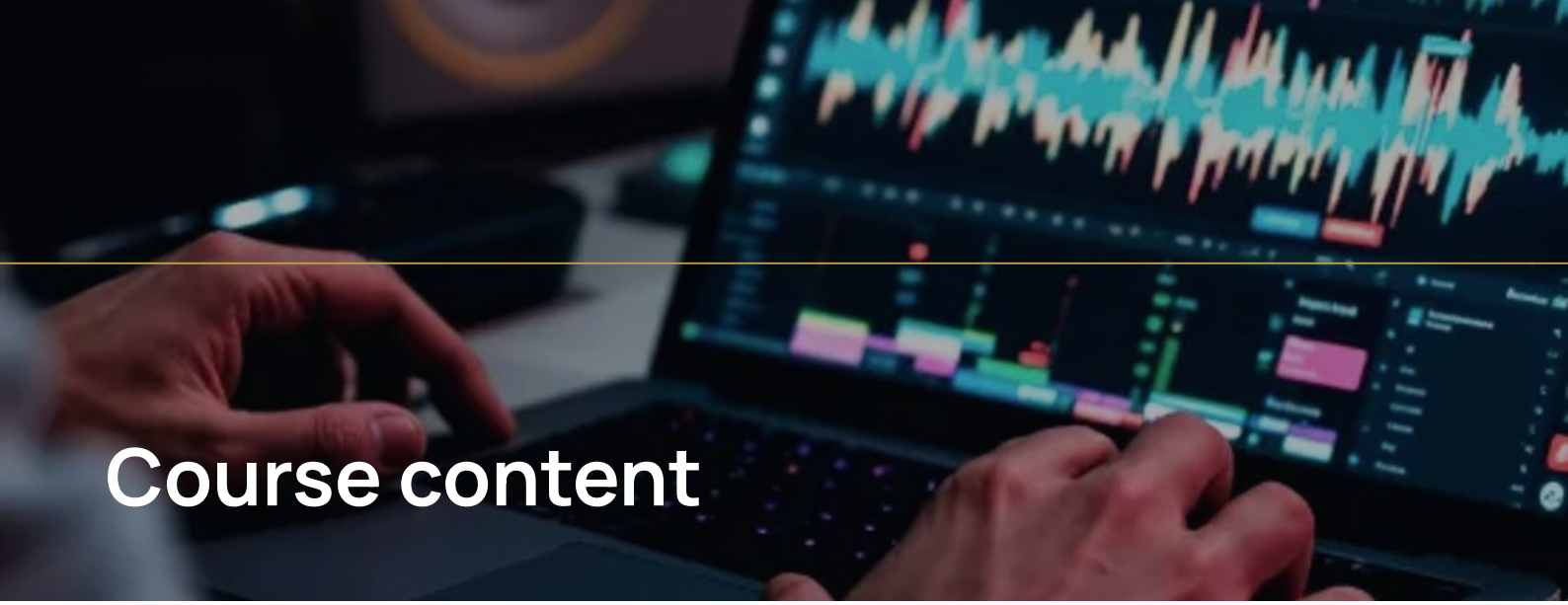
Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	1 Mar 2027	5 Mar 2027	**€1,250.–**
Dubai Confirmed dates	15 Mar 2027	19 Mar 2027	**€6,300.–**
Online Confirmed dates	15 Mar 2027	19 Mar 2027	**€1,250.–**
Cape Town Confirmed dates	22 Mar 2027	26 Mar 2027	**€3,780.–**
Online Confirmed dates	22 Mar 2027	26 Mar 2027	**€1,250.–**
Frankfurt Confirmed dates	5 Apr 2027	9 Apr 2027	**€5,300.–**
Online Confirmed dates	5 Apr 2027	9 Apr 2027	**€1,250.–**
Kuala Lumpur Confirmed dates	19 Apr 2027	23 Apr 2027	**€2,900.–**
Online Confirmed dates	19 Apr 2027	23 Apr 2027	**€1,250.–**



Course content

Dates, venues and fees (continued)

