



# Model Curriculum

**QP Name: Packaging Designer**

**(Electives – Hazardous goods packaging/ Fragile goods packaging/ ODC packaging)**

**QP Code: LSC/Q0202**

**QP Version: 1.0**

**NSQF Level: 6**

**Model Curriculum Version: 1.0**

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## Training Parameters

<b>Sector</b>	Logistics
<b>Sub-Sector</b>	Warehousing
<b>Occupation</b>	Packaging, Engineering and Technology
<b>Country</b>	India
<b>NSQF Level</b>	6
<b>Aligned to NCO/ISCO/ISIC Code</b>	NCO-2015/2166,2163 and ISCO-08/2166,2163
<b>Minimum Educational Qualification and Experience</b>	Pursuing PG diploma after 3 year UG degree (in Mechanical/ Package Designing ) OR B.E. (Completed B.E. Mechanical Engineering/ B.DES) OR Completed Diploma in Mechanical Engineering with 2 Years of experience in Mechanical designing OR 12th grade Pass with 4 Years of experience in Mechanical designing
<b>Pre-Requisite License or Training</b>	NA
<b>Minimum Job Entry Age</b>	23
<b>Last Reviewed On</b>	31-08-2023
<b>Next Review Date</b>	31-08-2026
<b>NSQC Approval Date</b>	31-08-2023
<b>QP Version</b>	1.0
<b>Model Curriculum Creation Date</b>	17-05-2023
<b>Model Curriculum Valid Up to Date</b>	31-08-2026
<b>Model Curriculum Version</b>	1.0
<b>Minimum Duration of the Course</b>	660
<b>Maximum Duration of the Course</b>	780

## 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 will be able to:

- Design Tertiary Packaging and develop prototypes
- Describe the different types of packing materials and their USP
- Detail the various processes involved in Warehouse
- Detail the steps involved in Data collection and analysis
- Describe the various methods used for recycling /reusing packing materials
- Develop a plan for the design process with schedule
- Perform the steps involved in evaluating the design options with data collected
- Explain the steps in designing the outline of tertiary packing
- Draw a 2D engineering design with die lines for various models finalized
- List down the pre drawing steps to be performed
- Create 3-D models and drawings
- Explain testing 3D model using CAE Software
- How to create a working prototype
- Describe the process for design approval

### Compulsory Modules

The table lists the modules, their duration and mode of delivery.

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>20</b>	<b>10</b>			<b>30</b>
<b>Module 1:</b> Introduction to Packaging Designer	20	10			30
<b>LSC/N0202 - Perform packaging analysis</b> NOS Version V1.0 NSQF Level 6	<b>20</b>	<b>40</b>			<b>60</b>
<b>Module 2:</b> Data collection and feasibility studies	20	40			60
<b>LSC/N0203 - Prepare for designing</b> NOS Version V1.0 NSQF Level 6	<b>30</b>	<b>60</b>			<b>90</b>
<b>Module 3:</b> Planning and conceptualization of design	30	60			90

<b>LSC/N0204 - Design sustainable tertiary packaging NOS Version V1.0 NSQF Level 6</b>	<b>20</b>	<b>60</b>	<b>10</b>		<b>90</b>
<b>Module 4:</b> Design sustainable tertiary packaging	20	60	10		90
<b>LSC/N0205 - Create a 3D design using CAD NOS Version V1.0 NSQF Level 6</b>	<b>20</b>	<b>60</b>	<b>10</b>		<b>90</b>
<b>Module 5:</b> Creation of 3D design	20	60	10		90
<b>LSC/N0206 - Develop a working prototype NOS Version V1.0 NSQF Level 6</b>	<b>20</b>	<b>60</b>	<b>10</b>		<b>90</b>
<b>Module 6:</b> Development and testing of prototype	20	60	10		90
<b>LSC/N9908 – Maintain and monitor integrity and ethics in operations NOS Version V1.0 NSQF Level 6</b>	<b>10</b>	<b>20</b>			<b>30</b>
<b>Module 7:</b> Maintain and monitor integrity and ethics in operations	10	20			30
<b>LSC/N9910: Follow health, safety and security procedures at workplace NOS Version V1.0 NSQF Level 6</b>	<b>10</b>	<b>20</b>			<b>30</b>
<b>Module 8:</b> Compliance to health, safety and security norms at workplace	10	20			30
<b>Employability Skills DGT/VSQ/N0103</b>	<b>30</b>	<b>60</b>			<b>90</b>
<b>Total Duration</b>	<b>180</b>	<b>390</b>	<b>30</b>		<b>600</b>

## Electives

The table lists the option modules, their duration and mode of delivery.

