

MODEL CURRICULUM



Qualification Name: Technician - Footwear Manufacturing

Qualification Code:

Version: 2.0

NSQF Level: 3

Model Curriculum Version: 2.0

Submitted By:

MSME TECHNOLOGY CENTRE

**O/o DC MSME, Ministry of Micro, Small and Medium Enterprises
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NOS / MODULE TEMPLATE

NOS /Module: Basic DESIGNING & PATTERN CUTTING

NOS /Module Code: CCFDP -101

Outcomes:

After completion of course Student should be able to:

COURSE OUTCOMES:

- Forecast the design and marketing trends.
- Apply the principles of fashion in footwear design
- Implement basic styles like derby, oxford, pump shoe etc.
- Organize and edit work for creating simulations
- Apply patterning techniques and Use accessories, bottom stock to develop standard styles of varying age group
- Handle the knife and cutting the sharp corners and curves and Cut the articles of the upper and lining components with standard measurements.
- Production of a working standard and sectional patterns for outside and linings
- Using the knowledge, techniques and practical shoemaking skills acquired in other areas of the program to produce design prototypes
- Apply specification procedures for use in production, detailing of style etc.

Theory Hours: NA

Practical Hours: 90

Th. Marks: NA

PR Marks: 100

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	PR Hours	PR Marks
UNIT-I	Art and Sketching	<p>After completion of unit Student should be able to</p> <ul style="list-style-type: none"> • Describe with example the effect of line, shape, color, pattern and texture on design 	<p>i. <u>Fashion Consideration:</u></p> <p>a. Line: its effect on footwear design, upper and bottom proportion and balance</p> <p>b. Shape: The creation of different last unit silhouettes to emphasize or understate design modes.</p> <p>c. Colour: The psychological effect of colour and the importance of the creation of seasonal colour ranges.</p> <p>d. Pattern: The effect of surface pattern detailing and modeling on man-made or leather upper materials, and on unit design.</p> <p>e. Texture: The effect that surface texture can have on the appearance and wear ability of footwear products</p>	20	30
UNIT-II	Foot and Last	<p>After completion of unit Student should be able to</p> <ul style="list-style-type: none"> • Select the components of footwear; select last for 	<p>i. <u>Foot and Last :</u></p> <p>a. Styles and designs covering men's, women, and children work, including shoes, sandals and boots</p> <p>b. Different lasts for men's, women's and children's</p>	20	30

		different types of users; Developing graphic representation/simulation of the style.	<p>footwear.</p> <p>c. Selection of sole units, both rigid and flexible of man-made/natural composition.</p> <p>d. A comprehensive selection of footwear components.</p>		
UNIT-III	Pattern Cutting, Design Style Specification	<p>After completion of unit Student should be able to</p> <ul style="list-style-type: none"> • Select appropriate pattern cutting techniques; • Selection and draw 2D and 3D sectional patterns; Implement the working standards for the styles and construction of footwear. 	<p><u>Introduction to pattern cuttingTechniques:</u></p> <p>Variety of last covering and forme taking methods. Paper, tapes, , slotted/crumpled paper. Designing on the 3 dimensional shape of the last or vacuum forme, geometrically designing on the flat 2 dimensional mean forme shapes. Production of a working standard (compatible to construction allowances) and sectional patterns for outside and linings</p> <p><u>Production of Pattern Standards:</u></p> <p>Using knowledge and techniques to produce working standards for the mainstyles and constructions of men, women, and children. Work: Court, Oxford, Gibson, Monk, One, two and three bar straps, trainer, gusset, casual and slip-on taking into account modern production methods, techniques and processes. purposes. Relationship to each other.</p> <p><u>Production of Bottom Sock Patterns:</u></p> <p>Develop bottom plate pattern and its use in the production of the insole, sock and sole pattern for various construction, cemented</p> <p><u>Design/Style Specification:</u></p> <p>Specification procedures for use in production, detailing of style, edge treatments, materials and components used, colors, last and constructions, information and sequence for uppers and bottom stock processes, finishing and Shoe Room Treatment</p>	50	40

NOS /Module: Basic CLICKING TECHNOLOGY**NOS /Module Code: CCFDP -102****Outcomes:**

