

MAINTENANCE AND ENGINEERING | COURSE BROCHURE

# Boiler Operation and Maintenance

5 days | Classroom training | English

**SMART HORIZON**

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2 Kingdom Street, Paddington
London W2 6BD, United Kingdom

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https://smarthorizon.uk



# Course content

## Why attend

Boilers are high-energy systems that require skilled operation and careful maintenance. This course covers boiler types and components, combustion, water treatment, safe start-up and shutdown, controls and safety devices, inspection and maintenance, efficiency and common failures.

Boiler failures can be dangerous and costly. You will learn to operate and maintain boilers safely and efficiently.

## 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

Technical briefings, combustion and efficiency calculations, case studies of boiler incidents and maintenance planning.

## Course objectives

By the end of this course, participants will be able to:

- Explain boiler types and components
- Understand combustion and burner management
- Manage boiler water treatment
- Apply safe start-up and shutdown procedures
- Maintain controls and safety devices
- Improve boiler efficiency and prevent failures

## Target audience

This course is suitable for:

- Boiler operators
- Maintenance technicians
- Utility and plant engineers
- Facility managers
- Energy managers



# Course content

## Target competencies

Participants will develop competencies in:

- Boiler operation
- Combustion management
- Water treatment
- Safety devices
- Efficiency improvement

## Course outline

### Day 1: Boiler Fundamentals

| | |
|---|---|
| **09:00–10:08** | Fire-tube and water-tube boilers |
| **10:08–11:00** | Components |
| **11:00–11:30** | **Coffee break** |
| **11:30–11:45** | Components (continued) |
| **11:45–12:53** | Steam systems |
| **12:53–14:00** | Exercise |

### Day 2: Combustion

| | |
|---|---|
| **09:00–10:08** | Fuels and burners |
| **10:08–11:00** | Air-fuel ratio |
| **11:00–11:30** | **Coffee break** |
| **11:30–11:45** | Air-fuel ratio (continued) |
| **11:45–12:53** | Burner management |
| **12:53–14:00** | Exercise |

### Day 3: Water Treatment

| | |
|---|---|
| **09:00–10:08** | Water chemistry |
| **10:08–11:00** | Scaling and corrosion |
| **11:00–11:30** | **Coffee break** |



# Course content

| | |
|---|---|
| **11:30–11:45** | Scaling and corrosion (continued) |
| **11:45–12:53** | Blowdown |
| **12:53–14:00** | Case study |

## Day 4: Operation and Safety

| | |
|---|---|
| **09:00–10:08** | Start-up and shutdown |
| **10:08–11:00** | Safety valves and trips |
| **11:00–11:30** | **Coffee break** |
| **11:30–11:45** | Safety valves and trips (continued) |
| **11:45–12:53** | Inspections |
| **12:53–14:00** | Workshop |

## Day 5: Maintenance and Efficiency

| | |
|---|---|
| **09:00–10:08** | Maintenance tasks |
| **10:08–11:00** | Efficiency losses |
| **11:00–11:30** | **Coffee break** |
| **11:30–11:45** | Efficiency losses (continued) |
| **11:45–12:53** | Improvement |
| **12:53–14:00** | Action 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.



# Course content

## Dates, venues and fees

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

| Venue | Start date | End date | Fee (GBP) |
|---|---|---|---|
| Barcelona<br>Confirmed dates | 23 Nov 2026 | 27 Nov 2026 | **£5,680.–** |
| Online<br>Confirmed dates | 23 Nov 2026 | 27 Nov 2026 | **£1,250.–** |
| Frankfurt<br>Confirmed dates | 14 Dec 2026 | 18 Dec 2026 | **£5,300.–** |
| Online<br>Confirmed dates | 14 Dec 2026 | 18 Dec 2026 | **£1,250.–** |
| Rome<br>Confirmed dates | 18 Jan 2027 | 22 Jan 2027 | **£4,900.–** |
| Online<br>Confirmed dates | 18 Jan 2027 | 22 Jan 2027 | **£1,250.–** |
| Vienna<br>Confirmed dates | 1 Feb 2027 | 5 Feb 2027 | **£5,880.–** |
| Online<br>Confirmed dates | 1 Feb 2027 | 5 Feb 2027 | **£1,250.–** |
| Rome<br>Confirmed dates | 22 Feb 2027 | 26 Feb 2027 | **£4,900.–** |



