

# MODEL CURRICULUM



QP Name:	Safety Inspector (OSHE)
QP Code:	SSD/Q0105
QP Version:	1.0
NSQF Level:	5.5
Model Curriculum:	1.0

## SAFETY SKILL DEVELOPMENT FOUNDATION

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## Training Parameters

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



<b>Model Curriculum Creation Date</b>	31-01-2023
<b>Model Curriculum Valid Up to Date</b>	31-01-2027
<b>Model Curriculum Version</b>	1.0
<b>Minimum Duration of the Course</b>	750 Hours
<b>Maximum Duration of the Course</b>	750 Hours



# 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:-

- Understand health & safety requirements , financial losses of an organization because of an accident.
- Safety Policy formulation and Health & Safety objectives.
- Identify fire hazards at workplace, different classes of fire, evacuations, fire drills, use of PPEs.
- Onboard and manage contractors to comply with statutory requirements in occupational OSHE.
- Identify hazards, analyze, and perform Hazard and Operability Analysis (HAZOP).
- Understand & carry out fault tree analysis & event tree analysis, failure modes and effect analysis.
- Perform Hazard Identification and Risk Assessment (HIRA).
- Understand & carry out Job Safety Analysis, “Hierarchy of control.”
- Categorize the occupational accidents & incidents.
- Investigate occupational safety and health incidents & find the root causes and report preparation.
- Understand methods & techniques of inspections, maintenance of reports, records & documents.
- Perform Environmental Impact Assessment
- Understand and prepare waste management techniques.
- Understand & comply with BOCW Act 1996, Factories Act, 1948, OSH Code 2020, Environment Protection Act, 1986.
- Plan resources and communicate to subordinates, co-workers and superiors & monitor the works.
- Set up emergency protocols and implement at working places.
- 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
<b>SSD/N0126 : Occupational Safety, Health, and Environment (OSHE) Management.</b>	<b>60:00 Hours</b>	<b>40:00 Hours</b>	<b>20:00Hours</b>	<b>00:00Hours</b>	<b>120:00 Hours</b>
Module 1: Introduction to Training Program, Overview, assessments, role of Safety Inspector (OSHE), employment opportunities in Industries.	04:00 Hours	00:00 Hours	00:00Hours	00:00Hours	04:00 Hours



Module 2: Occupational health & safety, identifying the loopholes and gaps in the system, fire hazard at workplace, firefighting methods, and systematic approach in identifying and correcting probable of hazards including fire accidents.	56:00 Hours	40:00 Hours	20:00Hours	00:00Hours	116:00 Hours
<b>SSD/N0127 : Hazard Identification &amp; Risk Analysis.</b>	<b>60:00 Hours</b>	<b>40:00 Hours</b>	<b>20:00Hours</b>	<b>00:00Hours</b>	<b>120:00 Hours</b>
Module 3: Identification of hazards at workplace, severity of hazards, risk rating analysis, prevention of accidents and mishaps at a workplace, accident prevention theories.	60:00 Hours	40:00 Hours	20:00Hours	00:00Hours	120:00 Hours
<b>SSD/N0128 : Investigating of Occupational Safety and Health Incidents.</b>	<b>60:00 Hours</b>	<b>30:00 Hours</b>	<b>30:00Hours</b>	<b>00:00Hours</b>	<b>120:00 Hours</b>
Module 4: Identification & investigation of occupational safety and health incidents, finding the root causes and preparation of corrective actions to prevent any future incident or accident.	60:00 Hours	30:00 Hours	30:00Hours	00:00Hours	120:00 Hours
<b>SSD/N0129 : Conducting Workplace Inspections for OSHE</b>	<b>60:00 Hours</b>	<b>35:00 Hours</b>	<b>25:00Hours</b>	<b>00:00Hours</b>	<b>120:00 Hours</b>
Module 5: Inspections to ensure compliance of safety processes, standard operating procedures, Government rules &	60:00 Hours	35:00 Hours	25:00Hours	00:00Hours	120:00 Hours





