

**THE GANDHIGRAM RURAL INSTITUTE - DEEMED TO BE UNIVERSITY**  
**MINISTRY OF EDUCATION (SHIKSHA MANTRALAYA), GOI**  
**ACCREDITED BY NAAC WITH 'A' GRADE (3rd Cycle)**  
**GANDHIGRAM - 624302,**  
**DINDIGUL DISTRICT, TAMIL NADU**



**B.VOC FOOTWEAR AND ACCESSORIES DESIGN SYLLABUS**

**(With effect from September 2021)**

**DDU – KAUSHAL KENDRA**

**GANDHIGRAM - 624302**

**THE GANDHIGRAM RURAL INSTITUTE – (DEEMED TO BE UNIVERSITY)**  
**DDU – KAUSHAL KENDRA**  
**Scheme of Syllabus for B.Voc - Footwear and Accessories Design**  
**2021-2022**

	Course Code	Title of the course	Total contact Hours			CFA	ESE	TOTAL
			Credit	Theory	Practical			
<b>I Semester</b>								
<b>General Components</b>	21FADV0101	Introduction to leather Processing and Non leather Materials	4+0	4	-	40	60	100
	21ENGUO1F1	Foundational English I	3+0	3	-	40	60	100
	21FADV0102	Environmental studies	4+0	4	-	40	60	100
		Yoga	0+1	-	1	50	-	50
<b>Total</b>			<b>12</b>	<b>11</b>	<b>1</b>	<b>170</b>	<b>180</b>	<b>350</b>
<b>Skill Based Component</b>	21FADV0103	Pre-Training Operations in Cutting and Pre-Closing (P)	0+5	-	5	60	40	100
	21FADV0104	Sketching and Rendering(P)	0+5	-	5	60	40	100
	21FADV0105	Elements and Methodology of Design (P)	0+5	-	5	60	40	100
	21FADV0106	Internship –I	0+3	-	3	50	-	50
<b>Total</b>			<b>18</b>		<b>18</b>	<b>230</b>	<b>120</b>	<b>350</b>
<b>II Semester</b>								
<b>General Components</b>	21FADV0207	Introduction to Leather Products Manufacturing	3+0	3	-	40	60	100
	21ENGUO2F2	Foundational English II	3+0	3	-	40	60	100
	21FADV0208	Principles of Merchandising and Marketing	3+0	3	-	40	60	100
	21CSAV0201	Digital Marketing (P)	0+3		3	60	40	100
<b>Total</b>			<b>12</b>	<b>09</b>	<b>03</b>	<b>180</b>	<b>220</b>	<b>400</b>
<b>Skill Based Component</b>	21FADV0209	Pre-Training Operations in Closing and Lasting (P)	0+5	-	5	60	40	100
	21FADV0210	Cutting Techniques For Leather Products(P)	0+5	-	5	60	40	100
	21FADV0211	Fashion Footwear Illustrations I (P)	0+5	-	5	60	40	100
	21FADV0212	Internship-II	0+3	-	3	50	-	50
<b>Total</b>			<b>18</b>		<b>18</b>	<b>230</b>	<b>120</b>	<b>350</b>

### III SEMESTER

<b>General Components</b>	21FADV0313	Material Science	4+0	4	-	40	60	100
	21FADV0314	Machines and Maintenance	4+0	4	-	40	60	100
	21FADV0315	Occupational Health and Safety for Footwear and Allied Industries	4+0	4	-	40	60	100
<b>Total</b>			<b>12</b>	<b>12</b>	<b>-</b>	<b>120</b>	<b>180</b>	<b>300</b>
	21FADV0316	Pre-Assembling Operations of Leather Products(P)	0+4	-	4	60	40	100
<b>Skill Based Components</b>	21FADV0317	Stitching of Components for Leather Products (P)	0+4	-	4	60	40	100
	21FADV0318	Material Testing (P)	0+4	-	4	60	40	100
	21FADV0319	Fashion Footwear Illustrations II (P)	0+3	-	3	60	40	100
	21FADV0320	Internship-III	0+3	-	3	50	-	50
	<b>Total</b>			<b>18</b>	<b>-</b>	<b>18</b>	<b>270</b>	<b>160</b>
<b>IV Semester</b>								
<b>General Components</b>	21FADV0421	Foot Anatomy and Solid Modelling	4+0	4	-	40	60	100
	21FADV0422	Business Communications	3+0	3	-	40	60	100
	21FADV0423	Production and Operation Management	3+0	3	-	40	60	100
	21GSPSU001	Gandhi's Life, Thought and Work	2+0	2	-	20	30	50
<b>Total</b>			<b>12</b>	<b>12</b>	<b>-</b>	<b>140</b>	<b>210</b>	<b>350</b>
<b>Skill Based Components</b>	21FADV0424	CAD for leather Goods and Garments (P)	0+5	-	5	60	40	100
	21FADV0425	CAD for Footwear (P)	0+5	-	5	60	40	100
	21FADV0426	Footwear Retailing	5+0	5	0	40	60	100
	21FADV0427	Internship-IV	0+3	-	3	50	-	50
	<b>Total</b>			<b>18</b>	<b>5</b>	<b>13</b>	<b>210</b>	<b>140</b>