### Elective 1: Hazardous goods packaging

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<b>LSC/N0207 - Designing hazardous goods packaging</b> NOS Version V1.0 NSQF Level 6	30	30			60
<b>Module 10:</b> Designing hazardous goods packaging	30	30			60
<b>Total Duration</b>	<b>30</b>	<b>30</b>			<b>60</b>

### Elective 2: Fragile goods packaging

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<b>LSC/N0208 - Designing Fragile goods packaging</b> NOS Version V1.0 NSQF Level 6	30	30			60
<b>Module 11:</b> Designing Fragile goods packaging	30	30			60
<b>Total Duration</b>	<b>30</b>	<b>30</b>			<b>60</b>

### Elective 3: ODC packaging.

NOS and Module Details	Theory Duration	Practical Duration	On-the-Job Training Duration (Mandatory)	On-the-Job Training Duration (Recommended)	Total Duration
<b>LSC/N0209 - Designing ODC packaging</b> NOS Version V1.0 NSQF Level 6	30	30			60
<b>Module 12:</b> Designing ODC packaging	30	30			60
<b>Total Duration</b>	<b>30</b>	<b>30</b>			<b>60</b>

# Module Details

## Module 1: Introduction to Packaging Designer

### *Mapped to Bridge Module*

#### Terminal Outcomes:

- Describe the different types of packing materials and their USP
- Detail the various processes involved in Warehouse

<b>Duration: 20:00</b>	<b>Duration: 10:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Detail the uses of packaging and the various functions associated with it.</li> <li>• Describe the different types of packing materials used for logistics</li> <li>• Explain sustainability in logistics and how packing plays a major role.</li> <li>• Detail your job role as Packaging Designer and its interface with other job roles</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and understand the operations of various types of Locations in the Warehouse (ex: Rack, Shelf, etc..)</li> <li>• List down the various packing materials used for logistics and its uses.</li> <li>• Perform the basic steps involved in packing.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
Models of different packing materials	

## Module 2: Data collection and feasibility studies

*Mapped to LSC/N0202, v1.1*

### Terminal Outcomes:

- Detail the steps involved in Data collection and analysis
- Describe the various methods used for recycling /reusing packing materials.

<b>Duration: 20:00</b>	<b>Duration: 40:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Describe the steps involved in data collection.</li> <li>• Discuss the process of performing market analysis.</li> <li>• Explain packing waste and its impact on sustainability.</li> <li>• Detail the various methods used for recycling /reusing packing materials.</li> </ul>	<ul style="list-style-type: none"> <li>• Collect data about the primary product, specifications like fragile, handling instructions and regarding secondary packed items.</li> <li>• Gather feedback/ inputs from the stakeholders about packing materials optimisation.</li> <li>• Record all relevant information in the appropriate information systems for future use.</li> <li>• Perform market analysis on packing materials.</li> <li>• Evaluate packing waste and forecast the cost savings from recycling/reusing.</li> <li>• Prepare checklist and identify any design constraints.</li> <li>• Obtain functional and specific requirements of packing material components.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
Computers, recyclable packing materials	



## Module 3: Planning and conceptualization of design

*Mapped to LSC/N0203, V1.1*

### Terminal Outcomes:

- Develop a plan for the design process with schedule
- Perform the steps involved in evaluating the design options with data collected.

<b>Duration: 30:00</b>	<b>Duration: 60:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the preparation of design process flow.</li> <li>• Detail the planning and scheduling of design process.</li> <li>• Describe the various activities involved in reviewing the conceptual design.</li> <li>• Detail the methods available for design evaluation.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a plan for the design process with schedule</li> <li>• Evaluate the packing material density according to the product's weight by applying the standard formula.</li> <li>• Perform the steps involved in evaluating the design options with data collected.</li> <li>• Create a scorecard with the checkpoints and evaluate the design using the same.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
Computers,	

## Module 4: Design sustainable tertiary packaging

### Mapped to LSC/N0204, v1.1

#### Terminal Outcomes:

- Explain the steps in designing the outline of tertiary packing.
- Draw a 2D engineering design with die lines for various models finalized