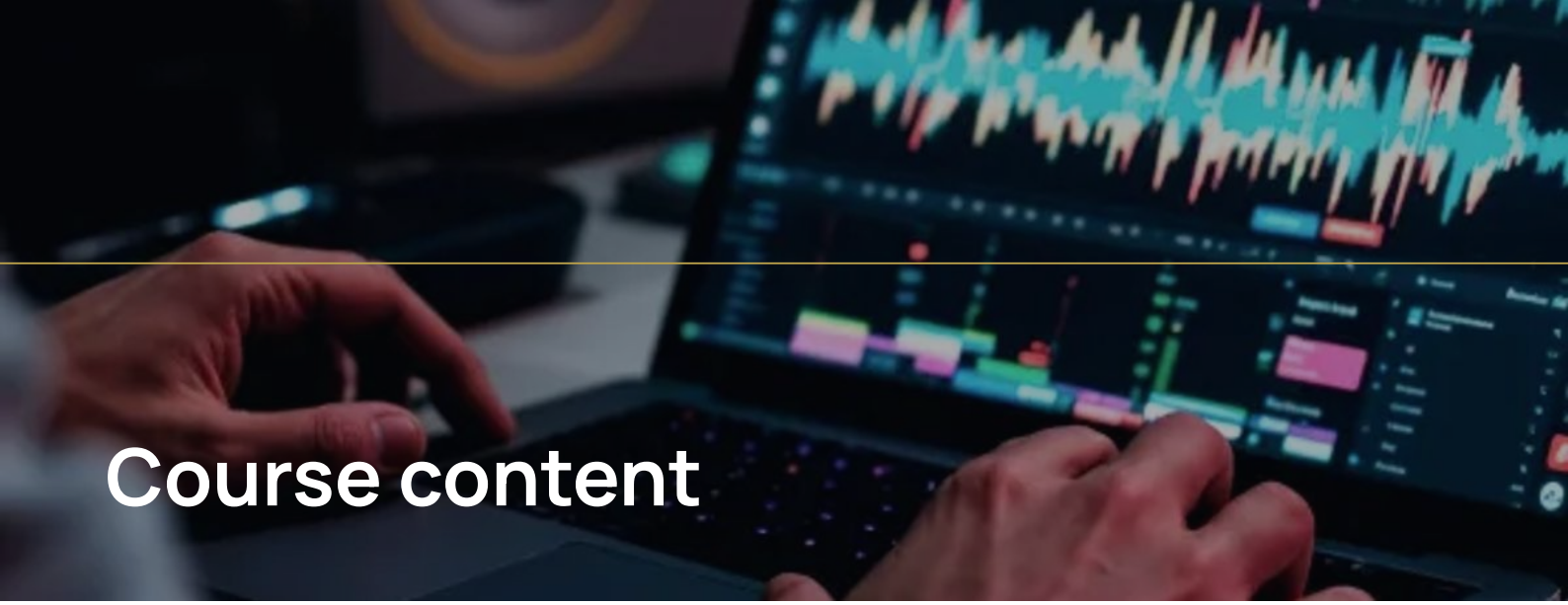
Venue	Start date	End date	Fee (EUR)
Paris Confirmed dates	3 May 2027	7 May 2027	**€5,720.-**
Online Confirmed dates	3 May 2027	7 May 2027	**€1,250.-**
Istanbul Confirmed dates	17 May 2027	21 May 2027	**€5,300.-**
Online Confirmed dates	17 May 2027	21 May 2027	**€1,250.-**
Vienna Confirmed dates	24 May 2027	28 May 2027	**€5,880.-**
Online Confirmed dates	24 May 2027	28 May 2027	**€1,250.-**
Amsterdam Confirmed dates	7 Jun 2027	11 Jun 2027	**€5,080.-**
Online Confirmed dates	7 Jun 2027	11 Jun 2027	**€1,250.-**
Singapore Confirmed dates	21 Jun 2027	25 Jun 2027	**€5,640.-**



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Dates, venues and fees (continued)