V Semester								
General Components	21FADV0528	Human Resource Management	4+0	4	-	40	60	100
	21FADV0529	Material Management	4+0	4	-	40	60	100
	21FADV05EX	Elective (E1/E2/E3) (T)	4+0	4	-	40	60	100
<b>Total</b>			<b>12</b>	<b>12</b>	<b>-</b>	<b>120</b>	<b>180</b>	<b>300</b>
Skill based components	21FADV0530	Designing and Pattern Making of Footwear –I (P)	0+4	-	4	60	40	100
	21FADV0531	Designing and Pattern Making of Leather Goods– I (P)	0+4	-	4	60	40	100
	21FADV0532	Designing and Pattern Making of Leather Garments –I (P)	0+4	-	4	60	40	100
	21FADV05EY	Elective(E4/E5/E6/E7) (P)	0+3	-	3	60	40	100
	21FADV0533	Internship-V	3	-	3	50	-	50
	<b>Total</b>			<b>18</b>	<b>-</b>	<b>18</b>	<b>270</b>	<b>160</b>

VI Semester								
General Components	21FADV0634	Entrepreneurship Development	4+0	4	-	40	60	100
	21FADV0635	Costing of Leather Products	4+0	4	-	40	60	100
	21FADV0636	Portfolio	0+4	-	4	60	40	100
<b>Total</b>			<b>12</b>	<b>8</b>	<b>4</b>	<b>140</b>	<b>160</b>	<b>300</b>
Skill Based components	21FADV0637	Designing and Pattern Making of Footwear-II (P)	0+4	-	4	60	40	100
	21FADV0638	Designing and Pattern Making of Leather Goods–II (P)	0+4	-	4	60	40	100
	21FADV0639	Designing and Pattern Making of Leather Garments –II (P)	0+4	-	4	60	40	100
	21FADV0640	Project /(Internship-VI)	0+6	-	6	60	40	100
	<b>Total</b>			<b>18</b>	<b>-</b>	<b>18</b>	<b>240</b>	<b>160</b>

## ELECTIVES

21FADV05E1	Finishing Techniques of Leather Products (T)	4+0	4	-	40	60	100
21FADV05E2	Safety Shoe Manufacturing (T)	4+0	4	-	40	60	100
21FADV05E3	Sports Shoe Manufacturing Technology (T)	4+0	4	-	40	60	100
21FADV05E4	Advanced Shoe Styling & Designing Using Of CAM / CAD (P)	0+3	-	3	60	40	100
21FADV05E5	Product Developments in Footwear (P)	0+3	-	3	60	40	100
21FADV05E6	Product Developments in Leather Goods(P)	0+3	-	3	60	40	100
21FADV05E7	Product Developments in Leather Garments(P)	0+3	-	3	60	40	100

### **NSQF Level:4 (1<sup>st</sup> & 2 Sem)**

1. Buffing operator
2. Cutter (Footwear)
3. Cutter (Goods and Garments)
4. Harness maker
5. Stitcher
6. Skiving operator
7. Folding & Attacher
8. Trainee -- Technician in clicking & Pre -closing section

### **NSQF Level:4 (3<sup>rd</sup> & 4<sup>th</sup> Sem)**

1. Trainee - supervisor in clicking section
2. Trainee - supervisor in pre-closing section
3. Trainee - Technician in Maintenance section
4. Trainee - Technician in closing section
5. Trainee - Technician in lasting section
6. Product developer
7. Store incharge

### **NSQF Level:4**

1. Finishing Operator (Footwear)
2. Heel attacher (Footwear)
3. Trainee – Testing lab
4. Supervisor in clicking Footwear, Leather Goods and Leather Garments
5. Supervisor in pre-closing Leather Goods and Leather Garments g,
6. Trainee – supervisor in closing – Footwear, Leather Goods and Leather Garments

### **NSQF LEVEL:5(5<sup>th</sup> &6<sup>th</sup> Sem)**

1. Cad Cam operator (Footwear)
2. Cad Cam operator (Goods)

3. Cad Cam operator (Garments)
4. Designer
5. Cad operator in Shoe, Leather Goods and Leather Garments
6. Trainee - Manager - Clicking section
7. Trainee – Manager – pre closing section
8. Trainee – Manager closing section in Footwear and Leather Goods and Leather Garments
9. Trainee – Manager - Leather Goods and Leather Garments
10. Trainee – Manager - Lasting and Finishing section in Footwear

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## **LSSC:**

As part of its activities, the Leather Sector Skill Council (LSSC) has developed National Occupational Standards (NOS) for the following job roles concerning Finished Leather, Footwear and Leather Goods & Leather Garments segments.

