



# Model Curriculum

**QP Name: Project Manager - Electronics**

**QP Code: ELE/Q9801**

**QP Version: 2.0**

**NSQF Level: 7**

**Model Curriculum Version: 2.0**

Electronics Sector Skills Council of India || 155, 2nd Floor, ESC House, Okhla Industrial Area - Phase 3, New Delhi – 110020

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# Training Parameters

<b>Sector</b>	Electronics
<b>Sub-Sector</b>	Communication & Broadcasting
<b>Occupation</b>	Generic – Planning & Management
<b>Country</b>	India
<b>NSQF Level</b>	7
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/1321.9900
<b>Minimum Educational Qualification and Experience</b>	Completed 4 year UG program with 2 Years of Relevant Experience OR Previous relevant Qualification of NSQF Level (6) with 3 Years of Relevant Experience OR Pursuing PhD (Science Background) with NA of experience
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	23 Years
<b>Last Reviewed On</b>	24.02.2022
<b>Next Review Date</b>	24.02.2025
<b>NSQC Approval Date</b>	24.02.2022
<b>QP Version</b>	2.0
<b>Model Curriculum Creation Date</b>	24.02.2022
<b>Model Curriculum Valid Up to Date</b>	24.02.2025
<b>Model Curriculum Version</b>	2.0
<b>Maximum Duration of the Course</b>	1260 Hours

## Program Overview

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

### Training Outcomes

At the end of the program, the learner should have acquired the listed knowledge and skills:

- Describe the process of carrying out project initiation and planning.
- Describe the process of carrying out execution, monitoring, control and closure of the project.
- Explain the importance of following inclusive practices for all genders and PwD at work.
- Demonstrate various practices to be followed to maintain health and safety at work.

### 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>Bridge Module</b>	<b>39:00</b>	<b>51:00</b>	<b>00:00</b>	<b>00:00</b>	<b>90:00</b>
Module 1: Introduction and orientation to the role of a Project Manager	39:00	51:00	00:00	00:00	90:00
<b>ELE/N9801 Carry out project initiation and planning</b>	<b>120:00</b>	<b>240:00</b>	<b>150:00</b>	<b>00:00</b>	<b>510:00</b>
Module 2: Process of carrying out project initiation and planning	120:00	240:00	150:00	00:00	510:00
<b>ELE/N9802 Carry out execution, monitoring, control and closure of the Project</b>	<b>150:00</b>	<b>240:00</b>	<b>150:00</b>	<b>00:00</b>	<b>540:00</b>
Module 3: Process of carrying out execution, monitoring, control and closure of the project	150:00	240:00	150:00	00:00	540:00
<b>ELE/N1002 Apply health and safety practices at the workplace</b>	<b>15:00</b>	<b>15:00</b>	<b>00:00</b>	<b>00:00</b>	<b>30:00</b>
Module 4: Basic Health and Safety Practice	15:00	15:00	00:00	00:00	30:00
<b>DGT/VSQ/N0103-</b>	<b>36:00</b>	<b>54:00</b>	<b>00:00</b>	<b>00:00</b>	<b>90:00</b>

<b>Employability Skills (90 Hours)</b>					
Module 5: Employability Skills (90 Hours)	36:00	54:00	00:00	00:00	90:00
<b>Total Duration</b>	<b>360:00</b>	<b>600:00</b>	<b>300:00</b>	<b>00:00</b>	<b>1260:00</b>

# Module Details

## Module 1: Introduction to the role of a Project Manager

### Bridge Module

#### Terminal Outcomes:

- Discuss the job role of a Project Manager.

<b>Duration: 39:00</b>	<b>Duration: 51:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Describe the size and scope of the Electronics industry and its sub-sectors.</li> <li>• Discuss the role and responsibilities of a Project Manager.</li> <li>• Describe various employment opportunities for a Project Manager.</li> </ul>	<ul style="list-style-type: none"> <li>• Knowledge of the various Project Management Strategies</li> <li>• Understanding of the ESDM Market</li> <li>• Awareness about the Reporting and MIS</li> <li>• Understanding &amp; maintaining the Customer Relationship Management</li> <li>• Project Plan Formation</li> </ul>
<b>Classroom Aids</b>	
Training Kit - Trainer Guide, Presentations, Whiteboard, Marker, Projector, Laptop	
<b>Tools, Equipment and Other Requirements</b>	
NA	

## Module 2: Process of carrying out project initiation and planning

Mapped to ELE/N9801

### Terminal Outcomes:

- Describe the process of carrying out project initiation and project planning.
- Explain the importance of participating in resource planning and procurement.
- Describe the process of obtaining the necessary approvals.