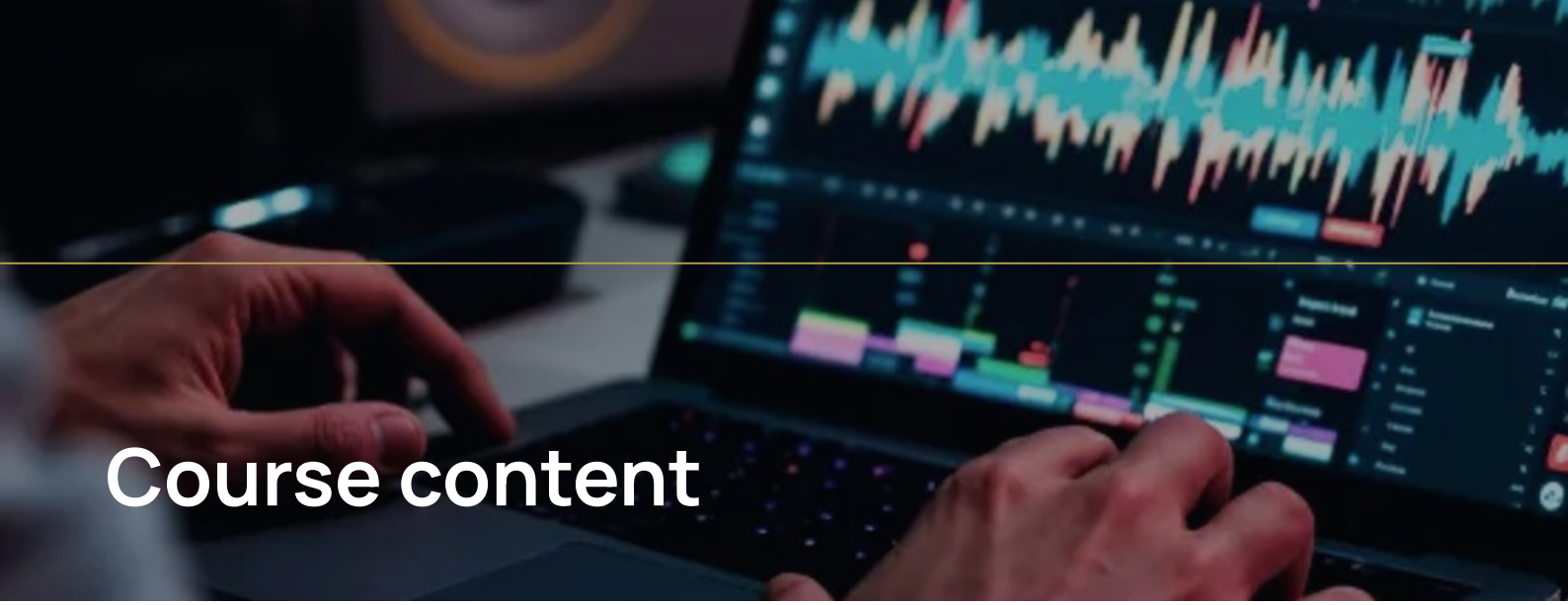
Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	21 Jun 2027	25 Jun 2027	**€1,250.-**
London Confirmed dates	5 Jul 2027	9 Jul 2027	**€4,900.-**
Online Confirmed dates	5 Jul 2027	9 Jul 2027	**€1,250.-**
Dubai Confirmed dates	19 Jul 2027	23 Jul 2027	**€6,300.-**
Online Confirmed dates	19 Jul 2027	23 Jul 2027	**€1,250.-**
Cape Town Confirmed dates	26 Jul 2027	30 Jul 2027	**€3,780.-**
Online Confirmed dates	26 Jul 2027	30 Jul 2027	**€1,250.-**
Frankfurt Confirmed dates	2 Aug 2027	6 Aug 2027	**€5,300.-**
Online Confirmed dates	2 Aug 2027	6 Aug 2027	**€1,250.-**



Course content

Dates, venues and fees (continued)