regulations, records & documents maintained by the organization, identification of shortfalls/ deviations in system and recommend for corrective action.					
<b>SSS/N0108: Pollution &amp; Environment Management, Global warming, and sustainability.</b>	<b>30:00 Hours</b>	<b>15:00 Hours</b>	<b>15:00Hours</b>	<b>00:00Hours</b>	<b>60:00 Hours</b>
Module 6: Pollution Impact of pollution, environment impact analysis, waste management & waste management techniques.	30:00 Hours	15:00 Hours	15:00Hours	00:00Hours	60:00 Hours
<b>SSD/N0125: Statutes &amp; Legislative requirements in Health &amp; Safety.</b>	<b>45:00 Hours</b>	<b>45:00 Hours</b>	<b>00:00Hours</b>	<b>00:00Hours</b>	<b>90:00 Hours</b>
Module 7: Regulations & regulatory compliance requirements as per the laws governed by the Government of India, identification of gaps & shortcomings in a particular task or activity or system.	45:00 Hours	45:00 Hours	00:00Hours	00:00Hours	90:00 Hours
<b>SSD/N0102 : Plan, Organize and Emergency protocols</b>	<b>30:00 Hours</b>	<b>20:00 Hours</b>	<b>10:00Hours</b>	<b>00:00Hours</b>	<b>60:00 Hours</b>
Module 8: 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.	30:00 Hours	20:00 Hours	10:00Hours	00:00Hours	60:00 Hours



<b>Employability Skills</b>	<b>30:00 Hours</b>	<b>30:00 Hours</b>	<b>00:00 Hours</b>	<b>00:00 Hours</b>	<b>60:00 Hours</b>
Module 9: 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
<b>Total Duration (including one Elective):</b>	<b>375:00 Hours</b>	<b>255:00 Hours</b>	<b>120:00 Hours</b>	<b>00:00 Hours</b>	<b>750:00 Hours</b>



## Module Details

**Module1: Introduction to Training Program, Overview, assessments, role of Safety Inspector (OSHE), employment opportunities in Industries.**

**Mapped to SSD/N0126, v1.0**

### Terminal Outcomes:

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

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



## Module 2: Occupational health & safety, identifying the loopholes and gaps in the system, fire hazard at workplace, firefighting methods, and systematic approach in identifying and correcting probable of hazards including fire accidents.

### Mapped to SSD/N0126, v1.0

#### Terminal Outcomes:

- Understand health & safety requirements , financial losses of an organization because of an accident.
- Safety Policy formulation and Health & Safety objectives.
- Identify fire hazards at workplace.
- Distinguish between different classes of fire, evacuations, fire drills, use of PPEs.
- Onboard and manage contractors to comply with statutory requirements in occupational OSHE.

<b>Duration: 56 Hours</b>	<b>Duration: 40 Hours</b>
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Concept of Health, Safety and Environment management at work place, its importance and the moral, financial and legal reason for health and safety at workplace.</li><li>● Accident Cost- Iceberg” theory of direct and indirect cost incurred from an incident.</li><li>● Employer responsibilities in providing safe working conditions.</li><li>● Employee rights &amp; responsibilities at a workplace, safety culture.</li><li>● Role of International Labor Organization in health &amp; safety.</li><li>● Safety Policy, its aim, objects, and “SMART” concept of goal setting.</li><li>● Requirement of Plan-Do-Check-Act (PDCA) Cycle in safety management system; understanding and analysis.</li><li>● Stages of “Plan” &amp; “Do” and “Check” and “Act” stages of PDCA cycle.</li></ul>	<ul style="list-style-type: none"><li>● Identify hazards &amp; risks and safety requirements.</li><li>● Presentation on flammable materials, reactions, fire triangle, classification fire, common reason for fire accidents.</li><li>● Operate of fire-fighting equipment’s &amp; make presentation on principle of operation, PASS technique &amp; operation of fire hydrants.</li><li>● Identify fire hazards at workplace, evacuation drill, fire drills, use of PPEs.</li><li>● Prepare contractor management policy for OHSE issues.</li><li>● Prepare Safety Policy &amp; policy for contractors.</li><li>● Role of management in an organization, role of safety Inspector, safety officer, safety engineer, and safety manager.</li></ul>