<b>Duration: 20:00</b>	<b>Duration: 60:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain the steps in designing the outline of tertiary packing.</li> <li>• Describe the layers of packing material required for different products and transportation.</li> <li>• Detail the various design templates available.</li> <li>• Describe Circular designing of recycling materials</li> <li>• List down the major factors to be considered while drawing a production drawing.</li> <li>• Elaborate about isometric view on a production drawing.</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate the steps involved for designing the outline of tertiary packing.</li> <li>• Compare the designs with a competitor and improvise.</li> <li>• Select suitable sustainable materials, according to the packing design.</li> <li>• Prepare a checklist on the factors to be added on the drawing</li> <li>• Draw a 2D engineering design with die lines for various models finalized</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
Production drawing tools	

## Module 5: Creation of 3D design

*Mapped to LSC/N0205, v1.1*

### Terminal Outcomes:

- List down the pre drawing steps to be performed
- Create 3-D models and drawings

<b>Duration: 20:00</b>	<b>Duration: 60:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• List down the pre drawing steps to be performed.</li> <li>• Explain the factors to be considered while creating the model.</li> <li>• Detail the printing matter to be included in the design.</li> <li>• Describe the various CAD software available for designing.</li> </ul>	<ul style="list-style-type: none"> <li>• Follow the steps involved prior to creating the 3D view.</li> <li>• Draw solid modelling</li> <li>• Use the pan, isometric and zoom CAD operations to highlight design areas in the modelling</li> <li>• Create 3-D drawings incorporating section views with all necessary annotation</li> <li>• Construct models which comply with organisational guidelines and other regulatory standards.</li> <li>• Save the models and generate hard copies.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
CAD simulation software	

## Module 6: Development and testing of prototype

*Mapped to LSC/N0206, v1.1*

### Terminal Outcomes:

- Explain testing 3D model using CAE Software.
- How to create a working prototype.
- Describe the process for design approval.

<b>Duration: 20:00</b>	<b>Duration: 60:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Explain packaging design documentation procedure.</li> <li>• Describe the process for design approval.</li> <li>• Explain testing 3D model using CAE Software.</li> <li>• Detail how to create a working prototype.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform the steps involved in testing 3D model using CAE Software</li> <li>• Generate the testing report and publish the graphs.</li> <li>• Demonstrate methods to construct a working prototype</li> <li>• Devise an SOP with the steps and procedures to follow during packing</li> <li>• Get the prototype and SOP QA validated by the relevant department and authorities.</li> <li>• Follow the steps involved for procuring UN Certification.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
CAD, CAE simulation software	

## Module 7: Maintain and monitor integrity and ethics in operations

*Mapped to LSC/N9908, v1.1*

### Terminal Outcomes:

- Explain the concepts of integrity, ethics
- Detail the various regulatory requirements related to logistics industry

<b>Duration: 10:00</b>	<b>Duration: 20:00</b>
<p><b>Theory – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Describe the concepts of integrity, ethics</li> <li>• Detail the various regulatory requirements related to logistics industry</li> <li>• Explain data and information security practices</li> <li>• Discuss the various corrupt practices</li> <li>• Discuss regulatory requirements, code of conduct and etiquettes</li> <li>• Detail the procedure for documenting all integrity and ethics violations</li> <li>• Explain escalation matrix for reporting deviation</li> </ul>	<p><b>Practical – Key Learning Outcomes</b></p> <ul style="list-style-type: none"> <li>• Illustrate the importance of integrity and how ethics needs to be followed.</li> <li>• Practice the principles of integrity and ethics</li> <li>• Follow the various regulatory requirements related to logistics industry</li> <li>• Perform data and information security practices</li> <li>• Identify corrupt practices</li> <li>• Comply to regulatory requirements</li> <li>• Practice code of conduct and etiquettes</li> <li>• Demonstrate what are the integrity and ethic violations.</li> <li>• Document all integrity and ethics violations</li> <li>• Report deviation as per the escalation matrix</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
LLMS (learning version).	

## Module 8: Compliance to health, safety and security norms at workplace

*Mapped to LSC/N9910, v1.1*

### Terminal Outcomes:

- Describe the application of health and safety practices at the workplace.

