



MODEL CURRICULUM

QP Name: SAFETY EXECUTIVE

QP Code: SSD/Q0103

QP Version: 1.0

NSQF Level: 5

Model Curriculum Version: 1.0

SAFETY SKILL DEVELOPMENT FOUNDATION (SSDF)
D-507, Light House, Town Square, Sector 82-A, Vatika India Next,
Gurugram -122004 (Haryana)
Phone: +91-1243634989



Table of Contents

| | |
|--|-----|
| Training Parameters | .4 |
| Program Overview | |
| Training Outcomes | 6 |
| Compulsory Modules | 7 |
| Module Details | |
| Module 1: Introduction to Training Program, Overview, assessments, role of Safety Executive, employment opportunities in Industries | 11 |
| Module 2: Understand, plan, develop, implement, and monitor health and safety practices at the workplace. The NOS will help in identifying the loopholes and gaps in the system and rectify them without directly affecting the core business of an organization | 12 |
| Module 3: Identify fire hazard at workplace, understand different classes of fire hazard, suggest firefighting methods to the management for office, industries, evacuations, and fire drills | .14 |
| Module 4: Learn to perform Hazard and Operability Analysis (HAZOP), Fault tree analysis, Event tree analysis, failure modes and effect analysis, Job safety analysis and perform Hazard Identification and Risk Assessment (HIRA) | 16 |
| Module 5: Knowledge & skills to identify hazards at workplace, severity of hazards, risk rating, protection overview and improved methodologies | .17 |
| Module 6: Identify impact of pollution, perform environment impact analysis, Learn waste management techniques. | .18 |
| Module 7: Learn regulations & regulatory compliance requirements as per the laws governed by the Government of India. Identify the shortcomings as per the recommendation of the regulatory body for a particular task or activity | 20 |
| Module 8: Knowledge & understanding to take precautions & measures to ensure proper health, hygiene, working environment and psychological health of workers at workplace | 22 |
| Module 9: Planning and organizing to provide a safe working environment for workers and set emergency protocols and measure in case of any unforeseen and incidents or accidents to minimize the damages & losses | 23 |
| Module 10: Understand scope in employment, financial dealing, digital literacy and communication with employer or customer | 24 |
| On the Job (OJT) Training Plan... | .26 |
| Annexure | |
| Trainer Requirements | 28 |
| Assessor Requirements | 29 |



| | |
|----------------------------|-----|
| Assessment Strategy | .30 |
| Glossary | 31 |
| Acronyms and Abbreviations | 32 |

NSQC
Approved



Training Parameters

| | |
|---|--|
| Sectors | Hydrocarbon, Iron & steel, Mining, Power, Automotive, Construction, Chemical / Petrochemical, and others. |
| Sub-Sector | - |
| Occupation | Occupational Safety Health & Environment (OSHE) Engineering & Management |
| Country | India |
| NSQF Level | 5 |
| Aligned to NCO/ISCO/ISIC Code | NCO-2015/2141.2600 Occupational Health and Safety Specialist. |
| Minimum Educational Qualification and Experience | Graduate in science discipline with 3 years of relevant experience OR Completed 3-year diploma after 10th in relevant field with 4.5-year experience OR Completed 2-year NTC (after 10th) with 5.5-year experience OR Previous relevant qualification of NSQF level 4.5 and 1.5-year experience OR Previous relevant qualification of NSQF level 4 and 3-year experience |
| Pre-Requisite License or Training | Nil |
| Minimum Job Entry Age | 18 years |
| Last Reviewed On | 31-01-2024 |
| Next Review Date | 31-01-2027 |
| QP Version | 1.0 |
| NSQC Approval Date | 31-01-2024 |



| | |
|--|------------|
| Model Curriculum Creation Date | 31-01-2024 |
| Model Curriculum Valid Up to Date | 31-01-2027 |
| Model Curriculum Version | 1.0 |
| Minimum Duration of the Course | 720 Hours |
| Maximum Duration of the Course | 720 Hours |

NSQC
Approved



Program Overview

This section summarizes the end objectives of the program along with its duration.

Training Outcomes

After completing the program, the participant will be able to:-

- Perform and fulfill Health & Safety at the workplace.
- Prepare Health & Safety record documents like permit to work, HIRA, HAZOP etc...
- Understand the safety audit process in an organization.
- Define scope of the safety management system.
- Perform risk assessment of a workplace.
- Learn accident prevention methods and implementations
- Learn environmental issues and preventive measures
- Know & understand the good practices in organization and develop a positive safety culture.
- Understand proper communication channels in an organization.
- Collect and analyze the root cause of incidents.
- Drive motivation towards Health & Safety.
- Plan, organize and implement safety committee recommendations at the workplace.
- Advise management on new technological advancement in health & Safety.
- Meet regulatory requirements in Health & Safety as per OSH Code 2020, BOCW Act 1996 & Factories Act 1948.
- Meet the regulations and enforcement decided by the environmental act, 1986 and the SPCB & CPCB.
- Role of management in an organization, role of safety Inspector, safety officer, safety engineer, and safety manager.
- Fundamentals of process safety, OSHA standards QRA, LOPA, SIL, FERA, EERA.
- Role of occupier, controller of premise, role & need of contractors in the organization & work permit to contractors, role of safety committee.
- Selection prerequisites of a contractor, management of contractors , review meetings, safety committee meetings, method statements, accident reporting, training programs, statutory inspections, permit to



work, gaps in contractor safety implementation of contractor safety

Compulsory Modules

The table lists the modules and their duration corresponding to the Compulsory NOS of the QP.