<ul style="list-style-type: none"><li>● Need of training, induction training &amp; competency at workplace, “Toolbox talk.”</li><li>● Gas testing using – LEL sensor, O2 sensor, H2S sensor, Co Sensor.</li><li>● Understand basic definitions- Flammable liquids, Combustible matter/liquids, Combustible gases, combustion, oxygen percentage in air, exothermic and endo thermic reactions, radiation.</li><li>● Fire triangle and classification fire, common reason for fire accidents.</li><li>● Types of fire-fighting equipment’s, its principle of operation, components in different fire extinguisher, PASS technique &amp; operation of fire hydrants.</li><li>● Use of smoke detectors, fire alarm, emergency lighting, flashing light, sprinklers, and pressure requirements in fire hydrants, PPE’s, SCBA (Self-contained breathing apparatus) and use of SCBA.</li><li>● Requirements of emergency evacuation – Escape route as per IS1644, emergency door, assembly point, evacuation, evacuation of differently abled, evacuation procedure, fire dills on emergency evacuation.</li><li>● Role of management in an organization, role of safety Inspector, safety officer, safety engineer, and safety manager.</li><li>● Fundamentals of process safety, OSHA standards QRA, LOPA, SIL, FERA, EERA.</li><li>● Role of occupier, controller of premise, role &amp; need of contractors in the organization &amp; work permit to contractors, role of safety committee.</li><li>● Selection prerequisites of a contractor, management of contractors , review meetings, safety committee meetings, method statements, accident reporting,</li></ul>	<ul style="list-style-type: none"><li>● Fundamentals of process safety, OSHA standards QRA, LOPA, SIL, FERA, EERA.</li><li>● Role of occupier, controller of premise, role &amp; need of contractors in the organization &amp; work permit to contractors, role of safety committee.</li><li>● Selection prerequisites of a contractor, management of contractors , review meetings, safety committee meetings, method statements, accident reporting, permit to work, gaps in contractor safety implementation of contractor safety.</li></ul>
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training programs, statutory inspections, permit to work, gaps in contractor safety implementation of contractor safety.	
<b>Classroom Aids:</b>	
Black/White Board, Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
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: Identification of hazards at workplace, severity of hazards, risk rating analysis, prevention of accidents and mishaps at a workplace, accident prevention theories.

#### Mapped to SSD/N0127, v1.0

##### Terminal Outcomes:

- Identify hazards, analyze categories of the hazards, and perform Hazard and Operability Analysis (HAZOP).
- Fault Tree analysis & Event Tree Analysis, failure modes and effect analysis.
- Perform Hazard Identification and Risk Assessment (HIRA).
- Job Safety Analysis.
- Implement “Hierarchy of control” in improvement methodologies.
- Understand hidden risk in improved methodologies.



<b>Duration: 60 Hours</b>	<b>Duration: 40 Hours</b>
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Hazards, unsafe conditions &amp; acts.</li><li>● Incidents &amp; accidents; fatal, non-fatal, near miss incidents &amp; accidents; lost time injury &amp; first aid injury.</li><li>● Hazard categories, controls, hierarchy of controls.</li><li>● Hazards from electricity, fire, workplace hazard - work at height, confined space, working in an excavation, lone working, slips &amp; trips, lifting and Rigging hazards</li><li>● Hazardous substances, Musculoskeletal disorders, manual handling, and load handling equipment's, noise, vibration, radiation, mental ill- health, violence at work, abuse at workplace.</li><li>● Basic definitions- incident, accident, Injury, lost time injury, unsafe condition, unsafe Acts, dangerous occurrences, hazards, error, near miss.</li><li>● 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".</li><li>● "Frequency rate &amp; Incident rate." Lost time case rate, DART rate, Severity rate.</li><li>● "Fault tree analysis" and "Event tree analysis, "HAZOP- Hazard, operability analysis" and "Job safety analysis."</li><li>● "Hazard Identification and risk assessment."</li><li>● Hierarchy of controls, Importance of hierarchy of control &amp; steps in hierarchy of control</li><li>● Maslow's theory of Hierarchical Needs, Herzberg's two-factor theory and McClelland's theory of needs, Vroom's Theory of Expectancy,</li></ul>	<ul style="list-style-type: none"><li>● Perform Hazard and Operability Analysis (HAZOP).</li><li>● Perform Tree analysis &amp; Event Tree Analysis</li><li>● Carry out Job Safety Analysis.</li><li>● Perform Hazard Identification and Risk Assessment (HIRA)</li></ul>



McGregor’s theory X and theory Y and Alderfer’s ERG theory.	
<b>Classroom Aids:</b>	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
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: Identification & investigation of occupational safety and health incidents, finding the root causes and preparation of corrective actions to prevent any future incident or accident.**