## **New QP-NOS and**

### **Job Roles Identified**

### **NSQF Level**

#### **Finished Leather**

1. Scudder (Machine)	4
2. Setting Operator	4
3. Glazing Operator	4
4. Finishing Operator	4

#### **Leather Goods & Garments**

5. Skiving Operator (Machine)	4
6. Pattern Cutter	4
7. Goods & Garments- Quality Control Inspector	5
8. Sample Maker	4
9. CAD CAM Operator- Goods	4
10. CAD CAM Operator Garments	4
11. Saddle- Maker	4
12. Saddlery-Harness Maker	4
13. Saddlery-Quality Control Inspector	5
14. Sewing Machine Operator	4

#### **Footwear**

15. Skiver(by hand)	4
16. Laster (By Hand)	4
17. Heel Attacher	4
18. Finishing Operator	4
19. Heel Builder	4
20. Pattern Cutter	4
21. Line Supervisor	5
22. Quality Control Inspector	5
23. Product Developer	4
24. CAD CAM Operator	4
25. Sample Maker	4
26. Quality Control Supervisor	5
27. Store In-charge	4
28. Moulding Supervisor	4



**I SEMESTER**  
**GENERAL COMPONENTS**

**INTRODUCTION TO LEATHER PROCESSING AND NON LEATHER MATERIALS**  
**(Course Code: 21FADV0101)**

Credits: 4+ 0

(CFA=40+ ESE= 60)

**Objectives:**

To make the students understand about existing Leather Processing.

To enable the students to gain knowledge on non leather materials and various process involved in Leather Processing.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in Preservations techniques of raw hide and skins, availability of hides and skins , anatomical structure of hides and skins , beam house operations ,pre tanning and post tanning operations of leather processing and making, types of non leather materials.

**UNIT – I**

Histological characteristics of Hides and skins-cows, buffs, goat and sheep-chemical constituents of hides and skins-defects in hides and skins-flaying of animals – preservation techniques

**UNIT – II**

Chemistry and principles of different pre-tanning process like curing - soaking- liming – de liming - bating –pickling –de pickling and degreasing

**UNIT – III**

Tanning: Objects of tanning-various types of tanning materials-chrome tanning –general practice in the manufacture of wet-blue- processing of wet blue leathers into upper and lining leather

**UNIT –IV**

Finishing- Objectives of finishing, classifications and types of finishing , finishing machineries, finishing process. Different types of leathers and their properties, uses. Green leather.

**UNIT – V**

Introduction to non leather, Fabrics – types of fabrics, fabrics making methods, properties and strength of different fabrics. Role of fabrics in footwear manufacturing.

## LECTURE SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1st to 3rd Week	Histological characteristics of Hides and skins-cows, buffs, goat and sheep-chemical constituents of hides and skins-defects in hides and skins-flaying of animals – preservation techniques
4th to 6th Week	Chemistry and principles of different pre-tanning process like curing - soaking-liming – de liming - bating –pickling –de pickling and degreasing
7th to 10th Week	Objects of tanning-various types of tanning materials-chrome tanning 8th week : Mid-Semester Examinations General practice in the manufacture of wet-blue- processing of wet blue leathers into upper and lining leather
11th to 13th Week	Finishing- Objectives of finishing, classifications and types of finishing, finishing machineries, finishing process. Different types of leathers and their properties, uses. Green leather.
14th to 15th Week Total :45hrs	Introduction to non leather, Fabrics – types of fabrics, fabrics making methods, properties and strength of different fabrics. Role of fabrics in footwear manufacturing.

### Text Books:

S. S. Dutta, Introduction to the principles of leather manufacture, Indian Leather Technologies Association, Calcutta, 1980.

K.T. Sarkar, Theory and Practice of Leather Manufacture.

Wilhelm, A., “Tips for shoe production” Vol. I, II & III, Huthig Buch Verlag, Heidelberg, 1988

### REFERENCES

CLRI – publications

Swam siddha manual by FDDI

National and International leather journals

## ENVIRONMENTAL SCIENCE

(Course Code: 21FADV0102)

Credits: 4 + 0

(CFA=40+ ESE= 60)

### Objectives:

- To impart the knowledge on environmental and natural resources.
- To study about the impact of pollution, social issues and disaster management.
- To obtain the brief knowledge on Eco system and its functions.

### Specific Learning Outcome:

After learning this paper the students will gain knowledge in solid waste managements, waste water managements, air pollution managements, disaster managements and prevention of earth from the hazardous materials.

#### Unit – I

Introduction - environmental ethics-assessment of socio - economic impact –environment audit-mitigation of adverse impact on environment - importance of pollution control-types of industries and industrial pollution.

#### Unit – II

Solid waste management-characteristics of industrial waste-methods of collection, transfer and disposal of solid wastes-converting waste to energy-hazardous waste management treatment technologies

#### Unit – III

Waste water management-characteristics of industrial effluents-treatment and disposal methods-pollution of water sources and effects on human health

#### Unit – IV

Air pollution management-sources and effects –dispersion of air pollutants-air pollution control methods-air quality management,Noise pollution management –effects of noise on people, noise control methods

#### Unit – V

Disaster management-meaning, concepts, causes and types, effects of disaster on community economy and environment, disaster management cycle, response rehabilitation, reconstruction, role of community in disaster

## LECTURE SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Introduction - environmental ethics-assessment of socio - economic impact –environment audit-mitigation of adverse impact on environment –</li><li>• Importance of pollution control-types of industries and industrial pollution</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Solid waste management-characteristics of industrial waste-methods of collection, transfer and disposal of solid wastes-converting waste to energy-hazardous waste management treatment technologies</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li><li>• Waste water management-characteristics of industrial effluents-treatment and disposal methods-pollution of water sources and effects on human health</li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Air pollution management-sources and effects –dispersion of air pollutants-air pollution control methods-air quality management</li><li>• Noise pollution management –effects of noise on people, noise control methods</li></ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"><li>• Disaster management-meaning, concepts, causes and types, effects of disaster on community economy and environment, disaster management cycle, response rehabilitation, reconstruction, role of community in disaster</li></ul>

### Text Books:

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad 380013, India, Email: mapin@icenet. net (R). 3. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p.
3. Clerk B.S., Marine Pollution, Clanderson Pross Oxford (TB).