| NOS and Module Details | Theory Duration | Practical Duration | On-the-Job Training Duration (Mandatory) | On-the-Job Training Duration (Recommended) | Total Duration |
|--|------------------------|------------------------|--|--|------------------------|
| SSD/N0106, v1.0 : Introduction to Occupational Safety, Health, and Environment (OSHE). | 45:00 Hours | 15:00 Hours | 30:00 Hours | 00:00 Hours | 90:00 Hours |
| Module 1: Introduction to Training Program, Overview, assessments, role of Safety Executive, employment opportunities in Industries | 04:00 Hours | 00:00 Hours | 00:00 Hours | 00:00 Hours | 04:00 Hours |



| | | | | | |
|---|------------------------|------------------------|--------------------|------------------------|------------------------|
| Module 2: Understand, plan, develop, implement, and monitor health and safety practices at the workplace. The NOS will help in identifying the loopholes and gaps in the system and rectify them without directly affecting the core business of an organization | 41:00 Hours | 15:00 Hours | 30:00 Hours | 00:00 Hours | 86:00 Hours |
| SSD/N0107, v1.0 : Fire Safety, fire fighting equipment, and fire evacuation plan. | 45:00 Hours | 25:00 Hours | 20:00 Hours | 00:00 Hours | 90:00 Hours |
| Module 3: Identify fire hazard at workplace, understand different classes of fire hazard, suggest firefighting methods to the management for office, industries, evacuations, and fire drills | 45:00 Hours | 25:00 Hours | 20:00 Hours | 00:00 Hours | 90:00 Hours |
| SSD/N0111, v1.0 : Accident Prevention Methodologies. | 30:00 Hours | 15:00 Hours | 15:00 Hours | 00:00 Hours | 60:00 Hours |



| | | | | | |
|---|--------------------|--------------------|--------------------|--------------------|---------------------|
| Module 4: Learn to perform Hazard and Operability Analysis (HAZOP), Fault tree analysis, Event tree analysis, failure modes and effect analysis, Job safety analysis and perform Hazard Identification and Risk Assessment (HIRA) | 30:00 Hours | 15:00 Hours | 15:00 Hours | 00:00 Hours | 60:00 Hours |
| SSD/N0108, v1.0 : Hazard Identification, Categories and Control | 60:00 Hours | 40:00 Hours | 20:00 Hours | 00:00 Hours | 120:00 Hours |
| Module 5: Knowledge & skills to identify hazards at workplace, severity of hazards, risk rating, protection overview and improved methodologies | 60:00 Hours | 40:00 Hours | 20:00 Hours | 00:00 Hours | 120:00 Hours |
| SSD/N0112, v1.0: Pollution & Environment Management, Global warming, and sustainability. | 30:00 Hours | 15:00 Hours | 15:00 Hours | 00:00 Hours | 60:00 Hours |
| Module 6: Identify impact of pollution, perform environment impact analysis, Learn waste management techniques. | 30:00 Hours | 15:00 Hours | 15:00 Hours | 00:00 Hours | 60:00 Hours |



| | | | | | |
|--|--------------------|--------------------|--------------------|--------------------|---------------------|
| SSD/N0109, v1.0: Statutes & Legislative requirements in Health & Safety. | 60:00 Hours | 60:00 Hours | 00:00 Hours | 00:00 Hours | 120:00 Hours |
| Module 7: Learn Regulations & regulatory compliance requirements as per the laws governed by the Government of India. Identifying the shortcomings as per the recommendation of the regulatory body for a particular task or activity. | 60:00 Hours | 60:00 Hours | 00:00 Hours | 00:00 Hours | 120:00 Hours |
| SSD/N0110, v1.0 : Health, Hygiene, Environment & Psychological Health | 30:00 Hours | 20:00 Hours | 10:00 Hours | 00:00 Hours | 60:00 Hours |
| Module 8: Knowledge & understanding to take precautions & measures to ensure proper health, hygiene, working environment and psychological health of workers at workplace | 30:00 Hours | 20:00 Hours | 10:00 Hours | 00:00 Hours | 60:00 Hours |
| SSD/N0104, v1.0 : Plan, Organize and Emergency protocols | 30:00 Hours | 20:00 Hours | 10:00 Hours | 00:00 Hours | 60:00 Hours |
| Module 9: Planning and organizing to provide a safe working environment for workers and | 30:00 Hours | 20:00 Hours | 10:00 Hours | 00:00 Hours | 60:00 Hours |



| | | | | | |
|---|-------------------------|-------------------------|---------------------|------------------------|-------------------------|
| set emergency protocols and measure in case of any unforeseen and incidents or accidents to minimize the damages & losses | | | | | |
| DGT/VSQ/0102: Employability Skills | 30:00 Hours | 30:00 Hours | 00:00 Hours | 00:00 Hours | 60:00 Hours |
| Module 10: Understand scope in employment, financial dealing, digital literacy and communication with employer or customer | 30:00 Hours | 30:00 Hours | 00:00 Hours | 00:00 Hours | 60:00 Hours |
| Total Duration | 360:00 Hours | 240:00 Hours | 120:00 Hours | 00:00 Hours | 720:00 Hours |



Module Details

Module1: Introduction to Training Program, Overview, assessments, role of Safety Executive, employment opportunities in Industries.