**Mapped to SSD/N0128, v1.0**

**Terminal Outcomes:**

- Categorize the occupational accidents & incidents.
- Investigate occupational safety and health incidents, analyze & find the root causes.
- Prepare the detailed report on circumstances and reasons.
- Prepare preventive actions & corrective measures

<b>Duration: 60 Hours</b>	<b>Duration: 30 Hours</b>
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>● Investigation as per categories of incidents &amp; accidents; fatal, non-fatal, near miss incidents &amp; accidents; lost time injury &amp; first aid injury.</li> <li>● Investigation of causes involved; unsafe conditions, accident, acts, natural causes, mistakes, technology failure, lack of training &amp; awareness, behavioral, poor maintenance, failures, weather &amp; environment etc.</li> </ul>	<ul style="list-style-type: none"> <li>● Categorize the occupational accidents &amp; incidents.</li> <li>● Investigate occupational safety and health incidents &amp; perform the root cause analysis.</li> <li>● Prepare investigation report.</li> <li>● Prepare preventive actions &amp; measures to prevent any accident or incident</li> </ul>





- Investigation of reasons & causes involved; fire, electricity, machine, equipment's, movement of vehicles & equipment, confined area, working at height, working at depth, storage, chemical, nuclear etc.
- Techniques of investigation; iterative, interrogative technique used to explore the cause-and-effect relationships underlying a problem, fault finding.
- Planning of immediate action, understanding of incident.
- Interaction with staff, data collection, data analysis in investigation.
- Investigating factors, circumstances & causes leading to the accidents and carry out root cause analysis.
- Fundamental investigating information, reasons, damages, injuries, financial losses.
- Investigating affected individuals, materials, equipment's, effect on morale of work force, financial effect.
- Corrective and preventive actions preparation to prevent and avoid such accidents or incidents.
- Measures, resources , training, facilities, and time lines for actions.
- Responsibilities of departments.
- Report submission.

**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: Inspections to ensure compliance of safety processes, standard operating procedures, Government rules & regulations, records & documents maintained by the organization, identification of shortfalls/ deviations in system and recommend for corrective action.**

**Mapped to SSD/N0129, v1.0**

**Terminal Outcomes:**

- Methods & techniques of inspections.
- Inspection; books, records, documents, incident report.
- Inspection Report preparation

<b>Duration: 60 Hours</b>	<b>Duration: 35 Hours</b>
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Inspection techniques of workplace for hazards &amp; risks; visual, processes, maintenance, equipment operation, existing safeguards, and others.</li><li>● Inspections of workplace hazards, identification, workplace practices, aspects of operations, process, action, movements, places which can be unsafe.</li><li>● Potential hazards; equipment, safeguards, changes to work areas, new risks.</li><li>● Procedures to eliminate the hazards, or guard/protection against them.</li><li>● Monitoring effectiveness of previous corrective actions and safety standards</li></ul>	<ul style="list-style-type: none"><li>● Prepare methods &amp; techniques for inspection.</li><li>● Prepare method to carry out inspection of books, records and prepare report on any past incident.</li><li>● Work out safety requirements &amp; safeguards against hazards &amp; risks. Plan evacuations, fire drills and use of PPEs</li><li>● Prepare inspection report &amp; submission.</li></ul>



- Preparation standard operating procedures related to OSHE.
- Inspectable documents, records, incident report, previous report affecting OSHE.
- Stand operating procedures of Inspection.
- Checklist & questionnaire for inspection.
- Interaction & questions from staff, management, and workers.
- List of inputs and information from inspection.
- Information analysis.
- Report preparation; details of deviations & gaps and effect on safety, health, environment, working of effect on operation & finances.
- Report preparation on measures, resources, training & facilities, and time lines.
- Listing responsibilities to departments to for measures & future requirement.
- Submission of the report.

#### **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: Pollution Impact of pollution, environment impact analysis, waste management & waste management techniques.