Duration: 120:00	Duration: 240:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Elaborate how to create a business case.</li> <li>• Explain the importance of ensuring the business case is easy to understand, logical and relevant.</li> <li>• Describe the process of conducting a feasibility study.</li> <li>• Explain the importance of identifying the possible project risks and documenting the proposed solutions.</li> <li>• Elaborate how to create the project charter and the appropriate details to include.</li> <li>• Explain the importance of creating a project team defining the role and responsibilities of team members.</li> <li>• Elaborate how to define the scope of the project and determine the deliverables.</li> <li>• Explain the importance of creating the project scope statement detailing a comprehensive description of the project deliverables and limitations.</li> <li>• Explain the advantage of creating a work breakdown structure and sequencing the project activities.</li> <li>• Elaborate how to estimate the activity duration, costs, and resource requirement for the project.</li> <li>• Explain the importance of developing user manuals, training materials, and other documents for the successful implementation of the project.</li> <li>• Explain the importance and process of creating a contingency plan to deal with</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate how to create a business case detailing the reason for starting the project.</li> <li>• Roleplay situation how to conduct a feasibility study, documenting the potential solutions to the business problem that the project is proposed to address.</li> <li>• Perform how to create the project charter detailing the vision, objectives, scope, and deliverables for the project along with the responsibilities of the project team.</li> <li>• Demonstrate how to document the project plan outlining all significant details such as the scope, schedule, and cost of the project.</li> <li>• Demonstrate how to prepare the necessary documents in the required format to obtain the necessary permits/ approvals for the project.</li> </ul>

internal and external risks to the project.

- Elaborate how to create a performance measurement baseline to measure and manage performance.
- Explain the importance of documenting the project plan detailing as the scope, schedule and cost of the project.
- Explain the use of the relevant planning software tools for time-bound scheduling and implementation of all critical tasks.
- Describe the process of planning and procuring resources for the project
- Elaborate how to carry out negotiations with the third-party suppliers and contractors.
- Describe the process of obtaining the necessary approvals for a variety of projects and the relevant authorities to approach for the purpose.

#### Classroom Aids

Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop

#### Tools, Equipment and Other Requirements

Network Diagrams, Critical Path Method, Gantt Charts, Project Evaluation and Review Technique, Work Breakdown Structure, Project Documentation



## Module 3: Process of carrying out execution, monitoring, control and closure of the project

*Mapped to ELE/N9802*

### Terminal Outcomes:

- Explain how to manage the project execution.
- Demonstrate the process of monitoring and controlling the project.
- Illustrate the process of carrying out project closure.

<b>Duration: 150:00</b>	<b>Duration: 240:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the importance of conducting the kick-off meeting with all the stakeholders to apprise them of the project timelines, deliverables, scope and budgets.</li> <li>• Describe the process of assigning tasks and responsibilities to the team members, setting deadlines and ensuring the availability of necessary resources.</li> <li>• Explain the importance of coordinating the internal resources and third parties/ vendors for the flawless execution of the project.</li> <li>• Explain the importance of maintaining an effective relationship, open and regular communication with the project stakeholders.</li> <li>• Describe the process of collecting the project's progress data and preparing the status report.</li> <li>• Explain the importance and process of analysing the data and reports to identify the relevant course-corrective.</li> <li>• Elaborate the use of the appropriate verification techniques to manage changes in the project scope, schedule and costs.</li> <li>• Elaborate how to identify risks to project execution and dealing with them as per the risk management plan.</li> <li>• Explain the importance of adhering to the approved budget and timelines</li> <li>• Describe the process of re-allocating</li> </ul>	<ul style="list-style-type: none"> <li>• Roleplay situation how to conduct the kick-off meeting with the project team to apprise them of the project timelines, deliverables, scope and budgets.</li> <li>• Dramatize how to collect data related to the project's progress from the team members and prepare the status report.</li> <li>• Dramatize how to use the appropriate project management software to monitor project schedule, slippages and their impact.</li> <li>• Demonstrate the process of recording the project progress in the appropriate software tool.</li> <li>• Roleplay situation how to conduct the project performance review and document the successes, failures, and challenges of the project.</li> <li>• Dramatize how to calculate the project's performance in terms of cost, schedule and quality.</li> </ul>

the project funds.