Mapped to SSD/N0106, v1.0

Terminal Outcomes:

- Discuss role of Safety Executive, sectors & industries.
- Employment opportunities, career development & International opportunities.
- Course approach, duration, training & assessment processes.

| Duration: 04:00 | Duration: 00:00 |
|--|--|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none">• Role & responsibilities of Safety Executive.• Iceberg theory of safety• Career progression in the occupation.• Industries for Employment & international opportunities for employment.• Training approach & methodology.• Assessment process & Certification.• The assistance provided by AB/TP/LMIS in employment | |
| Classroom Aids: | |
| Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator’s Guide, Participant’s Handbook. | |
| Tools, Equipment and Other Requirements | |



Nil

NSQC
Approved



Module 2: Understand, plan, develop, implement, and monitor health and safety practices at the workplace. The NOS will help in identifying the loopholes and gaps in the system and rectify them without directly affecting the core business of an organization

Mapped to SSD/N0106, v1.0

Terminal Outcomes:

- Understand health & safety requirements & safety audit.
- Understand the direct & indirect financial losses of an organization because of an accident.
- Prepare Safety Policy.
- Set organizational Health & Safety goals and objectives.
- Manage risk by developing a positive safety culture.
- Channelize proper mode of accident and incident reporting.
- Onboard and manage contractors to comply with statutory requirements in occupational H&S.
- Understand & conduct training.

| Duration: 41 Hours | Duration: 15 Hours |
|--|---|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none"> ● Overview of Health, Safety and Environment management at workplace, its importance and the moral, financial and legal reason for health and safety at workplace. Understanding the moral duty of care. Statutory duties and enforcement agencies. ● “Accident Cost- Iceberg” theory of direct and indirect cost incurred from an incident. ● The employer responsibilities in providing safe working conditions and the employee rights & responsibilities at a workplace, safety culture & its indicators and role of International Labor Organization in health & safety. ● Introduction to Safety Policy, understanding the underlying general statement of intent in a safety policy, its | <ul style="list-style-type: none"> ● Work out safety requirements. ● Prepare Safety Policy. ● Prepare Safety goals and objectives. ● Developing a positive safety culture for risk management. ● Prepare incident reporting. ● Conduct safety training. ● Role of management in an organization, role of safety Inspector, safety officer, safety engineer, and safety manager. ● Fundamentals of process safety, |



aim, objects, and the “SMART” concept of goal setting.

- Introduction to safety audit, audit objective, types of audits in H&S management system. Requirement of safety audit at workplace, task audit, program, activity, and project & machinery. Learning the scope of internal and external audit, reasons & advantages of such audits, key responsibility of an auditor.
- Introduction to parties in an audit: - First-party, second-party and third-party audits, finding the scope of such audits. Deep dive into the compliance audit, program audit & management system audit in health and safety management system.
- Defining the role of management in an organization, key factors that influence development of a positive culture in an organization. Key responsibilities of safety officer, safety engineer, and safety manager.
- Fundamentals of process safety, OSHA standards. QRA, LOPA, SIL, FERA, EERA.
- Defining role of occupier, controller of premise, role & need of contractors in the organization as per ILO.
- Understanding the requirement of work permit to contractors and the role of the safety committee in ensuring control over contractors.
- Deep dive into the selection prerequisites of a contractor, management of contractors, review meetings, safety committee meetings, method statements, accident reporting, training programs, statutory inspections, permit to work; to ensure safe systems of work.

OSHA standards QRA, LOPA, SIL, FERA, EERA.

- Role of occupier, controller of premise, role & need of contractors in the organization & work permit to contractors, role of safety committee.
- Selection prerequisites of a contractor, management of contractors, review meetings, safety committee meetings, method statements, accident reporting, training programs, statutory inspections, permit to work, gaps in contractor safety implementation of contractor safety



- Overview of the requirement of Plan-Do-Check-Act (PDCA) Cycle in safety management system; Implementation of PDCA cycle in H&S management system and know how it plays an important key element in continuous improvement in safety culture.
- Introduction to training and its types; the need of training, knowing the contents of induction training. Selection of a competent person at the workplace.
- Gas testing using – LEL sensor, O2 sensor, H2S sensor, Co Sensor.

Classroom Aids:

Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook.

Tools, Equipment and Other Requirements

Safety goggles, Full face shield, Leather gloves, Puncture resistant gloves, Chemical resistant gloves, Electrically insulated latex gloves, Safety helmets/hard hats, Ear plugs, Ear muffs, Safety shoes, Safety gumboots, High visibility jackets, N95 masks, Double filter half face mask, Double filter full face mask, SCBA – Self-contained breathing apparatus, Safety harness, Lanyard, Fall arrestor, CO2 Fire extinguisher, Dry Chemical Powder Fire extinguisher, Fire hydrant system, Multiple gas detector, TDS Meter

Module 3: Identify fire hazard at workplace, understand different classes of fire hazard, suggest firefighting methods to the management for office, industries, evacuations, and fire drills **Mapped to SSD/N0107, v1.0**

Terminal Outcomes:

- Identify fire hazards at the workplace.
- Distinguish between different classes of fire.
- Evacuations, fire drills, use of PPEs.
- Develop systematic approach in identifying and correcting probable fire accidents and suggest fire-fighting equipment.
- Operate fire extinguisher and fire hydrant.



| Duration: 45 Hours | Duration: 25 Hours |
|--|--|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none">● Introduction to basic terminologies & concepts in fire safety: - Flammable liquids, Combustible matter/liquids, Combustible gasses, combustion, oxygen percentage in air, exothermic and endothermic reactions, flash point and fire point. Learn the concept of transmission of heat by conduction, convection, and radiation.● Introduction to Fire triangle and classification fire. Learn the common reason for fire accidents. The four stages fire- incipient, growth, fully developed and decay. Fire retardation by controlling of fuel source, control of ignition source and control of oxygen.● Knowledge of types of extinguishing media- water, foam, dry chemical powder & carbon dioxide.● Types of fire-fighting equipment and its components. Learning the assembly of hydrant systems, principle of operation.● Introduction to suppression fire with extinguisher using PASS technique. Preparation fire extinguisher checklist of components of extinguisher for regular maintenance at workplace.● Introduction to use of smoke detectors, fire alarm, emergency lighting, flashing light, sprinklers, and pressure requirements in fire hydrants. Understanding of them plays a crucial role in fire prevention.● New technological interventions in fire safety like water mist system, online hydrant pressure monitoring, wireless fire detection system etc. | <ul style="list-style-type: none">● Identify fire hazards at the workplace.● Distinguish between different classes of fire.● Evacuations, fire drills, use of PPEs.● Develop systematic approach in identifying and correcting probable fire accidents and suggest fire-fighting equipment.● Operate fire extinguisher and fire hydrant. |



- Use of PPEs in fire safety – Helmet, turnout gear, gloves, boots, SCBA (Self-contained breathing apparatus) and use of SCBA.
- Requirements of emergency evacuation – Escape route as per IS1644.
- Understand Fire door, emergency directional signages, assembly point, evacuation, evacuation of differently abled, evacuation procedure, role of “Fire Marshals.”
- Introduction to fire drills and emergency evacuation. Learn how to do fire drills and emergency evacuations during an emergency. Learn what is an emergency and types of emergencies at a workplace.

Classroom Aids:

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.

Tools, Equipment and Other Requirements

Safety goggles, Full face shield, Leather gloves, Puncture resistant gloves, Chemical resistant gloves, Electrically insulated latex gloves, Safety helmets/hard hats, Ear plugs, Ear muffs, Safety shoes, Safety gumboots, High visibility jackets, N95 masks, Double filter half face mask, Double filter full face mask, SCBA – Self-contained breathing apparatus, Safety harness, Lanyard, Fall arrestor, CO2 Fire extinguisher, Dry Chemical Powder Fire extinguisher, Fire hydrant system, Multiple gas detector, TDS Meter

Module 4: Learn to perform Hazard and Operability Analysis (HAZOP), Fault tree analysis, Event tree analysis, failure modes and effect analysis, Job safety analysis and perform Hazard Identification and Risk Assessment (HIRA).

Mapped to SSD/N0111, v1.0

Terminal Outcomes:

- Perform Hazard and Operability Analysis (HAZOP).
- Fault Tree analysis & Event Tree Analysis



- Failure modes and effect analysis.
- Job Safety Analysis.
- Perform Hazard Identification and Risk Assessment (HIRA).

| Duration: 30 Hours | Duration: 15 Hours |
|--|---|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none"> ● Introduction to basic safety terminologies- incident, accident, Injury, lost time injury, unsafe condition, unsafe Acts, dangerous occurrences, hazards, error, near miss. ● Theories of accident causation- Heinrich’s Domino theory,“Heinrich 300-29-1 model, “Ferrell’s Human Factor Model”, “Petersen’s Accident/Incident Model” and Reason’s Swiss Cheese Model”. ● Introduction to calculations: “Frequency rate & Incident rate,” “Lost time case rate,” “DART rate,” “Severity rate”, “Fault tree analysis” and “Event tree analysis. ● Introduction to accident prevention techniques: -“HAZOP- Hazard, operability analysis,” “Job safety analysis” and “Hazard Identification and risk assessment.” Learn how to evaluate chances of failure in a system. ● Introduction to hierarchy of controls, Importance of hierarchy of control & steps in hierarchy of control ● Introduction to motivational theories: Maslow’s theory of Hierarchical Needs, Herzberg’s two-factor theory, McClelland’s theory of needs, Vroom’s Theory of Expectancy, McGregor’s theory X and theory Y and Alderfer’s ERG theory | <ul style="list-style-type: none"> ● Perform Hazard and Operability Analysis (HAZOP). ● Perform Tree analysis & Event Tree Analysis ● Carry out Job Safety Analysis. ● Perform Hazard Identification and Risk Assessment (HIRA) |
| Classroom Aids: | |



Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.

Tools, Equipment and Other Requirements

Safety goggles, Full face shield, Leather gloves , Puncture resistant gloves, Chemical resistant gloves, Electrically insulated latex gloves, Safety helmets/hard hats, Ear plugs, Ear muffs, Safety shoes, Safety gumboots, High visibility jackets, N95 masks, Double filter half face mask, Double filter full face mask, SCBA – Self-contained breathing apparatus, Safety harness, Lanyard, Fall arrestor, CO2 Fire extinguisher, Dry Chemical Powder Fire extinguisher, Fire hydrant system, Multiple gas detector, TDS Meter.