### Mapped to SSD/N0108, v1.0

#### Terminal Outcomes:

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

<b>Duration: 30 Hours</b>	<b>Duration: 15 Hours</b>
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Introduction to Environment &amp; atmospheric pollution, deep dive into water pollution, land pollution, noise pollution, air quality, ill effects, and control.</li><li>● Introduction to waste management, its disposal techniques, Learn about effluent treatment plants.</li><li>● Introduction to Hazardous waste management &amp; 6R's (Reuse, reduce, repair, refuse, recycle, reimagine).</li><li>● Overview on the regulatory requirements of Central Pollution control Board &amp; State Pollution Control Board.</li><li>● Introduction to Environment Protection Act, 1986" &amp; KYOTO protocol.</li><li>● Introduction to remote sensing, air monitoring, biological monitoring, soil monitoring and water monitoring. Learn how they play and important role in environment monitoring.</li></ul>	<ul style="list-style-type: none"><li>● Identify &amp; analyze impact of pollution.</li><li>● Carry out environmental impact assessment</li><li>● Plan waste management techniques.</li><li>● Make presentation on environment protection acts &amp; regulation.</li><li>● Carry out LCI- Life cycle Impact assessment</li></ul>



- Introduction to EIA- Environmental impact assessment and LCI- Life cycle Impact assessment. Requirement to of EIA and LCI.
- Introduction to global warming and climate change, greenhouse gases & 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.

**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: Regulations & regulatory compliance requirements as per the laws governed by the Government of India, identification of gaps & shortcomings in a particular task or activity or system.**

**Mapped to SSD/N0125, v1.0**

**Terminal Outcomes:**

- Understand & comply with BOCW Act 1996.
- Understand & comply with Factories Act, 1948.



- Understand & comply with OSH Code 2020.
- Environment Protection Act, 1986

<b>Duration: 45 Hours</b>	
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>● Regulatory requirements of safety &amp; health as per BoCW Act.</li><li>● Regulatory requirements of safety &amp; health as per Factories Act.</li><li>● Regulatory requirements of safety &amp; health as per OSH Code.</li><li>● Role and responsibilities of safety Committees constitution at workplace.</li><li>● Role &amp; responsibilities and appointment of Safety officer.</li><li>● Introduction to statutes, compliances, inspections, reporting process and record maintenance.</li><li>● Enforcement health &amp; safety legislative requirements as per OSH Code 2020 at workplace.</li></ul>	<ul style="list-style-type: none"><li>● Carry out presentation on requirement &amp; compliances of BOCW Act 1996.</li><li>● Carry out presentation on requirement &amp; compliances of Factories Act, 1948.</li><li>● Carry out presentation on requirement &amp; compliances of OSH Code 2020.</li><li>● Carry out presentation on requirement &amp; compliances of Environment Protection Act, 1986.</li></ul>
<b>Classroom Aids:</b>	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.	
<b>Tools, Equipment and Other Requirements</b>	
Regulations, Books, Handouts, Laptop/computer, internet.	

**Module 8: Planning and organizing to provide a safe working environment for workers and set emergency protocols and measures in case of any unforeseen and incidents or accidents to minimize the damages & losses.**

**Mapped to SSD/N0102, v1.0**



**Terminal Outcomes:**

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

<b>Duration: 30 Hours</b>	<b>Duration: 20 Hours</b>
<b>Theory–Key Learning Outcomes</b>	<b>Practical–Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>● Introduction to planning of resources for own work and communication to concerned subordinates, co-workers, and superiors.</li> <li>● Introduction to hierarchy of organization and modes of communication to team members.</li> <li>● Introduction to identifying the task and distribution among subordinates, supervision, and coordination among the team members for readiness in sync with overall task &amp; timelines.</li> <li>● Introduction to supervision and monitoring of a task to ensure timely completion of such work.</li> <li>● Setting up emergency protocols and implement at working places to minimize the loss in case of any incident or accident.</li> <li>● Setting up evacuation plans, evacuation drills, assembly area emergency communication &amp; guidance.</li> </ul>	<ul style="list-style-type: none"> <li>● Make presentation on planning of resources and communication to subordinates, co-workers and superiors.</li> <li>● Prepare necessary support to subordinates, co-ordinate with co-workers and liaison with superiors and monitoring.</li> <li>● Set up emergency protocols and implement at working places to minimize loss in case of any incident or accident.</li> </ul>
<b>Classroom Aids:</b>	
Black/White Board, Computer, Projection Equipment, MS office & Design & drafting software, Facilitator’s Guide, Participant’s Handbook.	
<b>Tools, Equipment and Other Requirements</b>	



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: Employability skills : Scope in employment, financial dealing, digital literacy and communication with employer or customer.