<b>Duration: 10:00</b>	<b>Duration: 20:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Describe personal hygiene practices.</li> <li>• List first aid box items and their use</li> <li>• List the situation that may lead to accidents at the workplace and ways to prevent them.</li> <li>• Discuss data safety process and procedures to be followed at workplace.</li> <li>• Describe the steps of emergency procedures during accidents/fire or other hazards situations.</li> <li>• Identify safety signs.</li> <li>• Classify the various fire extinguishers for different types of fires</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate personal hygiene practices to be followed at workplace.</li> <li>• Demonstrate appropriate first aid in different situations.</li> <li>• Practice emergency evacuation drills.</li> <li>• Demonstrate the use of fire extinguishers.</li> <li>• Illustrate how to maintain a clean workstation.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
Personal Protective Equipment (PPEs), LLMS (learning version).	

## Module 9: Employability Skills

*Mapped to DGT/VSQ/N0103 v1.0*

### Terminal Outcomes:

- Discuss the Employability Skills required for jobs in various industries
- Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen
- Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan

<b>Duration: 30:00</b>	<b>Duration: 60:00</b>
<b>Theory – Key Learning Outcomes</b>	<b>Practical – Key Learning Outcomes</b>
<ul style="list-style-type: none"> <li>• Outline the importance of Employability Skills for the current job market and future of work</li> <li>• List different learning and employability related GOI and private portals and their usage</li> <li>• Explain the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring and respecting others that are required to become a responsible citizen</li> <li>• Discuss relevant 21st century skills required for employment</li> <li>• Highlight the importance of practicing 21st century skills like Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn etc. in personal or professional life</li> <li>• Explain the importance of communication etiquette including active listening for effective communication</li> <li>• Discuss the significance of escalating sexual harassment issues as per POSH act</li> <li>• Discuss various financial institutions, products, and services</li> <li>• Explain the common components of salary such as Basic, PF, Allowances (HRA, TA, DA, etc.), tax deductions</li> <li>• Discuss the legal rights, laws, and aids</li> </ul>	<ul style="list-style-type: none"> <li>• Research and prepare a note on different industries, trends, required skills and the available opportunities</li> <li>• Demonstrate how to practice different environmentally sustainable practices</li> <li>• Create a pathway for adopting a continuous learning mindset for personal and professional development</li> <li>• Show how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone</li> <li>• Read and understand text written in basic English</li> <li>• Write a short note/paragraph / letter/e-mail using correct basic English</li> <li>• Create a career development plan</li> <li>• Identify well-defined short- and long-term goals</li> <li>• Demonstrate how to communicate effectively using verbal and nonverbal communication etiquette</li> <li>• Write a brief note/paragraph on a familiar topic</li> <li>• Role play a situation on how to work collaboratively with others in a team</li> <li>• Demonstrate how to behave, communicate, and conduct appropriately with all genders and PwD</li> <li>• Demonstrate how to conduct offline and online financial transactions, safely and securely and check passbook/statement</li> <li>• Calculate income and expenditure for budgeting</li> </ul>

<ul style="list-style-type: none"> <li>• Describe the role of digital technology in day-to-day life and the workplace</li> <li>• Discuss the significance of displaying responsible online behaviour while using various social media platforms</li> <li>• Explain the types of entrepreneurship and enterprises</li> <li>• Discuss how to identify opportunities for potential business, sources of funding and associated financial and legal risks with its mitigation plan</li> <li>• Describe the 4Ps of Marketing-Product, Price, Place and Promotion and apply them as per requirement</li> <li>• Discuss various tools used to collect customer feedback</li> <li>• Discuss the significance of maintaining hygiene and dressing appropriately</li> <li>• Discuss the significance of maintaining hygiene and dressing appropriately for an interview</li> <li>• List the steps for searching and registering for apprenticeship opportunities</li> </ul>	<ul style="list-style-type: none"> <li>• Demonstrate how to operate digital devices and use the associated applications and features, safely and securely</li> <li>• Demonstrate how to connect devices securely to internet using different means</li> <li>• Follow the dos and don'ts of cyber security to protect against cyber crimes</li> <li>• Create an e-mail id and follow e-mail etiquette to exchange e-mails</li> <li>• Show how to create documents, spreadsheets and presentations using appropriate applications</li> <li>• Utilize virtual collaboration tools to work effectively</li> <li>• Create a sample business plan, for the selected business opportunity</li> <li>• Classify different types of customers</li> <li>• Demonstrate how to identify customer needs and respond to them in a professional manner</li> <li>• Draft a professional Curriculum Vitae (CV)</li> <li>• Use various offline and online job search sources to find and apply for jobs</li> <li>• Role play a mock interview</li> </ul>
<p><b>Classroom Aids</b></p>	
<p>Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser, UPS, LCD Projector, Computer Tables &amp; chairs</p>	
<p><b>Tools, Equipment and Other Requirements</b></p>	
<p>Computer (PC) with latest configurations – and Internet connection with standard operating system and standard word processor and worksheet software (Licensed) (all software should either be latest version or one/two version below), Scanner cum Printer, LLMS (learning version).</p>	