Module 5: Knowledge & skills to identify hazards at workplace, severity of hazards, risk rating, protection overview and improved methodologies .

Mapped to SSD/N0108, v1.0

Terminal Outcomes:

- Identify hazards & categories the hazards
- Implement “Hierarchy of control” in improvement methodologies.
- Understand hidden risk in improved methodologies.

| Duration: 60 Hours | Duration: 40 Hours |
|--|--|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none"> ● Introduction to hazards and basic terminologies used in hazard identification. ● Overview of hazard categories and risks involved in each hazard. ● Introduction to the hierarchy of control in safety. Importance of each hierarchy of control. Deep dive into the steps in the hierarchy of control. ● Deep dive into different hazard categories & control ex: Electricity, Fire, Tools, equipment and machinery, Health and | <ul style="list-style-type: none"> ● Identify hazards & categories the hazards ● Implement “Hierarchy of control” in improvement methodologies. ● Identify hidden risk in improved methodologies. |



| | |
|--|--|
| workplace hazard, Hazardous substances, musculoskeletal disorders, manual handling, and load handling equipment, noise, vibration, radiation, mental ill-health, violence at work, substance abuse at workplace, lifting and rigging hazards and control. | |
| Classroom Aids: | |
| Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook. | |
| Tools, Equipment and Other Requirements | |
| Safety goggles, Full face shield, Leather gloves , Puncture resistant gloves, Chemical resistant gloves, Electrically insulated latex gloves, Safety helmets/hard hats, Ear plugs, Ear muffs, Safety shoes, Safety gumboots, High visibility jackets, N95 masks, Double filter half face mask, Double filter full face mask, SCBA – Self-contained breathing apparatus, Safety harness, Lanyard, Fall arrestor, CO2 Fire extinguisher, Dry Chemical Powder Fire extinguisher, Fire hydrant system, Multiple gas detector, TDS Meter. | |

Module 6: Identify impact of pollution, perform environment impact analysis, Learn waste management techniques.

Mapped to SSD/N0112, v1.0

Terminal Outcomes:

- Identify the impact of pollution.
- Perform Environmental Impact Assessment
- Learn waste management techniques.

| Duration: 30 Hours | Duration: 15 Hours |
|--|--|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none"> ● Introduction to Environment & atmospheric pollution, deep dive into water pollution, land pollution, noise pollution, air quality, ill effects, and control. | <ul style="list-style-type: none"> ● Identify & analyze impact of pollution. ● Carry out environmental impact assessment |



- Introduction to waste management, its disposal techniques, Learn about effluent treatment plants.
- Introduction to Hazardous waste management & 6R's (Reuse, reduce, repair, refuse, recycle, reimagine).
- Overview on the regulatory requirements of Central Pollution control Board & State Pollution Control Board.
- Introduction to Environment Protection Act, 1986" & KYOTO protocol.
- Introduction to remote sensing, air monitoring, biological monitoring, soil monitoring and water monitoring. Learn how they play an important role in environment monitoring.
- Introduction to EIA- Environmental impact assessment and LCI- Life cycle Impact assessment. Requirement of EIA and LCI.
- Introduction to global warming and climate change, greenhouse gasses & greenhouse effect, carbon cycle, carbon footprints, carbon neutrality & Carbon credits. Learn how they affect the environment and steps taken towards sustainability.
- Introduction to ozone layer, ozone layer depletion, notifying elements affecting ozone layer, acid rain, wet deposition, dry deposition, and its factors.
- Introduction to the term Eco-friendly, energy conservation methods using solar, hydro, wind, biomass, water and harvesting.

- Plan waste management techniques.

Classroom Aids:

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.



Tools, Equipment and Other Requirements

Safety goggles, Full face shield, Leather gloves, Puncture resistant gloves, Chemical resistant gloves, Electrically insulated latex gloves, Safety helmets/hard hats, Ear plugs, Ear muffs, Safety shoes, Safety gumboots, High visibility jackets, N95 masks, Double filter half face mask, Double filter full face mask, SCBA – Self-contained breathing apparatus, Safety harness, Lanyard, Fall arrestor, CO2 Fire extinguisher, Dry Chemical Powder Fire extinguisher, Fire hydrant system, Multiple gas detector, TDS Meter.

Module 7: Learn regulations & regulatory compliance requirements as per the laws governed by the Government of India. Identify the shortcomings as per the recommendation of the regulatory body for a particular task or activity

Mapped to SSD/N0109, v1.0

Terminal Outcomes:

- Understanding various rules, regulations and statutes required related to occupational safety, health & environment including BOCW Act 19196, Factories Act 1948, OSH Code 2020, Environment protection Act, 1996 and others applicable in various fields.