After completion of course Student should be able to:

- Cut the material by machinery technology as well as traditional handmade technology.
- Cutting of material by traditional HANDMADE with the knife and tin-patterns.
- Apply material economics in clicking
- Select the tools and machinery based on the material
- Perform clicking process on the basis of position of footwear component and footwear material
- Perform Costing and proper interlocking
- Describe different cutting methods and tools
- Explain the clicking and product cost relationship
- Describe the precautions to be taken in clicking

Theory Hours: NA**Practical Hours: 90****Th. Marks: NA****PR Marks: 100**

Unit No.	Nime	Unit level outcomes	Contents (chapters/topics)	Pr. Hrs.	PR Marks
UNIT-I	Introduction of Clicking	At the end of this Unit the student should be able to: <ul style="list-style-type: none"> • Cut the material by machinery technology as well as traditional handmade technology. • Cutting of material by traditional HANDMADE with the knife and tin-patterns. • Apply material economics in clicking 	<ul style="list-style-type: none"> • The upper components (upper, lining, reinforcement). • Materials used in footwear upper making man-made materials, leather (basic characteristics), • Hand cutting and related tools and equipment. • Machine cutting and related equipment and dies. • The various material wastes causes. • Pattern layout on plain materials, Pattern layout on patterned materials • Pattern layout on fabric materials. • Characteristics of leather from the view point of the upper cutting. • The leather material quality variations in relation tom different parts of the skin/ hide (stretch - resistance - colour - grain - texture). • The upper components specific quality requirement {vamp - quarters - inside-outside etc.) • Defects marking up. • Hand cutting pattern storage, Size making (figure and codes). • Importance of rational and economic cutting as required to product cost. • The economic aspect of hand clicking as compared with press clicking. 	20	25

			<ul style="list-style-type: none"> • The advantage of press clicking for intricate patterns. • The importance of light & humidity in the clicking room. • Quality control applied to upper clicking. • Safety precautions applied to upper clicking 		
UNIT-II	Tools and Machines Used in Clicking	<p>At the end of this Unit the student should be able to:</p> <ul style="list-style-type: none"> • Select the tools and Machinery based on the material • Perform costing and proper interlocking 	<p>Clicking Department Procedure. The nature of clicking</p> <ol style="list-style-type: none"> Hand Cutting Equipment maintenance of equipment's Need for economy and accuracy in clicking. Accuracy, brevity and clarity. Produce basic graphic information. Elements of occupational health and safety Personal protective equipment in the work place. Practice: The use of hand clicking knife in cutting exercises. 	20	25
UNIT-III	Grading of Materials	<p>At the end of this Unit the student should be able to</p> <ul style="list-style-type: none"> • Perform clicking process on the basis of position of footwear components and footwear material • Describe the precautions to be taken in clicking 	<p>III. The general qualities of leather:</p> <ol style="list-style-type: none"> Lines of tightness and stretch Quality variance in skin, Defects in upper leather <ol style="list-style-type: none"> Materials for shoe uppers. Types of leather in common use. Examinations of leather. Skins, hides and sides. . correct storage of leather. <p>Review of fabrics in general use for linings and the cutting system need.</p> <ol style="list-style-type: none"> Press cutting equipment Compare swing beam and traveling headpresses Types of knife comparisons 	25	25
UNIT-IV	Different Cutting Methods	<p>At the end of this Unit the student should be able to</p> <ul style="list-style-type: none"> • Describe different cutting methods and tools • Explain the clicking and product cost relationship 	Basic Clicking Costing Procedure, Cutting allowance and clicking cost sheet	25	25

COURSES / MODULE TEMPLATE

NOS /Module: Basic CLOSING TECHNOLOGY

NOS /Module Code: CCFDP-103

Outcomes:

After completion of course Student should be able to

- Forecast the design and marketing trends.
- Apply the principles of fashion in footwear design
- Implement basic styles like derby, oxford, pump shoe etc.
- Organize and edit work for creating simulations
- Apply patterning techniques and Use accessories, bottom stock to develop standard styles of varying age group
- Handle the knife and cutting the sharp corners and curves and Cut the articles of the upper and lining components with standard measurements.
- Production of a working standard and sectional patterns for outside and linings
- Use and Implement of art Shoe CAD system
- Using the knowledge, techniques and practical shoemaking skills acquired in other areas of the programme to produce design prototypes
- Apply specification procedures for use in production, detailing of style etc