### Mapped to DGT/N0102

#### Terminal Outcomes:

- Describe the traits of individual at workplace
- Demonstrate apply employability and entrepreneurship skills at workplace

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





<p>the concerned authorities in time for any exploitation as per legal rights and laws</p> <ul style="list-style-type: none"><li>• Explain the importance of managing expenses, income, and savings.</li><li>• Discuss the significance of using internet for browsing, accessing social media platforms, safely and securely</li><li>• Discuss the need for identifying opportunities for potential business, sources for arranging money and potential legal and financial challenges</li><li>• Differentiate between types of customers</li><li>• Explain the significance of identifying customer needs and addressing them</li><li>• Discuss the significance of maintaining hygiene and dressing appropriately</li><li>• Discuss the significance of dressing up neatly and maintaining hygiene for an interview</li><li>• Discuss how to search and register for apprenticeship opportunities</li></ul>	
<b>Classroom Aids:</b>	
<ul style="list-style-type: none"><li>• Black/White Board, Computer, Projection Equipment, Power Point Presentation and software, Facilitator's Guide, Participant's Handbook.</li></ul>	
<b>Tools, Equipment and Other Requirements</b>	
<ul style="list-style-type: none"><li>• Laptop/computer, internet, mobile</li></ul>	

### On The Job Training Plan : Safety Inspector (OSHE)

<b>Occupational Safety, Health, and Environment (OSHE) : 20 Hours</b>
<b>Key Learning Outcomes</b>
<ul style="list-style-type: none"><li>• Work out safety requirements &amp;</li><li>• Prepare Safety Policy &amp; policy for contractors.</li></ul>



- Identify fire hazards at workplace.
- Plan evacuations, fire drills, use of PPEs.
- Operate fire extinguisher and fire hydrant.
- Prepare contractor management policy for OSHE issues.

#### **Hazard Identification & Risk Analysis : 20 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)

#### **Investigating of Occupational Safety and Health Incidents : 30 Hours**

##### **Key Learning Outcomes**

- Categorize the occupational accidents & incidents.
- Investigate occupational safety and health incidents & perform the root cause analysis.
- Prepare investigation report.
- Prepare preventive actions & measures to prevent any accident or incident.

#### **Conducting Workplace Inspections for OSHE : 25 Hours**

##### **Key Learning Outcomes**

- Prepare methods & techniques for inspection.
- Prepare method to carry out inspection of books, records and prepare report on any past incident
- Prepare inspection report & submission.

#### **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.

#### **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, co-ordinate with co-workers and liaison with superiors and monitoring.
- Set up emergency protocols and implement at working places to minimize loss in case of any incident or accident.

**Total Duration of OJT – 120 Hours ( 2.5 weeks)**



## Annexure

### Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI/12 <sup>th</sup> 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/Q0105 v1.0 : Safety Inspector (OSHE)” or higher qualification as per career progression by SSDF. The minimum score of 80%.			Recommended that the Trainer is certified for the Job Role: “Trainer (VET and Skills)”, mapped to the Qualification Pack: “SSD/Q0105 v1.0”. The minimum score of 80%.			



## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
ITI/12 <sup>th</sup> 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/Q0105 v1.0 : Safety Inspector (OSHE)" or higher qualification as per career progression.	Recommended that the Assessor is certified for the Job Role: "Assessor (VET and Skills)", mapped to the Qualification Pack: "SSD/Q0105 v1.0". The minimum accepted score is 80%.



## Assessment Strategy

The assessment will be based on 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 assessor's program.

The assessments will include both formative & summative. The progressive assessments will be through trainer during progress of the training. The summative assessments will be carried by 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 aspect 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
<b>Declarative Knowledge</b>	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood to accomplish or to solve a problem.
<b>Key Learning Outcome</b>	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).
<b>OJT(M)</b>	On-the-job training(Mandatory);trainees are mandated to complete specified hours of training on site
<b>OJT(R)</b>	On-the-job training(Recommended);trainees are recommended the specified hours of training on site
<b>Procedural Knowledge</b>	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 psycho motor skills.
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do upon the completion of the training.
<b>Terminal Outcome</b>	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