| Duration: 60 Hours | Duration: 60 Hours |
|--|--|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none"> Regulatory requirements on safety, health & environment compliance as per BOCW Act 1996. Regulatory requirements on safety, health & environment compliance as per Factories Act, 1948. Regulatory requirements on safety, health & environment compliance as per OSH Code 2020 & Occupational Safety & Health Administration (OSHA) compliance requirements. Regulatory requirements as per Environment Protection Act, 1986 & ILO Guidelines related to EHS. Requirements and compliance as per Oil Industry Safety Directorate (OSID) Guidelines Regulatory requirements and | <ul style="list-style-type: none"> Understanding of BOCW act safeguarding the rights and interests of workers in terms of accidental insurance, immediate healthcare, and financial assistance Understanding of factories that protect the health and safety of workers, ensures adherence to global best practices. Understanding of OSH code 2020. Understanding of ILO guidelines that governs the principle that workers against sickness, disease and injury arising from their employment. Understanding of Oil Industry Safety Directorate (OSID) Guidelines, External |



| | |
|---|--|
| <p>compliance as per Mines Vocational Training Rules – DGMS</p> <ul style="list-style-type: none">● Electricity Act 2010 & 2003● Compliance requirement as per National Building Code (NBC) – 2016● Regulatory requirements and compliance as per National Fire Protection Association regulations.● Regulatory requirements and compliance as per Petroleum & Explosive Safety Organization (PESO) and Explosive Act 1884.● Requirements as per Gas Cylinders Rule 2016● Regulatory requirements and compliance as per The Boilers Act 1923● Workmen Compensation Act 1923 & Employee State Insurance Act 1948 and related compliance.● Regulatory compliances needed as per Motor vehicle Act 1988● First Aid at workplaces requirements and training on first aid. | <p>Safety Audits, Offshore Safety Regulatory Activities, Training Program / Workshop, and Accident Reporting & Investigation in oil fields</p> <ul style="list-style-type: none">● Comprehend the regulatory obligations pertaining to Mines Vocational Training Rules – DGMS● Understanding of Electricity Act 2010 & 2003 consolidate the laws relating to generation, transmission, distribution, trading, and use of electricity● Understanding of NBC 2016 contains administrative regulations, development control rules and general building requirements; fire safety and other requirements.● Understanding of fire, electrical, and life safety guidelines and requirements.● Understanding of regulations on the manufacture, possession, use, sale, transport, and importation of Explosives● Understanding of insurance policy designed to financially protect employees in the wake of any accidents, social security scheme aimed at providing the requisite medical and financial assistance to employees across the country.● Understanding of necessary first aid assistance to an injured person until professional medical care can be provided. |
| Classroom Aids: | |
| Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook. | |
| Tools, Equipment and Other Requirements | |
| Regulations, Books, Handouts, Laptop/computer, internet. | |



Module 8: Knowledge & understanding to take precautions & measures to ensure proper health, hygiene, working environment and psychological health of workers at workplace

Mapped to SSD/N0110, v1.0

Terminal Outcomes:

- Health hazards identification for workers at work places.
- Measures to ensure health, hygiene, & cleanliness at work site.
- Psychological health of workers & working environment

| Duration: 30 Hours | Duration: 20 Hours |
|--|--|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none">● Introduction to the hazards and risks at the workplace for the health of workers & employees due to hygiene, sanitation and working environment.● The requirements of health, hygiene & sanitation at the workplace to mitigate any risk to health of workers & employees at the work site.● Measures to be ensured for good health, hygiene of employees/ workers at the workplace.● Introduction to safe water hygiene, food hygiene and personal hygiene arrangements.● Introduction to housing hygiene, work hygiene, cleanliness, and ventilations at workplace.● Medical facilities at the workplace and their importance.● Overview of adequate policy, briefing & clarity on safety provisions at workplace.● Requirement of education facilities for children of workers and entertainment & communication facilities for all. | <ul style="list-style-type: none">● Identify health hazards for workers at work sites.● Identify measures and plan to ensure health, hygiene, & cleanliness at work site.● Identify & prepare plan to ensure psychological health of workers & working environment |



Classroom Aids:

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.

Tools, Equipment and Other Requirements

Safety goggles, Full face shield, Leather gloves, Puncture resistant gloves, Chemical resistant gloves, Electrically insulated latex gloves, Safety helmets/hard hats, Ear plugs, Ear muffs, Safety shoes, Safety gumboots, High visibility jackets, N95 masks, Double filter half face mask, Double filter full face mask, SCBA – Self-contained breathing apparatus, Safety harness, Lanyard, Fall arrestor, CO2 Fire extinguisher, Dry Chemical Powder Fire extinguisher, Fire hydrant system, Multiple gas detector, TDS Meter.

Module 9: Planning and organizing to provide a safe working environment for workers and set emergency protocols and measure in case of any unforeseen and incidents or accidents to minimize the damages & losses

Mapped to SSD/N0104, v1.0

Terminal Outcomes:

- Planning of resources for own work and communication to concerned subordinates, co-workers, and superiors.
- Provide necessary support to subordinates, coordinate with co-workers and liaise with superiors and monitor.
- Setting up emergency protocols and implementing them at working places to minimize the loss in case of any incident or accident.

| Duration: 30 Hours | Duration: 20 Hours |
|--|--|
| Theory–Key Learning Outcomes | Practical–Key Learning Outcomes |
| <ul style="list-style-type: none">● Introduction to planning of resources for own work and communication to concerned subordinates, co-workers, and superiors.● Introduction to hierarchy of organization and modes of communication to team members. | <ul style="list-style-type: none">● Planning of resources and communication to concerned subordinates, co-workers, and superiors.● Prepare necessary support to subordinates, coordinate with co-workers and liaison with superiors and monitoring. |



- | | |
|---|---|
| <ul style="list-style-type: none">● Introduction to identifying the task and distribution among subordinates, supervision, and coordination among the team members for readiness in sync with overall task & timelines.● Introduction to supervision and monitoring of a task to ensure timely completion of such work.● Setting up emergency protocols and implementing them at working places to minimize the loss in case of any incident or accident.● Setting up evacuation plans, evacuation drills, assembly area emergency communication & guidance. | <ul style="list-style-type: none">● Set up emergency protocols and implement them at working places to minimize loss in case of any incident or accident. |
|---|---|

Classroom Aids:

Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator's Guide, Participant's Handbook.