Theory Hours: 30

Practical Hours: 150

Th. Marks: 100

PR Marks: 100

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	TH hours	PR HRS	TH Marks	PR Marks
UNIT -I	Introduction of Closing	After completion of unit Student should be able to <ul style="list-style-type: none"> • Describe the types of machines • Explain types of seam /joints/layers • Describe the operational sequence for closing 	<p><u>Closing Technology:</u></p> <p>I. Machinery: (Maintenance & Operation)</p> <ul style="list-style-type: none"> • Stitching, Skiving, Splitting, Embossing & Fusing. • Basic types and spe • Operational sequence for basic styles • Skiving, backing, stitch marking, perforation, folding and ancillary machinery • Methods of upper reinforcements, edge and decorative treatments. <p>Types of seams. Welding treatment for upper assembly, decoration and ornaments.</p>	15	75	50	50

UNIT -II	Relation Between Needle and Thread	<p>After completion of unit Student should be able to</p> <ul style="list-style-type: none"> Apply different costing technique and treatment. 	<p>Needle and Threads</p> <ul style="list-style-type: none"> Types, Sizes , Selection, Classification relationship, application to work <p><u>Closing Practical:</u></p> <ul style="list-style-type: none"> Students will be introduced to the different types of stitching and Non- stitching machine available. They will be taught the techniques of handcrafts and the use of Machines for similar operations. c. They will be trained in their use and in the use of adjustments necessary to functionalefficiency. This will be followed by the making up .of basic styles of men's and women's footwear 	15	75	50	50
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COURSES / MODULE TEMPLATE

NOS /Module: Basic LASTING & MAKING TECHNOLOGY

NOS /Module Code: CCFDP-104

Outcomes:

After completion of course Student should be able to

- Explain the concept of lasting
- Explain lasting principles
- Implement lasting principles in footwear manufacturing
- Explain different processes at different layers in lasting technology
- Explain the bottoming procedure and processes involved in bottoming
- Perform bottoming and finishing procedure
- Describe the finishing types and processes
- Compare different finishing systems
- Explain the functions and processes of the shoe room,
- Describe shoe room operations and techniques

Theory Hours: NA

Practical Hours: 120

Th. Marks: NA

PR Marks: 100

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	PR hours	PR Marks
Unit-I	Introduce of Lasting	At the end of this Unit the student should be able to: <ul style="list-style-type: none"> • Explain the concept of lasting; explain lasting principles; Implement lasting principles in footwear manufacturing; Explain different processes at different layers in lasting technology. 	<p><u>Lasting:</u></p> <ol style="list-style-type: none"> a. Types and uses of toe-puffs and stiffeners. b. Identification of methods of attachments. c. Methods of conditioning uppers and components. d. Lasting principles and methods of application. e. Lasting and bottoming systems for different types of construction in general use. f. Heeling the processes including heel building and heel finishing covering systems and methods of heel attachment g. Systems of transportation and track management. h. Combined lasting system. i. The theory and practice of head setting - moist and dry head effects on. Materials and adhesive j. The use of hot-melt adhesive in lasting and bottoming. k. Lasting faults and effects upon subsequent operations. 	30	25
Unit-II	Bottoming and Sole Attachment Process	At the end of this Unit the student should be able to:	<p><u>Bottoming:</u></p> <ol style="list-style-type: none"> a. Correct techniques for sole attachment. b. Composition, characteristics and uses of insole and soling 	30	25