- Explain the importance of following the applicable health, safety and environment protection practices.
- Elaborate the use of the appropriate project management software to monitor project schedule, slippages and their impact.
- State the applicable practices for effective site, logistics and infrastructure management.
- Explain the importance of ensuring positive cash flows for the uninterrupted progress of the project.
- Explain the importance of delivering the project as per the agreed timelines and budget.
- Explain the importance of monitoring the project planning parameters such as the schedule, timeline, effort, costing, defects etc.
- Describe the process of tracking the commitments and involvement of all the stakeholders through meetings, status reporting, progress and milestones reviews, etc.
- Explain the importance and process of reviewing and reassigning the roles and responsibilities of the team members.
- State applicable quality control management practices and the importance of ensuring that appropriate follow-up actions are taken based on quality reviews.
- Explain the importance of monitoring various risks such as internal, client and vendor risks, tools and technology risks, etc.
- Explain the importance of ensuring adequate data protection measures and allowing access to critical data only that only to the authorised personnel.
- Explain the importance of ensuring all deliverables are fully completed and

<p>handed off at the project closure stage.</p> <ul style="list-style-type: none"> <li>• Describe the process of finalising and transferring the project deliverables to the client.</li> <li>• Explain the importance and process of reviewing all contracts and documentation.</li> <li>• Describe the process of invoicing the client.</li> <li>• Explain the importance and process of releasing various project resources such as suppliers, contractors, team members, and any other partners.</li> <li>• Explain the importance of notifying all the stakeholders of the end of the project and ensuring final payments and obligations are completed.</li> <li>• Explain the importance and process of conducting project performance review and documenting the successes, failures, and challenges of the project.</li> <li>• Explain the importance of taking feedback from the project management team and identifying the scope of improvement.</li> <li>• Describe the process of reviewing, finalising and archiving the project-related documents.</li> </ul>	
<p><b>Classroom Aids</b></p>	
<p>Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>Network Diagrams, Critical Path Method, Gantt Charts, Project Evaluation and Review Technique, Work Breakdown Structure, Project Documentation</p>	

## Module 4: Basic Health and Safety Practice

### Mapped to ELE/N1002

#### Terminal Outcomes:

- Apply health and safety practices at the workplace.

<b>Duration: 15:00</b>	<b>Duration: 15:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<p>Discuss job-site hazards, risks and accidents.</p> <p>Explain the organizational safety procedures for maintaining electrical safety, handling tools and hazardous materials.</p> <p>Elaborate on electronic waste disposal procedures.</p> <p>Describe the process of disposal of hazardous waste</p> <p>List the name and location of concerned people, documents and equipment for maintaining health and safety in the workplace.</p> <p>Describe how to interpret warning signs while accessing sensitive work areas.</p> <p>Explain the importance of good housekeeping.</p> <p>Describe the importance of maintaining appropriate postures while lifting heavy objects.</p> <p>List the types of fire and fire extinguishers.</p> <p>Explain the importance of efficient utilisation of water, electricity and other resources.</p> <p>List the common sources of pollution and ways to minimize it.</p> <p>Describe the concept of waste management and methods of disposing hazardous waste.</p> <p>Explain various warning and safety signs.</p> <p>Describe different ways of preventing accidents at the workplace.</p>	<p>Demonstrate the use of protective equipment suitable as per tasks and work conditions.</p> <p>Prepare a report to inform the relevant authorities about any abnormal situation/behaviour of any equipment/system.</p> <p>Dramatize how to administer first aid in case of a minor accident.</p> <p>Demonstrate the steps to free a person from electrocution safely.</p> <p>Dramatize how to administer Cardiopulmonary Resuscitation (CPR).</p> <p>Demonstrate the application of defined emergency procedures such as raising alarm, safe/efficient, evacuation, moving injured people, etc.</p> <p>Prepare a sample incident report.</p> <p>Use a fire extinguisher in case of a fire incident.</p> <p>Demonstrate the correct method of lifting and handling heavy objects.</p>
<b>Classroom Aids</b>	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
<b>Tools, Equipment and Other Requirements</b>	

Personal Protection Equipment: Safety Glasses, Head Protection, Rubber Gloves, Safety Footwear, Warning Signs and Tapes, Fire Extinguisher, First Aid Kit, Fire Extinguishers and Warning Signs.