### REFERENCES

1. Agarwal, K.C. 2001 Environmental Biology, Nidi Publ. Ltd. Bikaner.
2. Bharucha Erach, The Biodiversity of India, Mapin Publishing Pvt. Ltd., Ahmedabad 380013, India, Email: mapin@icenet. net (R). 3. Brunner R.C., 1989, Hazardous Waste Incineration, McGraw Hill Inc. 480p.
3. Clerk B.S., Marine Pollution, Clanderson Pross Oxford (TB).

## YOGA

Credits: 0 + 1

(CFA=50)

### OBJECTIVE:

- To learn Yoga for keeping body and mind in good condition.

### Specific Learning Outcome:

After learning this paper the students will gain knowledge in objectives and history of yoga. Difference between practice of Asanas and Physical Exercises-Modern Vs. Yogic concept on diet. Gandhian way of Meditation.

**UNIT-I:** History of Yoga-Definition of the term yoga-Comprehensive Nature and Scope Yoga-Aims and Objectives of Yoga-Variou School of Yoga.

**UNIT-II:** Pantanjali yoga-Astangayoga-Tantrayoga-Mantrayoga-Halthayoga-Layayoga, Rajayoga-Ganayoga-Bhaktiyoga-Karmayoga.

**UNIT-III:** Yoga as an ideal system of physical culture-Do's and Don'ts of specific Yogic Techniques-Difference between practice of Asanas and Physical Exercises-Modern Vs. Yogic concept on diet.

**UNIT-IV:** Preparing Oneself for Yogi practices –Different kinds of Yogic practices-Suryanamaskar-Asanas (Padmasana-Vajrasana-Gomukhasana-Sarvangasana Halasana-Shalabhasana-Dhanurasana-Paschimottanasana-Yogamudra-Utkatasana-Savasana-Makarasana.

**UNIT-V:** Parnayamas (Anuloma-Viloma Pranayama, Nadisuddi)-Bandhas (Jalandharabandha-Uddiyanabandha-Mulabandha)-Suddhikriyas(Kapalabhati)-Mudras-Dhyana-Meditation-Gandhian way of Meditation.

### LECTURE SCHEDULE

No. of week (1 hr. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>History of Yoga-Definition of the term yoga-Comprehensive Nature and Scope Yoga-</li><li>Aims and Objectives of Yoga-Variou School of Yoga.</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>Pantanjali yoga-Astangayoga-Tantrayoga-Mantrayoga-</li><li>Halthayoga-Layayoga, Rajayoga-Ganayoga-Bhaktiyoga-Karmayoga.</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>Yoga as an ideal system of physical culture-Do's and Don'ts of specific Yogic Techniques-</li><li><b>8<sup>th</sup> week : Mid-Semester Examinations</b></li><li>Difference between practice of Asanas and Physical Exercises-Modern Vs. Yogic concept on diet.</li></ul>

11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Preparing Oneself for Yogi practices –Different kinds of Yogic practices- Suryanamaskar-Asanas (Padmasana-Vajrasana-Gomukhasana-Sarvangasana</li> <li>• Halasana-Shalabhasana-Dhanurasana-Paschimottanasana-Yogamudra-Utkatasana-Savasana-Makarasana.</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total : 15hrs	<ul style="list-style-type: none"> <li>• Parnayamas (Anuloma-Viloma Pranayama, Nadisuddi)-Bandhas (Jalandharabandha-Uddiyananbandha-Mulabandha)-</li> <li>• Suddhikriyas(Kapalabhati)-Mudras-Dhyana-Meditation-Gandhiyan way of Meditation.</li> </ul>

### **Text Books:**

1. Yoga For All, Maharishi Patanjali, Sahni Publications, 2003.
2. Yoga For Health, Institute of Naturopathy and Yogic Sciences, Bangalore, 2003.
3. Yoga For Health, K.Chandra Shekar, Khel Sathitya Kendra, Theni,2003.
4. Yoga For the Modern Man, M.P.Pandit, Sterling Publishers Private Limited, New Delhi,1987.

### **REFERENCES**

- 1.Asanas, Swami Kuvalayananda, Kaivalaydhama, Lonavla, 1993.
- 2.Light on Yoga, B.K.S. Lyengar Harpine Collins Publication, New Delhi,2000
- 3.Sound Health Through Yoga, K.Chandrasekaran, Prem kalia Publications, Sedapatti 1999.
- 4.Yoga For You, Indira Devi, Jaico Publishing house, Chennai,2002.