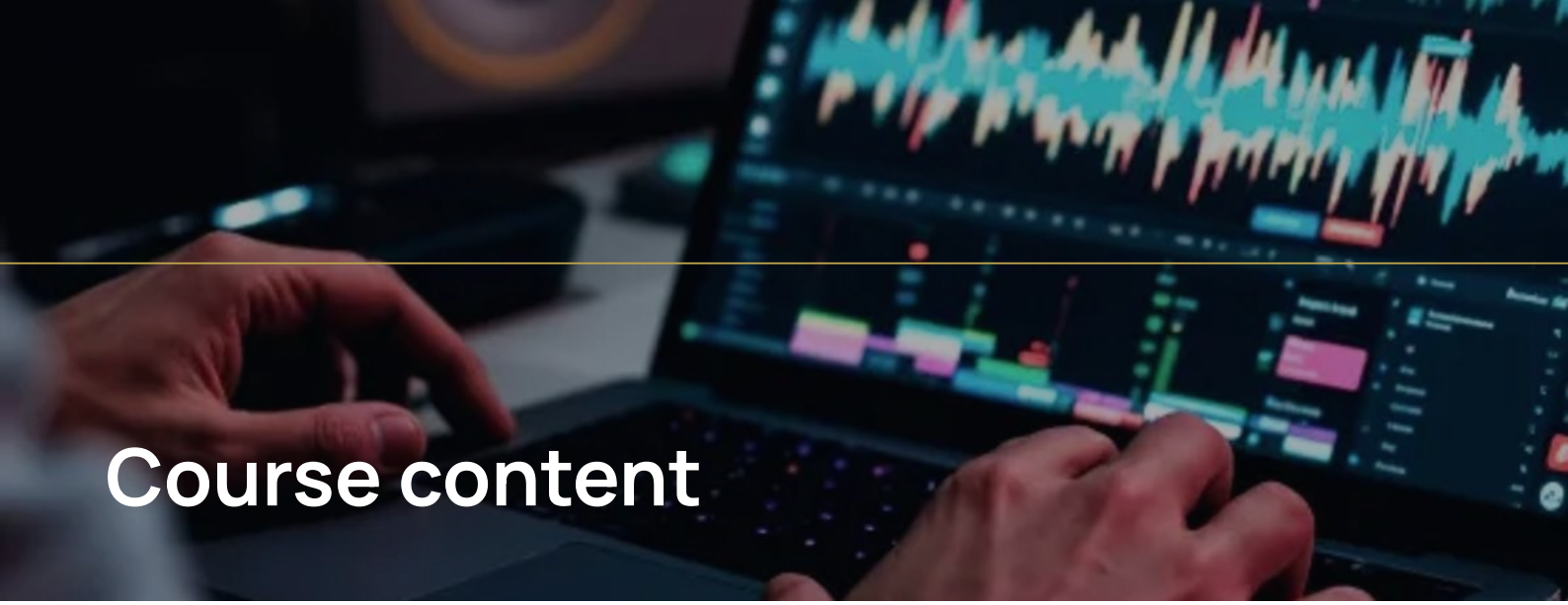
Venue	Start date	End date	Fee (EUR)
Kuala Lumpur Confirmed dates	16 Aug 2027	20 Aug 2027	**€2,900.-**
Online Confirmed dates	16 Aug 2027	20 Aug 2027	**€1,250.-**
Paris Confirmed dates	6 Sept 2027	10 Sept 2027	**€5,720.-**
Online Confirmed dates	6 Sept 2027	10 Sept 2027	**€1,250.-**
Istanbul Confirmed dates	20 Sept 2027	24 Sept 2027	**€5,300.-**
Online Confirmed dates	20 Sept 2027	24 Sept 2027	**€1,250.-**
Barcelona Confirmed dates	27 Sept 2027	1 Oct 2027	**€5,680.-**
Online Confirmed dates	27 Sept 2027	1 Oct 2027	**€1,250.-**
Amsterdam Confirmed dates	4 Oct 2027	8 Oct 2027	**€5,080.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Online Confirmed dates	4 Oct 2027	8 Oct 2027	**€1,250.-**
Singapore Confirmed dates	18 Oct 2027	22 Oct 2027	**€5,640.-**
Online Confirmed dates	18 Oct 2027	22 Oct 2027	**€1,250.-**
London Confirmed dates	1 Nov 2027	5 Nov 2027	**€4,900.-**
Online Confirmed dates	1 Nov 2027	5 Nov 2027	**€1,250.-**
Dubai Confirmed dates	15 Nov 2027	19 Nov 2027	**€6,300.-**
Online Confirmed dates	15 Nov 2027	19 Nov 2027	**€1,250.-**
Rome Confirmed dates	29 Nov 2027	3 Dec 2027	**€4,900.-**
Online Confirmed dates	29 Nov 2027	3 Dec 2027	**€1,250.-**



Course content

Dates, venues and fees (continued)

Venue	Start date	End date	Fee (EUR)
Frankfurt Confirmed dates	6 Dec 2027	10 Dec 2027	**€5,300.-**
Online Confirmed dates	6 Dec 2027	10 Dec 2027	**€1,250.-**
Kuala Lumpur Confirmed dates	13 Dec 2027	17 Dec 2027	**€2,900.-**
Online Confirmed dates	13 Dec 2027	17 Dec 2027	**€1,250.-**

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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