## Module 10: Designing hazardous goods packaging

*Mapped to LSC/N0207, v1.1*

### Terminal Outcomes:

- Perform pre-designing data analysis
- Create a 3D model using CAD and test the model using CAE software.
- Build the prototype and perform trial runs under various parameters for hazardous goods

Duration: 30:00	Duration: 30:00
Theory – Key Learning Outcomes	Practical – Key Learning Outcomes
<ul style="list-style-type: none"> <li>• Describe handling hazardous goods and restrictions involved in carrying them.</li> <li>• Detail different packing materials currently available in the market for DG goods packing.</li> <li>• Explain testing 3D model using CAE Software.</li> <li>• Detail how to create a working prototype.</li> <li>• List down the non-reactive, sustainable packing materials which are allowed according to the packing group and classification of the product.</li> <li>• Describe Hazardous Materials Table (HMT) and the importance of following the same.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform pre-designing data analysis by collecting various product, transit and packing related specifications.</li> <li>• Research on various aspects like damages and methods to overcome them.</li> <li>• Evaluate solutions for impediments by adding precautionary, protective elements.</li> <li>• Design and draw the outline of hazardous goods packing.</li> <li>• Prepare dos &amp; don'ts, handling instructions/ symbols to be added to the printing content.</li> <li>• Follow the Package ID Table and add UN markings according to Hazardous Materials Table (HMT) to the print content.</li> <li>• Create a 3D model using CAD and test the model using CAE software.</li> <li>• Build the prototype and perform trial runs under various parameters.</li> <li>• Get QA validation/ certification from the relevant department and authorities as applicable.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
CAD, CAE simulation software, Hazardous Materials Table (HMT), sample Hazardous goods and packing materials	

## Module 11: Designing Fragile goods packaging

*Mapped to LSC/N0208, v1.1*

### Terminal Outcomes:

- Perform transit analysis
- Design the outline of Fragile goods packing

<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>• Describe handling fragile goods and restrictions involved in carrying them.</li> <li>• Detail different packing materials currently available in the market for fragile goods packing.</li> <li>• Explain testing 3D model using CAE Software.</li> <li>• Detail how to create a working prototype.</li> <li>• Describe QA validation/ certification process.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform pre-designing data analysis by collecting various product, transit and packing related specifications.</li> <li>• Research on various aspects like damages and methods to overcome them.</li> <li>• Evaluate solutions for impediments by adding precautionary, protective elements.</li> <li>• Design the layers of packing needed by avoiding empty space and voids to the maximum to prevent collision.</li> <li>• Draw the outline of fragile goods packaging.</li> <li>• Select suitable sustainable cushioning and tertiary packing materials according to analysis.</li> <li>• Prepare dos &amp; don'ts, handling instructions/ symbols to the printing content.</li> <li>• Create a 3D model using CAD and test the model using CAE software.</li> <li>• Build the prototype and perform trial runs under various parameters.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
CAD, CAE simulation software, sample fragile goods and packing materials	