## **SKILL BASED COMPONENT**

### **PRE-TRAINING OPERATION IN CUTTING AND PRE-CLOSING (P) (Course Code: 21FADV0103)**

**Credits: 0 + 5**

**(CFA=60+ ESE= 40)**

#### **Objectives:**

- To make the students understand about Pre training Operation in Cutting and Pre Closing.
- To enable the students to gain knowledge on various Pre training Operations – Cutting, skiving ,attaching and folding etc.,

#### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in how to cut the upper, lining and bottom stock materials effectively. Safety precautions in cutting and pre closing room, Operating of cutting machine, skiving machine, fusing machine and seam pressing machines. Seam preparations, folding and attaching of components.

#### **UNIT- I**

Introduction, materials, machines,  
Safety precautions  
Tools, classifications and drawing of tools, cutting knives preparation  
Paper cutting exercise, synthetic cutting exercise

#### **UNIT- II**

Drawing of hides, sides and skins  
Identification of defects on various leathers  
Cutting of bottom stock components

#### **UNIT- III**

Handling and practicing of splitting machin,  
Handling and practicing of sewing machine  
Handling and practicing of skiving machine

#### **UNIT- IV**

Handling and practicing of stamping machine  
Handling and practicing of embossing machine  
Handling and practicing of fusing machine

#### **UNIT- V**

Handling and practicing of seam press machine and various seam preparations, edge treatment practice, attaching and folding practice

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Introduction, materials, machines, safety precautions</li><li>• Tools, classifications and drawing of tools, cutting knives preparation</li><li>• Paper cutting exercise, synthetic cutting exercise</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Drawing of hides, sides and skins</li><li>• Identification of defects on various leathers</li><li>• Cutting of bottom stock components</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Handling and practicing of splitting machine, skiving machine</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li><li>• Handling and practicing of skiving machine</li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Handling and practicing of stamping machine, embossing machine, fusing machine,</li></ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"><li>• Handling and practicing of seam press machine and various seam preparations, edge treatment practice, attaching and folding practice</li></ul>

### Text Books:

1. Thornton, J.H., "Text book of Footwear Manufacture", The National Trade Press Ltd., London, 1970.
2. Harvey, A.J., "Footwear Materials and Process Technology", N.Z. Leather & Shoe Research Association, New Zealand, 1982.
3. Comprehensive Footwear Technology By S. N Ganguly

### REFERENCES

1. Manuals from NIMI Publications
2. Manuals from FDDI
3. Manuals from CLRI Publications
4. Manual of Shoe Making Clarks Ltd



**SKETCHING AND RENDERING(P)**  
**(Course Code: 21FADV0104)**

**Credits: 0 + 5**

**(CFA=60+ ESE= 40)**

**Objectives:**

- To gain an understanding of the relationship between lasts and feet for men's, ladies and children's shoes.
- To gain an insight into the relationship between foot anatomy and footwear design.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in last and feet, ladies shoe design and presentation skill of ladies footwear, men's shoe design and presentation skill of men's footwear.

**UNIT I**

**Lasts and Feet**

- The relationship of joint to instep to ankle and ankle
- Use of tape measures and measuring stick
- The relationship between lasts and feet
- Seams and bars and straps and their effect on comfort and fit
- Foot access and comfort for a range of sandals, shoes and boots
- Heel height and its effect on fit and comfort
- Lasts-essential differences for sandals, shoes and boots
- Toe spring and heel heights
- Last drawing, men's, ladies and children's

**UNIT II**

**Ladies Shoe Design**

- Lasts and their effect on styling
- Heels and components and their use in styling
- Line proportion and style
- Design treatments: seams, stitching, punching, panels, trims, etc.
- Colour and texture and its effect on styling
- Last drawing/shoe design

**UNIT III**

**Presentation Skills Ladies Footwear**

- Design book preparation
- Layout and presentation skills
- Text and technical detailing
- Visual impact/colour
- Factory and technical considerations

## UNIT IV

### Men's Shoe Design

- Lasts and their effect on styling
- Heels and components and their use in styling
- Line proportion and style
- Design treatments: seams, stitching, punching, panels, trims, etc
- Colour and texture and its effect on styling
- Last drawing/shoe design

## UNIT V

### Presentation Skills Men's Footwear

- Design book preparation
- Layout and presentation skills
- Text and technical detailing
- Visual impact/ colour
- Factory and technical considerations.

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• The relationship of joint to instep to ankle and ankle</li><li>• Use of tape measures and measuring stick</li><li>• The relationship between lasts and feet</li><li>• Seams and bars and straps and their effect on comfort and fit</li><li>• Foot access and comfort for a range of sandals, shoes and boots</li><li>• Heel height and its effect on fit and comfort</li><li>• Lasts-essential differences for sandals, shoes and boots</li><li>• Toe spring and heel heights</li><li>• Last drawing, men's, ladies and children's</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Lasts and their effect on styling</li><li>• Heels and components and their use in styling</li><li>• Line proportion and style</li><li>• Design treatments: seams, stitching, punching, panels, trims, etc.</li><li>• Colour and texture and its effect on styling</li><li>• Last drawing/shoe design</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Design book preparation</li><li>• Layout and presentation skills</li><li>• Text and technical detailing</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li><li>• Visual impact/colour</li><li>• Factory and technical considerations</li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Lasts and their effect on styling</li><li>• Heels and components and their use in styling</li></ul>

	<ul style="list-style-type: none"> <li>• Line proportion and style</li> <li>• Design treatments: seams, stitching, punching, panels, trims, etc</li> <li>• Colour and texture and its effect on styling</li> <li>• Last drawing/shoe design</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Design book preparation</li> <li>• Layout and presentation skills</li> <li>• Text and technical detailing</li> <li>• Visual impact/ colour</li> <li>• Factory and technical considerations.</li> </ul>

**Text Books:**

1. Modern Fashion illustration-paco Asensio, ISBN 978-84-968 05-31-6
2. Fashion sketch book-Bina abling
3. Hideaki Chijiwa, Colour harmony – “A Guide to creative colour Combination”.