Tools, Equipment and Other Requirements

Safety goggles, Full face shield, Leather gloves, Puncture resistant gloves, Chemical resistant gloves, Electrically insulated latex gloves, Safety helmets/hard hats, Ear plugs, Ear muffs, Safety shoes, Safety gumboots, High visibility jackets, N95 masks, Double filter half face mask, Double filter full face mask, SCBA – Self-contained breathing apparatus, Safety harness, Lanyard, Fall arrestor, CO2 Fire extinguisher, Dry Chemical Powder Fire extinguisher, Fire hydrant system, Multiple gas detector, TDS Meter

Module 10: Understand scope in employment, financial dealing, digital literacy and communication with employer or customer

Mapped to DGT/VSQ/N0102

Terminal Outcomes:

- Describe the traits of individual at workplace



- Demonstrate apply employability and entrepreneurship skills at workplace

| Duration: 30:00 | Duration: 30:00 |
|--|--|
| Theory – Key Learning Outcomes | Practical – Key Learning Outcomes |
| <ul style="list-style-type: none"> • Discuss the importance of Employability Skills in meeting the job requirements. • Explain constitutional values, civic rights, duties, citizenship, responsibility towards society etc. that are required to be followed to become a responsible citizen. • Discuss 21st century skills. • Display positive attitude, self - motivation, problem solving, time management skills and continuous learning mindset in different situations. • Discuss the significance of reporting sexual harassment issues in time • Discuss the significance of using financial products and services safely and securely. • Explain the significance of approaching the concerned authorities in time for any exploitation as per legal rights and laws • Explain the importance of managing expenses, income, and savings. • Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely • Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial | <ul style="list-style-type: none"> • Show how to practice different environmentally sustainable practices • Use appropriate basic English sentences/phrases while speaking • Demonstrate how to communicate in a well -mannered way with others • Demonstrate working with others in a team • Show how to conduct oneself appropriately with all genders and PwD • Show how to operate digital devices and use the associated applications and features, safely and securely • Create a biodata • Use various sources to search and apply for jobs |



| | |
|--|--|
| challenges | |
| <ul style="list-style-type: none">• Differentiate between types of customers• Explain the significance of identifying customer needs and addressing them• Discuss the significance of maintaining hygiene and dressing appropriately• Discuss the significance of dressing up neatly and maintaining hygiene for an interview• Discuss how to search and register for apprenticeship opportunities | |
| Classroom Aids: | |
| <ul style="list-style-type: none">• Black/White Board, Computer, Projection Equipment, PowerPoint Presentation and software, Facilitator's Guide, Participant's Handbook. | |
| Tools, Equipment and Other Requirements | |
| <ul style="list-style-type: none">• Laptop/computer, internet, mobile | |

On The Job Training Plan : Safety Executive (OSHE)

| |
|--|
| Introduction to Occupational Safety, Health, and Environment (OSHE) : 30 Hours |
| Key Learning Outcomes |
| <ul style="list-style-type: none">• Work out safety requirements.• Prepare Safety Policy.• Prepare Safety goals and objectives.• Developing a positive safety culture for risk management.• Prepare incident reporting.• Conduct safety training. |
| Fire Safety, fire fighting equipments, and fire evacuation plan : 20 Hours |
| Key Learning Outcomes |



- Identify fire hazards at the workplace.
- Distinguish between different classes of fire.
- Evacuations, fire drills, use of PPEs.
- Develop systematic approach in identifying and correcting probable fire accidents and suggest fire-fighting equipment.
- Operate fire extinguisher and fire hydrant.

Accident Prevention Methodologies : 15 Hours

Key Learning Outcomes

- Perform Hazard and Operability Analysis (HAZOP).
- Perform Tree analysis & Event Tree Analysis
- Carry out Job Safety Analysis.
- Perform Hazard Identification and Risk Assessment (HIRA)

Hazard Identification, Categories and Control. : 20 Hours

Key Learning Outcomes

- Identify hazards & categories the hazards
- Implement “Hierarchy of control” in improvement methodologies.
- Identify hidden risk in improved methodologies.

Pollution & Environment Management, Global warming, and sustainability: 15 Hours

Key Learning Outcomes

- Identify & analyze impact of pollution.
- Carry out environmental impact assessment
- Plan waste management techniques.

Health, Hygiene, Environment & Psychological Health : 10 hours

Key Learning Outcomes



- Identify health hazards for workers at work sites.
- Identify measures and plan to ensure health, hygiene, & cleanliness at work site.
- Identify & prepare plan to ensure psychological health of workers & working environment

Plan, Organize and Emergency protocols : 10 hours

Key Learning Outcomes

- Planning of resources and communication to concerned subordinates, co-workers, and superiors.
- Prepare necessary support to subordinates, coordinate with co-workers and liaison with superiors and monitoring.
- Set up emergency protocols and implement them at working places to minimize loss in case of any incident or accident.