# Course content

## Dates, venues and fees (continued)

| Venue | Start date | End date | Fee (GBP) |
|---|---|---|---|
| Online<br>Confirmed dates | 22 Feb 2027 | 26 Feb 2027 | **£1,250.-** |
| Paris<br>Confirmed dates | 15 Mar 2027 | 19 Mar 2027 | **£5,720.-** |
| Online<br>Confirmed dates | 15 Mar 2027 | 19 Mar 2027 | **£1,250.-** |
| Istanbul<br>Confirmed dates | 5 Apr 2027 | 9 Apr 2027 | **£5,300.-** |
| Online<br>Confirmed dates | 5 Apr 2027 | 9 Apr 2027 | **£1,250.-** |
| Dubai<br>Confirmed dates | 26 Apr 2027 | 30 Apr 2027 | **£6,300.-** |
| Online<br>Confirmed dates | 26 Apr 2027 | 30 Apr 2027 | **£1,250.-** |
| Cape Town<br>Confirmed dates | 10 May 2027 | 14 May 2027 | **£3,780.-** |
| Online<br>Confirmed dates | 10 May 2027 | 14 May 2027 | **£1,250.-** |



# Course content

## Dates, venues and fees (continued)

| Venue | Start date | End date | Fee (GBP) |
|---|---|---|---|
| London<br>Confirmed dates | 31 May 2027 | 4 Jun 2027 | **£4,900.–** |
| Online<br>Confirmed dates | 31 May 2027 | 4 Jun 2027 | **£1,250.–** |
| Rome<br>Confirmed dates | 21 Jun 2027 | 25 Jun 2027 | **£4,900.–** |
| Online<br>Confirmed dates | 21 Jun 2027 | 25 Jun 2027 | **£1,250.–** |
| Cape Town<br>Confirmed dates | 12 Jul 2027 | 16 Jul 2027 | **£3,780.–** |
| Online<br>Confirmed dates | 12 Jul 2027 | 16 Jul 2027 | **£1,250.–** |
| London<br>Confirmed dates | 2 Aug 2027 | 6 Aug 2027 | **£4,900.–** |
| Online<br>Confirmed dates | 2 Aug 2027 | 6 Aug 2027 | **£1,250.–** |
| Cape Town<br>Confirmed dates | 16 Aug 2027 | 20 Aug 2027 | **£3,780.–** |



# Course content

## Dates, venues and fees (continued)

| Venue | Start date | End date | Fee (GBP) |
|---|---|---|---|
| Online<br>Confirmed dates | 16 Aug 2027 | 20 Aug 2027 | **£1,250.-** |
| Vienna<br>Confirmed dates | 6 Sept 2027 | 10 Sept 2027 | **£5,880.-** |
| Online<br>Confirmed dates | 6 Sept 2027 | 10 Sept 2027 | **£1,250.-** |
| Dubai<br>Confirmed dates | 27 Sept 2027 | 1 Oct 2027 | **£6,300.-** |
| Online<br>Confirmed dates | 27 Sept 2027 | 1 Oct 2027 | **£1,250.-** |
| Amsterdam<br>Confirmed dates | 18 Oct 2027 | 22 Oct 2027 | **£5,080.-** |
| Online<br>Confirmed dates | 18 Oct 2027 | 22 Oct 2027 | **£1,250.-** |
| Kuala Lumpur<br>Confirmed dates | 8 Nov 2027 | 12 Nov 2027 | **£2,900.-** |
| Online<br>Confirmed dates | 8 Nov 2027 | 12 Nov 2027 | **£1,250.-** |



# Course content

## Dates, venues and fees (continued)

| Venue | Start date | End date | Fee (GBP) |
|---|---|---|---|
| Barcelona<br>Confirmed dates | 22 Nov 2027 | 26 Nov 2027 | **£5,680.-** |
| Online<br>Confirmed dates | 22 Nov 2027 | 26 Nov 2027 | **£1,250.-** |
| Dubai<br>Confirmed dates | 13 Dec 2027 | 17 Dec 2027 | **£6,300.-** |
| Online<br>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 UK 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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View the latest course details online