**REFERENCES**

1. Helen Goworek, “Drawing Course a step by step Guide” Blackwell Publications.
2. H.W. Janson & Anthony Janson, “History of art” the western tradition, revised 6th edition, Upper saddle river
3. Roy C. Craven, “Indian Art”, Thames & Hudson.

## **ELEMENTS AND METHODOLOGY OF DESIGNS(P)**

**(Course Code: 21FADV0105)**

**Credits: 0 + 5**

**(CFA=60+ ESE= 40)**

### **Objectives:**

- To make the students understand about elements and methodology of designs.
- To enable the students to gain knowledge designing representation of design in various product

### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in basic design principles, visual effects of colour, design process and elements of design.

#### **UNIT-I:**

##### **Create compositions using elements and basic design principles**

Elements of designs- Line, Shape, Point and Form

Basic principles of design and visual aesthetics- Balance, Rhythm, Contrast and Harmony

#### **UNIT-II**

##### **Developing compositions**

Developing compositions using design elements- Centered, Spaced, Shattered and Framed

Depicting moods through basic elements of design- Masculine and Feminine

#### **UNIT-III**

##### **Identify color as an element of design**

Dimensions of color- Value/tone, Hue and Chroma/intensity/clarity

Mixing colors to create new combinations or schemes – Primary, Secondary and Tertiary

Shade scale preparation according to color mixing principles

Relationship of color theory to design process identification

#### **UNIT-IV**

##### **Identify visual effects of color**

Visual or optical effects of color – Size, Density, Value, Visual mixing, Simultaneous contrast, Motion, Texture, creating and presenting Fashion pictures that reflect different visual effects

#### **UNIT-V**

##### **Perform design process**

Concept of design process – Information collection, Analysis, Synthesis and conceptualization

Identifying and analyzing Structure of the products

Influence of material for effective design process

Commercial considerations in producing a design

## PRACTICAL SCHEDULE

No. of week (4hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Elements of designs- Line, Shape, Point and Form</li> <li>• Basic principles of design and visual aesthetics- Balance, Rhythm, Contrast and Harmony</li> <li>• Developing compositions using design elements- Centered, Spaced, Shattered and Framed</li> <li>• Depicting moods through basic elements of design- Masculine and Feminine</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Dimensions of color- Value/tone, Hue and Chroma/intensity/clarity</li> <li>• Mixing colors to create new combinations or schemes – Primary, Secondary and Tertiary</li> <li>• Shade scale preparation according to color mixing principles</li> <li>• Relationship of color theory to design process identification</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Visual or optical effects of color – Size, Density, Value, Visual mixing, Simultaneous contrast, Motion, Texture, creating and presenting Fashion pictures that reflect different visual effects</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Concept of design process – Information collection, Analysis, Synthesis and conceptualization</li> <li>• Identifying and analyzing Structure and context building</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Influence of material for effective design process</li> <li>• Commercial considerations in producing a design</li> </ul>

### Text Books:

1. Accessories options : Shrugs scarves stoles
2. Bead Fantasies 2 – More beautiful easy to make Jeweller Takako Sanejima
3. Conde Nast fashion book-vol-I & Vol-II

### REFERENCES

1. “Quick style”, by- Christine Kunzerlman.
2. 1000as by fashion designers Carolina Cerime
3. 150 Beaded & motifs Kenneth D King

## **INTERNSHIP-I**

**(Course code: 21FADV0106)**

**Credits: 0+3**

**(CFA=50)**

### **Specific Learning Outcome:**

After successful completion of internship programme students will gain knowledge in manufacturing methodology of different types of footwear, how to solve the upcoming problems and how to increase the productivity.

### **Field Visit:**

From a practical point of view, this approach also seems like it might be a very useful way to document the process of getting to grips with the literature on a subject – helping immensely when it comes to putting together. We have one week/ two week exposure visit at the beginning of first semester. During second semester, the students undertake needs assessment exercise at various textile/ fashion field sites. Documentation in the form of report should be submitted by the candidates for evaluation purpose. The field training component is spread over in all academic institutes to place the successful candidates.

## II SEMESTER

### GENERAL COMPONENTS

#### INTRODUCTION TO LEATHER PRODUCTS MANUFACTURING

(Course Code: 21FADV0207)

Credits: 3+ 0

(CFA=40+ ESE= 60)

#### Objectives:

- To make the students understand about leather products manufacturing.
- To enable the students to gain knowledge on various process – Clicking, Closing and constructions

#### Specific Learning Outcome:

After learning this paper the students will gain knowledge in clicking and stitching of footwear, leather goods and garments. Different types of lasting and constructions techniques in footwear,

#### UNIT- I

Clicking –definition, role of clicking room, qualities required for good clicking operator. Drawing of hide/skin with their parts- Identification of stretch and tension-characteristics and variations in leather-manufacturing requirements of upper, lining and insoles - cutting directions of upper and lining components.

