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# STEAM Boiler Engineer G1 Course

(Batch 9) 06 – 09 July 2026

## TRAINERS

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Matrix Quantum Sdn Bhd  
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by DOSH :  
JKKP IS 127/682/20-3(2)

Any Inquiry please contact  
Mr. Hazri : 019 217 3382



**Course Fees:**  
**RM4,752.00** – Including 8% SST

Online Transfer/HRDC Claimable

Register today and secure your spot for this  
essential training course in Steam Boiler Engineer

**Join us for an intensive 4-day course on Steam  
Boiler Engineer Grade 1 certification.**

## TRAINING SESSION PLAN

TITLE: STEAM BOILER ENGINEER GRADE 1

TIME: 09:00AM to 16:00PM

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### Objective:

1. Trainees will gain an understanding of the legislation and standards related to steam boilers, including occupational safety and health regulations, codes of practice, guidelines, and roles and responsibilities of steam engineers.
2. Trainees will gain an understanding of the codes and standards, conceptual design, actual design, components, fittings, and safety devices related to boiler design.
3. Trainees will gain a comprehensive understanding of boiler operation, including fundamental responsibilities, safety precautions, emergency procedures, maintenance practices, steam management, and efficiency considerations.
4. Trainees will gain an understanding of boiler defects, potential root causes, materials, creep and fatigue, corrosion and control, welding and welding mechanical failure, and non-destructive testing and inspection (NDT/NDE).
5. Trainees will gain an understanding of machinery integrity, including the concepts of fit for services and process safety management.

### DAY 1

LEARNING POINT	TIME
<b>Legislation and Standards (2 Hours)</b>  a. Occupational Safety and Health Act 1994, its regulations, and subsidiary legislations. b. Occupational Safety and Health (Factories and Machinery Requiring Certificate of Fitness) Regulations 2024. c. Occupational Safety and Health (Notification of Accident, Dangerous Occurrence, Occupational Poisoning and Occupational Disease) Regulations 2004 d. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000 e. Relevant Codes of Practice include but are not limited to: i. Industry Code of Practice for Working in Confined Spaces, 2010 ii. Industry Code of Practice for Management of Occupational Noise Exposure and Hearing Conservation, 2019 f. Relevant Guidelines include but are not limited to: i. Guidelines on Heat Stress Management at Workplace, 2016	09:00 AM – 11:00AM

**TRAINING SESSION PLAN****TITLE: STEAM BOILER ENGINEER GRADE 1****TIME: 09:00AM to 16:00PM**

<ul style="list-style-type: none"> <li>ii. Guidelines on Ergonomics Risk Assessment at Workplace, 2017</li> <li>g. Other relevant legislations</li> <li>h. Roles and Responsibilities of Steam Boiler Engineers</li> <li>i. Plant Safety, Management and Maintenance Policy</li> <li>j. Boiler House Management</li> </ul>	
<b>Boiler Design (2 Hours)</b> <ul style="list-style-type: none"> <li>a. Applicable Codes &amp; Standards</li> <li>b. Steam Plant Conceptual Design</li> <li>c. Boiler Design</li> <li>d. Boiler Components</li> <li>e. Parts, Essentials Fittings, Safety Devices</li> </ul>	11:00AM – 13:00PM
<b>LUNCH</b>	13:00PM – 14:00PM
<b>Boiler Operation (2 Hours)</b> <ul style="list-style-type: none"> <li>a. Fundamental Operational Responsibilities</li> <li>b. Starting Cold Boilers</li> </ul>	14:00PM – 16:00PM

**DAY 2**

<b>LEARNING POINT</b>	<b>TIME</b>
<b>(Continue) Boiler Operation (4 Hours)</b> <ul style="list-style-type: none"> <li>c. Connecting of more than one boiler</li> <li>d. Operating under emergency situations, idling procedure and maintenance (tubes, shell, drums, headers, superheater, economiser, furnace, air heater, pumps, fans and stacks)</li> <li>e. Uses of Low-Pressure Steam and Hot Water Boiler for Process Heating</li> <li>f. Special Types of Boilers for High Pressure and Temperature Steam</li> </ul>	09:00 AM – 13:00PM
<b>LUNCH</b>	13:00PM – 14:00PM
<b>Boiler Operation (2 Hours)</b> <ul style="list-style-type: none"> <li>g. Steam Management</li> <li>h. Boiler Efficiency and Burner Efficiency</li> </ul>	14:00PM – 16:00PM

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**DAY 3**

<b>LEARNING POINT</b>	<b>TIME</b>
<b>Inspection, Maintenance, and Repair of Boilers (6 Hours)</b>  a. Boiler Defects & Potential Root Causes b. Materials, Creep, and Fatigue, Corrosion and Control	09:00 AM – 13:00PM
<b>LUNCH</b>	13:00PM – 14:00PM
c. Welding and Welding Mechanical Failure d. Non-Destructive Testing and Inspection (NDT/NDE)	14:00PM – 18:00PM

**DAY 4**

<b>LEARNING POINT</b>	<b>TIME</b>
<b>Machinery Integrity (6 Hours)</b>  a. Introduction to Fit for Services b. Introduction to Process Safety Management	09:00 AM – 13:00PM
<b>LUNCH</b>	13:00PM – 14:00PM
<b>Continue Machinery Integrity</b>	14:00PM – 16:00PM