## Module 5: Employability Skills (90 Hours)

Mapped to DGT/VSQ/N0103

### Terminal Outcomes:

- Discuss about Employability Skills in meeting the job requirements
- Describe opportunities as an entrepreneur.
- Describe ways of preparing for apprenticeship & Jobs appropriately.

<b>Duration: 36:00</b>	<b>Duration: 54:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain constitutional values, civic rights, responsibility towards society to become a responsible citizen</li> <li>• Discuss 21<sup>st</sup> century skills</li> <li>• Explain use of basic English phrases and sentences.</li> <li>• Demonstrate how to communicate in a well-behaved manner</li> <li>• Demonstrate how to work with others</li> <li>• Demonstrate how to operate digital devices</li> <li>• Discuss the significance of Internet and Computer/ Laptops</li> <li>• Discuss the need for identifying business opportunities</li> <li>• Discuss about types of customers.</li> <li>• Discuss on creation of biodata</li> <li>• Discuss about apprenticeship and opportunities related to it.</li> </ul>	<ul style="list-style-type: none"> <li>• List different learning and employability related GOI and private portals and their usage</li> <li>• Show how to practice different environmentally sustainable practices.</li> <li>• Exhibit 21st century skills like Self-Awareness, Behavior Skills, time management, etc.</li> <li>• Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone</li> <li>• Demonstrate how to communicate in a well-mannered way with others.</li> <li>• Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette</li> <li>• Utilize virtual collaboration tools to work effectively</li> <li>• Demonstrate how to maintain hygiene and dressing appropriately.</li> <li>• Perform a mock interview</li> </ul>
<b>Classroom Aids</b>	
Training Kit (Trainer Guide, Presentations). Whiteboard, Marker, Projector, Laptop	
<b>Tools, Equipment and Other Requirements</b>	
Computer, UPS, Scanner, Computer Tables, LCD Projector, Computer Chairs, White Board OR Computer Lab	

## Module 6: On-the-Job Training

### Mapped to Project Manager - Electronics

<b>Mandatory Duration: 300:00</b>	<b>Recommended Duration: 00:00</b>
<b>Location: On Site</b>	
<p><b>Terminal Outcomes</b></p> <ol style="list-style-type: none"> <li>1. Explain the process of carrying out project initiation and project planning.</li> <li>2. Explain the process of creating a contingency plan to deal with internal and external risks to the project.</li> <li>3. Explain the process of assigning tasks and responsibilities to the team members, setting deadlines and ensuring the availability of necessary resources.</li> <li>4. Create a business case detailing the reason for starting the project.</li> <li>5. Document the project plan outlining all significant details such as the scope, schedule, and cost of the project.</li> <li>6. Conduct the kick-off meeting with the project team to apprise them of the project timelines, deliverables, scope and budgets.</li> <li>7. Record the project progress in the appropriate software tool.</li> <li>8. Conduct the project performance review and document the successes, failures, and challenges of the project.</li> <li>9. Calculate the project's performance in terms of cost, schedule and quality.</li> <li>10. Conduct a survey or hold a meeting with the project management team to get their feedback on the project performance.</li> <li>11. Implement the practices related to gender and PwD sensitization.</li> <li>12. Use the protective equipment suitable as per tasks and work conditions.</li> </ol>	

# Annexure

## Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
B.E./ B. Tech/Certified in relevant CITS Trade	Electrical/ Electronics/ Mechanical	7	Project Management	2	Electronics	

Trainer Certification	
Domain Certification	Platform Certification
<p>“Project Manager - Electronics”, “ELE/Q9801, v2.0”, Minimum accepted score is 80%</p>	<p>Recommended that the Trainer is certified for the <b>Project Manager - Electronics</b> “Trainer (VET and Skills)”, mapped to the Qualification Pack: “MEP/Q2601, V2.0”, with minimum score of 80%</p>



## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
B.E./ B. Tech/Certified in relevant CITS Trade	Electrical/ Electronics/ Mechanical	9	Project Management	2	Electronics	