		<ul style="list-style-type: none"> • Explain the bottoming procedure and processes involved in bottoming; Perform bottoming and finishing procedure. 	<p>materials for different constructions.</p> <ol style="list-style-type: none"> c. Machine cutting direct/caster and planet, rounding operations. d. preparation of cut stock and bottom components including pre finishing and assembly of pre-fabricated and Louis heel bottom units e. assembly and storage of lasts and components. f. Standardization of components. g. Multiple thicknesses cutting of components h. Pre-moulded shank, insole assemblies i. Insole confirming equipment's. j. Departmental management. k. Control of components and raw materials Fitting up to ticket requirements" 		
Unit-III	Finishing of Footwear	<p>At the end of this Unit the student should be able to:</p> <ul style="list-style-type: none"> • Describe the finishing types and process • Compare different finishing systems 	<p><u>Finishing :</u></p> <ol style="list-style-type: none"> a. Procedure and processes for various soling and heating materials and units. b. Top- piecing methods of attaching and types and characteristics of material available. c. The objective and methods of finishing - types and functions of machines and equipment used. Finishing processes for both leather and non-leather soles and heels. Effects of faults in preceding operations on the finishing processes. Selection of appropriate processes. d. Comparisons between various finishing systems - pre - finishing vs finishing on the shoe. Cutters, irons, adhesives, inks, stains, waxes and finishes used. Decorative treatments and rending. <p>Statutory requirements concerning general, fire, mechanical and electrical safe working conditions will be emphasized</p>	30	25
Unit-IV	Shoe Room Techniques	<p>At the end of this Unit the student should be able to:</p> <ul style="list-style-type: none"> • Explain the functions and processes of the shoe room • ;Describe shoe room operations and techniques 	<p><u>Shoe Rooming :</u></p> <ol style="list-style-type: none"> a. The functions and processes of the shoe room, their importance to sales appeal. shoe room operations and techniques - socking, cleaning, repairing, dressing, top spraying, trim attaching, quarter reforming, irons, inspection procedures, boxing etc., for leather and non-leather materials. Machine adjustments 	30	25

COURSES / MODULE TEMPLATE

NOS /Module: QUALITY CONTROL

NOS /Module Code: CCFDP-105

Outcomes:

After completion of course Student should be able to

- Describe the concept of quality in footwear technology
- Discuss the preparation of Quality policy documents.
- Describe the cost to a company of non-conformance
- Explain the role of operator in quality assurance
- Discuss about supplier and customer requirements

Theory Hours: 30

Practical Hours: NA

Th. Marks: 100

PR Marks: NA

Unit No.	Unit Name	Unit level outcomes	Contents (chapters/topics)	TH hours	TH Marks
Unit I	Quality Assurance	<ul style="list-style-type: none"> • After completion of unit Student should be able to • Describe the concept of quality in footwear technology. • Explain the benefits of Quality assurance systems. • Describe the role of quality policy at different levels in quality control and assurance 	Meaning of Quality, Different Point of Views of Quality, Total Quality Control of Footwear, Specification, Quality Control in clicking Section, Quality Control in Closing Section, Quality control in bottom and finishing section.	6	20
Unit II	Critical Dimensions of Quality	<p>After completion of unit Student should be able to</p> <ul style="list-style-type: none"> • Discuss the preparation of Quality policy documents' 	a)Critical dimensions of quality. Vision and Mission of organization-concept & purpose. Benefits of a quality assurance system, i.e., eliminate customer complaints and increased efficiency. Absolutes of quality - i.e., a system of Prevention. Preparation of a quality policy document.	6	20

Unit III	Absolutes of Quality	After completion of unit Student should be able to <ul style="list-style-type: none"> Describe the cost to a company of non-conformance 	Define the absolute of Quality – ie a system of prevention	6	20
Unit IV	Quality Audit	After completion of unit Student should be able to <ul style="list-style-type: none"> Explain the role of operator in Quality assurance 	Discuss the value of Audits and audit trails to identify and eliminate non-conformance.	6	20
Unit V	Meeting Customer Requirement	After Completion of unit Students should be able to <ul style="list-style-type: none"> Discuss about supplier and Customer requirements. 	Explain how a system of prevention is far better than one of compensation , Discuss the cost not the meeting customer requirements	6	20

COURSES / MODULE TEMPLATE

NOS /Module: Employability Skills

NOS /Module Code: MSME/ES/01

THEORY HOURS: 30 PRACTICAL HOURS: - THEORY MARKS: 100 PRACTICAL MARKS: -

Refer Standard Curriculum developed by NCVET. (https://nqr.gov.in/downloads/pdfs/30-hours_MC_Employability_Skills.pdf)