## Module 12: Designing ODC packaging

*Mapped to LSC/N0209, v1.1*

### Terminal Outcomes:

- Perform transit analysis
- Design the outline of the ODC packing

<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>• Describe the various data to be collected, research to be performed for transit analysis.</li> <li>• Detail different packing methods currently followed for ODC packing.</li> <li>• Explain testing 3D model using CAE Software.</li> <li>• Detail how to create a working prototype.</li> <li>• Describe QA validation/ certification process</li> </ul>	<ul style="list-style-type: none"> <li>• Perform the steps involved in transit analysis.</li> <li>• Research on various aspects like damages and methods to overcome them.</li> <li>• Evaluate solutions for impediments by adding precautionary, protective elements.</li> <li>• Design the outline of ODC goods packing.</li> <li>• Prepare dos &amp; don'ts, handling instructions/ symbols to the printing content.</li> <li>• Create a 3D model using CAD and test the model using CAE software.</li> <li>• Build the prototype and perform trial runs under various parameters.</li> <li>• Get QA validation/ certification from the relevant department and authorities as applicable.</li> </ul>
<b>Classroom Aids</b>	
Charts, Models, Video presentation, Flip Chart, Whiteboard/Smart Board, Marker, Board eraser	
<b>Tools, Equipment and Other Requirements</b>	
CAD, CAE simulation software, sample ODC packing materials	

# Annexure

## Trainer Requirements

Trainer Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training Experience		Remarks
		Years	Specialization	Years	Specialization	
Any graduate	Warehousing	2	Warehousing			

Trainer Certification	
Domain Certification	Platform Certification
Certified for Job Role: “Packaging Designer” mapped to QP: “LSC/Q0202, v1.0”. 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”. Minimum accepted score is 80%

## Assessor Requirements

Assessor Prerequisites						
Minimum Educational Qualification	Specialization	Relevant Industry Experience		Training/Assessment Experience		Remarks
		Years	Specialization	Years	Specialization	
Any graduate	Warehousing	2	Warehouse operations			

Assessor Certification	
Domain Certification	Platform Certification
Certified for Job Role: “Packaging Designer” mapped to QP: “LSC/Q0202, v1.0”. 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”. Minimum accepted score is 80%

## Assessment Strategy

The emphasis is on 'learning-by-doing' and practical demonstration of skills and knowledge based on the performance criteria. Accordingly, assessment criteria for each job role is set and made available in qualification pack.

The assessment papers for both theory and practical would be developed by Subject Matter Experts (SME) hired by Logistics Sector Skill Council or with the LSC accredited Assessment Agency as per the assessment criteria mentioned in the Qualification Pack. The assessments papers would also be checked for the various outcome-based parameters such as quality, time taken, precision, tools & equipment requirement etc.

Each NOS in the Qualification Pack (QP) is assigned a relative weightage for assessment based on the criticality of the NOS. Therein each Element/Performance Criteria in the NOS is assigned marks on relative importance, criticality of function and training infrastructure.

The following tools would be used for final assessment:

1. **Practical Assessment:** This comprises of a creation of mock environment in the skill lab which is equipped with all equipment required for the qualification pack. Candidate's soft skills, communication, aptitude, safety consciousness, quality consciousness etc. is ascertained by observation and marked in observation checklist. The outcome is measured against the specified dimensions and standards to gauge the level of their skill achievements.
2. **Viva/Structured Interview:** This tool is used to assess the conceptual understanding and the behavioral aspects with regard to the job role and the specific task at hand. It also includes questions on safety, quality, environment and equipment etc.
3. **On-Job Training:** OJT would be evaluated based on standard log book capturing departments worked on, key observations of learner, feedback and remarks of supervisor or mentor.
4. **Written Test:** Question paper consisting of 100 MCQs (Hard:40, Medium:30 and Easy: 30) with questions from each element of each NOS. The written assessment paper is comprised of following types of questions:
  - i. True / False Statements
  - ii. Multiple Choice Questions
  - iii. Matching Type Questions
  - iv. Fill in the blanks
  - v. Scenario based Questions
  - vi. Identification Questions

### QA Regarding Assessors:

Assessors are selected as per the “eligibility criteria” laid down by LSC for assessing each job role. The assessors selected by Assessment Agencies are scrutinized and made to undergo training and introduction to LSC Assessment Framework, competency based assessments, assessors guide etc. LSC conducts “Training of Assessors” program from time to time for each job role and sensitize assessors regarding assessment process and strategy which is outlined on following mandatory parameters:

- 1) Guidance regarding NSQF
- 2) Qualification Pack Structure
- 3) Guidance for the assessor to conduct theory, practical and viva assessments
- 4) Guidance for trainees to be given by assessor before the start of the assessments.
- 5) Guidance on assessments process, practical brief with steps of operations practical observation checklist and mark sheet
- 6) Viva guidance for uniformity and consistency across the batch.
- 7) Mock assessments
- 8) Sample question paper and practical demonstration

## References

## Glossary

Term	Description
Key Learning Outcome	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).
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 Standards