Assessor Certification	
Domain Certification	Platform Certification
<p><b>“Project Manager - Electronics”, “ELE/Q9801, v2.0”, Minimum accepted score is 80%</b></p>	<p>Recommended that the Assessor is certified for the <b>Project Manager - Electronics “Assessor (VET and Skills)”</b>, mapped to the Qualification Pack: <b>“MEP/Q2701, V2.0”</b>, with minimum score of 80%</p>

## Assessment Strategy

### 1. Assessment System Overview:

- Batches assigned to the assessment agencies for conducting the assessment on SDMS/SIP or email
- Assessment agencies send the assessment confirmation to VTP/TC looping SSC
- The assessment agency deploys the ToA certified Assessor for executing the assessment
- SSC monitors the assessment process & records

### 2. Testing Environment

To ensure a conducive environment for conducting a test, the trainer will:

- Confirm that the centre is available at the same address as mentioned on SDMS or SIP
- Check the duration of the training.
- Check the Assessment Start and End time to be 10 a.m. and 5 p.m. respectively
- Ensure there are 2 Assessors if the batch size is more than 30.
- Check that the allotted time to the candidates to complete Theory & Practical Assessment is correct.
- Check the mode of assessment—Online (TAB/Computer) or Offline (OMR/PP).
- Confirm the number of TABs on the ground are correct to execute the Assessment smoothly.
- Check the availability of the Lab Equipment for the particular Job Role.

### 3. Assessment Quality Assurance levels / Framework:

- Question papers created by the Subject Matter Experts (SME)
- Question papers created by the SME verified by the other subject Matter Experts
- Questions are mapped with NOS and PC
- Question papers are prepared considering that level 1 to 3 are for the unskilled & semi-skilled individuals, and level 4 and above are for the skilled, supervisor & higher management
- The assessor must be ToA certified and the trainer must be ToT Certified
- The assessment agency must follow the assessment guidelines to conduct the assessment

### 4. Types of evidence or evidence-gathering protocol:

- Time-stamped & geotagged reporting of the assessor from assessment location
- Centre photographs with signboards and scheme-specific branding
- Biometric or manual attendance sheet (stamped by TP) of the trainees during the training period
- Time-stamped & geotagged assessment (Theory + Viva + Practical) photographs & videos

### 5. Method of verification or validation:

To verify the details submitted by the training centre, the assessor will undertake:

- A surprise visit to the assessment location
- A random audit of the batch
- A random audit of any candidate

### 6. Method for assessment documentation, archiving, and access

To protect the assessment papers and information, the assessor will ensure:

- Hard copies of the documents are stored
- Soft copies of the documents & photographs of the assessment are uploaded / accessed from Cloud Storage

- Soft copies of the documents & photographs of the assessment are stored on the Hard drive

# References

## Glossary

Term	Description
<b>Declarative knowledge</b>	Declarative knowledge refers to facts, concepts and principles that need to be known and/or understood in order to accomplish a task or to solve a problem.
<b>Key Learning</b>	Key learning outcome is the statement of what a learner needs to know, understand and be able to do in order 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
<b>Training Outcome</b>	Training outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of the training</b> .
<b>Terminal Outcome</b>	Terminal outcome is a statement of what a learner will know, understand and be able to do <b>upon the completion of a module</b> . A set of terminal outcomes help to achieve the training outcome.

## Acronyms and Abbreviations

Term	Description
<b>BMS</b>	Building Management System
<b>ISO</b>	International Organization for Standardization
<b>NCO</b>	National Occupational Standards
<b>NOS</b>	National Skills Qualification Committee
<b>NSQF</b>	National Skills Qualification Framework
<b>OJT</b>	On-the-Job Training
<b>OMR</b>	Optical Mark Recognition
<b>PC</b>	Performance Criteria
<b>PwD</b>	Persons with Disabilities
<b>QP</b>	Qualification Pack
<b>SDMS</b>	Skill Development & Management System
<b>SIP</b>	Skill India Portal
<b>SME</b>	Small and Medium Enterprises
<b>SOP</b>	Standard Operating Procedure
<b>SSC</b>	Sector Skill Council
<b>TC</b>	Trainer Certificate
<b>ToA</b>	Training of Assessors
<b>ToT</b>	Training of Trainers
<b>TP</b>	Training Provider