#### UNIT-II

Sewing definition, tools used in closing room. Types of sewing machines (flat bed, post bed, cylinder bed)-parts and functions of sewing machines. Seam-definition, types of seam finishes, top seams, decorative stitching. Types of stitches-lock stitch, chain stitch, blind stitch etc-stitch formations.

#### UNIT- III

Types of threads-natural thread-synthetic thread-their properties-thread size and its application  
Needle and its parts-its function-size of needle-suitability of needle and needle point for various types of materials

#### UNIT-IV

Lasting - principles and methods of lasting for different methods of constructions. Pre lasting-pre-forming-insole attaching- back part moulding - moisture conditioning-gauge marking-bottom roughing and scouring

#### UNIT-V

History of shoes-shoes and its components-foot wear types and styles, elementary shoes, typical ladies' shoes, men's and children's shoes-common parts of footwear. Introduction to leather goods and garments-products-classification-types of constructions-process flow for leather goods and garments-machineries, materials used in leather goods and garments

## LECTURE SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Clicking –definition, role of clicking room, qualities required for good clicking operator.</li> <li>• Drawing of hide/skin with their parts- Identification of stretch and tension-characteristics and variations in leather-manufacturing requirements of upper, lining and insoles - cutting directions of upper and lining components.</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Sewing definition, tools used in closing room.</li> <li>• Types of sewing machines (flat bed, post bed, cylinder bed)-parts and functions of sewing machines. Seam-definition, types of seam finishes, top seams, decorative stitching.</li> <li>• Types of stitches-lock stitch, chain stitch, blind stitch etc-stitch formations.</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Types of threads-natural thread-synthetic thread-their properties-thread size and its application</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• Needle and its parts-its function-size of needle-suitability of needle and needle point for various types of materials</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Lasting - principles and methods of lasting for different methods of constructions. Pre lasting-pre- forming-insole attaching- back part moulding - moisture conditioning-gauge marking-bottom roughing and scouring</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"> <li>• History of shoes-shoes and its components-foot wear types and styles, elementary shoes, typical ladies" shoes, men"s and children"s shoes-common parts of footwear.Introduction to leather goods and garments-products-classification-types of constructions-process flow for leather goods and garments-machineries, materials used in leather goods and garments.</li> </ul>

### Text Books:

1. "Manual of Shoe Making" – Clarks Ltd. (London) 1978. 5. Wilhelm, A., "Tips for shoe production" Vol. I, II & III, Huthig Buch Verlag, Heidelberg, 1988.
2. S. S. Dutta, Introduction to the principles of leather manufacture, Indian Leather Technologies Association, Calcutta, 1980.
3. Wilhelm, A., "Tips for shoe production" Vol. I, II & III, Huthig Buch Verlag, Heidelberg, 1988

### REFERENCES

1. Swam siddha manual by FDDI
2. Manuals from CLRI Publications
3. National and International leather journal



**PRINCIPLES OF MERCHANDISING AND MARKETING**  
**(Course Code: 21FADV0208)**

**Credits: 3+ 0**

**(CFA=40+ ESE= 60)**

**Objectives:**

- To impart the knowledge on merchandising management, merchandising concept , terminologies.
- To provide the knowledge on marketing management.
- To obtain the brief knowledge on function of merchandiser.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in merchandising, function of merchandiser, time management, fashion merchandising and marketing analysis.

**Unit – I**

Merchandising –requirements of purchase order – amendment sheet – direct order – CM order – CMT order –vendor and sub contractor .

**Unit – II**

Functions of merchandiser – types of sample – samples quality and sample order – record maintenance – approval, types of approval – check points for a proper approval – approving sewing operations and various process.

**Unit – III**

Time management – production scheduling – route card format – accessories follow up – various process follow up – pattern approval – size set approval – procedures – order executions procedure.

**Unit – IV**

Fashion merchandising vs retail merchandising , job objectives of retail merchandising , promotional merchandising, visual merchandising techniques , outlet vs retail , SWOT analysis for retail – the advantages of retail outlets.

**Unit – V**

Marketing analysis – advertise and media planning , fashion shows , industry tour – surveys and organizing of exhibitions .

## LECTURE SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Merchandising –requirements of purchase order – amendment sheet – direct order – CM order – CMT order –vendor and sub contractor .</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Functions of merchandiser – types of sample – samples quality and sample order – record maintenance – approval, types of approval – check points for a proper approval – approving sewing operations and various process.</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Time management – production scheduling – route card format – accessories follow up – various process follow up – pattern approval – size set approval – procedures – order executions procedure.</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Fashion merchandising vs retail merchandising , job objectives of retail merchandising , promotional merchandising, visual merchandising techniques , outlet vs retail , SWOT analysis for retail – the advantages of retail outlets</li></ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"><li>• Marketing analysis – advertise and media planning , fashion shows , industry tour – surveys and organizing of exhibitions .</li></ul>

### Text Books:

1. M.s Shesadhri apparel marketing and merchandising ms publication Bangalore.
2. Grace E.Kunz merchandising theory, principle and practices Fairchild publication.
3. Tim sackson and david shaco fashion buying & merchandising management.