Total Duration of OJT – 120 Hours (2.5 weeks)

NSQF
Approved



Annexure

Trainer Requirements

| Trainer Prerequisites | | | | | | |
|---|---|------------------------------|---|---------------------|----------------|---------|
| Minimum Educational Qualification | Specialization | Relevant Industry Experience | | Training Experience | | Remarks |
| | | Years | Specialization | Years | Specialization | |
| ITI/12 th Pass | Any domain | 10 | Safety Domain | 0 | - | |
| Graduate in any discipline / Diploma in Engineering | Civil, Mechanical, Manufacturing, Mining, Production, Industrial, Chemical, Safety, Petroleum Engineering, Mathematics, Physics degree and others | 5 | Safety Domain | 0 | - | |
| M. Tech/ B. Tech | Civil, Mechanical, Manufacturing, Mining, Production, Industrial, Chemical, Safety, Petroleum Engineering and others. | 3 | Safety Domain | 0 | - | |
| Trainer Certification | | | | | | |
| Domain Certification | | | Platform Certification | | | |
| Certified as Trainer for the Job Role: "SSD/Q0103 v1.0 : Safety Executive (OSHE)" or higher qualification as per career progression by SSDF. . The minimum accepted score is 80%. | | | Recommended that the Trainer is certified for the Job Role: "Trainer (VET and Skills)", mapped to the Qualification Pack: "MEP/Q2601 v2.0" . . The minimum accepted score is 80%. | | | |



Assessor Requirements

| Assessor Prerequisites | | | | | | |
|---|---|------------------------------|----------------|--------------------------------|----------------|---------|
| Minimum Educational Qualification | Specialization | Relevant Industry Experience | | Training/Assessment Experience | | Remarks |
| | | Years | Specialization | Years | Specialization | |
| ITI/12 th Pass | Any domain | 10 | Safety Domain | 0 | - | |
| Graduate in any discipline / Diploma in Engineering | Civil, Mechanical, Manufacturing, Mining, Production, Industrial, Chemical, Safety, Petroleum Engineering, Mathematics, Physics degree and others | 5 | Safety Domain | 0 | - | |
| M. Tech/ B. Tech | Civil, Mechanical, Manufacturing, Mining, Production, Industrial, Chemical, Safety, Petroleum Engineering and others. | 3 | Safety Domain | 0 | - | |

| Assessor Certification | |
|------------------------|------------------------|
| Domain Certification | Platform Certification |



Certified as assessor for the QP: “SSD/Q0103 v1.0 : Safety Executive (OSHE)” or higher qualification as per career progression. The minimum accepted score is 80%.

Recommended that the Assessor is certified for the Job Role: “Assessor (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2701 v2.0”. The minimum accepted score is 80%.

NSQC
Approved



Assessment Strategy

The assessment will be based on the concept of third-party assessments through certified assessors with empanelled Assessment Agencies of NCVET. The certification of each assessor will be done by SSDF through a process of selection, training, assessment & certification through training of the assessor's program.

The assessments will include both formative & summative. The progressive assessments will be through a trainer during the progress of the training. The summative assessments will be carried by the assessor through assessment agencies.

The assessment process will find whether the candidate or professional is competent or not to perform the job as per expected performance criteria. The assessment plan contains the following information:

- a) Assessment elements – Competencies based on performance criteria of each NOS.
- b) Methods of assessment – Written test (online/offline), viva and practical/ field exercises.
- c) Time of assessment – The assessment will be done both formative and summative (post orientation/training) of candidates.
- d) Place i.e., context of the assessment - The assessment will be conducted through theory, viva voce and practical/ field exercises, on simulators and will be both online or offline modes.
- e) The criteria for decision making– It will be based on assessment criteria & guidelines as given the qualification pack.
- f) Questions – The written questions, viva & practical questions will be set to cover all aspects of performance criteria and would have been validated from experts in the subject matter.
- g) Passing criteria & gradings – The passing criteria & gradings will be as per passing criteria given for each NOS and Guidelines for Assessment.



Glossary

| Term | Description |
|------------------------------|--|
| Declarative Knowledge | Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood to accomplish or to solve a problem. |
| Key Learning Outcome | Key learning outcome is the statement of what a learner needs to know, understand and be able to do to achieve the terminal outcomes. A set of key learning outcomes will make up the training outcomes. Training Outcome is specified in terms of knowledge, understanding(theory)and skills (practical application). |
| OJT(M) | On-the-job training(Mandatory);trainees are mandated to complete specified hours of training on site |
| OJT(R) | On-the-job training(Recommended);trainees are recommended the specified hours of training on site |
| Procedural Knowledge | Procedural knowledge addresses how to do something, or how to perform a task. It is the ability to work, or produce a tangible work output by applying cognitive, affective, or psychomotor skills. |
| Training Outcome | Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training. |
| Terminal Outcome | Terminal outcome is a statement of what a learner will know, understand and be able to do upon the completion of a module. A set of terminal outcomes help to achieve the training outcome. |



Acronyms and Abbreviations

| Term | Description |
|------|---|
| QP | Qualification Pack |
| NSQF | National Skills Qualification Framework |
| NSQC | National Skills Qualification Committee |
| NOS | National Occupational Standard |
| AB | Awarding Body |
| AA | Assessment Agency |
| TP | Training Partner |

NSQF
Approved