### REFERENCES

1. Philip kotler , marketing management , prentice hall inc 1996..
2. Ruthe e glock and grace i. Kunz, "apparel manufacturing" prentice hall inc 2005.

## **SKILL BASED COMPONENT**

### **PRE-TRAINING OPERATIONS IN CLOSING AND LASTING (P)**

**(Course Code: 21FADV0209)**

**Credits: 0 + 5**

**(CFA=60+ ESE= 40)**

#### **Objectives:**

- To make the students understand about Pre training Operation in stitching and lasting.
- To enable the students to gain knowledge on types of stitching and various lasting methods.

#### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in sewing of the cut components and lasting of closed uppers. Needle replacements, threading, bobbin rewinding and fixing

#### **UNIT- I**

Threading  
Needle fixing and replacing  
Bobbin fixing and replacing and winding  
Stitching practice with stitching card (Paper exercise :1to 10)

#### **UNIT- II**

Stitching practice with synthetic materials  
Stitching practice with leather materials  
Safety precautions in closing room

#### **UNIT- III**

Bare last tacking  
Insole attaching  
Vamp lasting (leather vamp)

#### **UNIT- IV**

Vamp lasting (leather vamp and lining)  
Vamp lasting (leather vamp, lining and stiffener)

#### **UNIT- V**

Toe lasting  
Seat lasting  
Side lasting  
Safety precautions in lasting room

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Threading</li> <li>• Needle fixing and replacing</li> <li>• Bobbin fixing and replacing and winding</li> <li>• Stitching practice with stitching card (Paper exercise :1to 10)</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Stitching practice with synthetic materials</li> <li>• Stitching practice with leather materials</li> <li>• Safety precautions in closing room</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Bare last tacking</li> <li>• Insole attaching</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• Vamp lasting (leather vamp)</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Vamp lasting (leather vamp and lining)</li> <li>• Vamp lasting (leather vamp, lining and stiffener)</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Toe lasting</li> <li>• Seat lasting</li> <li>• Side lasting</li> <li>• Safety precautions in lasting room</li> </ul>

### Text Books:

1. Thornton, J.H., "Text book of Footwear Manufacture", The National Trade Press Ltd., London, 1970.
2. Harvey, A.J., "Footwear Materials and Process Technology", N.Z. Leather & Shoe Research Association, New Zealand, 1982.
3. Comprehensive Footwear Technology By S. N Ganguly

### REFERENCES

1. Manuals from NIMI Publications
2. Manuals from FDDI
3. Manuals from CLRI Publications
4. Manual of Shoe Making Clarks Ltd

## **CUTTING TECHNIQUES FOR LEATHER PRODUCTS (P)**

**(Course Code: 21FADV0210)**

**Credits: 0 + 5**

**(CFA=60+ ESE= 40)**

### **Objectives:**

- To enable the students to learn the Cutting of leather products materials
- To make the students understand the cutting process of various components.

### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in nesting of hides and skins. Cutting method of upper components, lining components, insoles and non leather materials. Quality control.

#### **UNIT -I**

- Review of general qualities of leather
- Lay out preparations in hide/skin
- Lay out preparation in side

#### **UNIT -II**

- Calculation of cutting allowance by russ and small method
- Cutting techniques of upper components

#### **UNIT -III**

- Cutting techniques of lining components
- Cutting techniques of insoles
- Cutting system/techniques of synthetic materials

#### **UNIT -IV**

- Strap cutting/strap preparation
- Splitting of components

#### **UNIT -V**

- Cutting techniques of reinforcement materials
- Quality control inspection for cut components

## PRACTICAL SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Review of general qualities of leather</li><li>• Lay out preparations in hide/skin</li><li>• Lay out preparation in side</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Calculation of cutting allowance by russ and small method</li><li>• Cutting techniques of upper components</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Cutting techniques of lining components</li><li>• Cutting techniques of insoles</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li><li>• Cutting system/techniques of synthetic materials</li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Strap cutting/strap preparation</li><li>• Splitting of components</li></ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"><li>• Cutting techniques of reinforcement materials</li><li>• Quality control inspection for cut components</li></ul>

### Text Books:

1. Wilhelm, A., "Tips for shoe production" Vol. I, II & III, Huthig Buch Verlag, Heidelberg, 1988.
2. Manual of Shoe Making – Clarks Ltd.
3. Text book of footwear manufacture by j.h Thornton.

### REFERENCES

1. Swam Siddha Manual by FDDI.
2. Manuals from NIMI Publications
3. Manuals from SATRA publicatiobs

**FASHION FOOTWEAR ILLUSTRATIONS – I (P)**  
**(Course Code: 21FADV0211)**

**Credits: 0 + 5**

**(CFA=60+ ESE= 40)**

**Objectives:**

- To enable the students to make a different types of footwear in the illustrate form
- To make the students to understand the different types footwear and their structure in illustration.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge of footwear in a visual identifications and known the basic knowledge about the footwear.

**Unit-I**

Drawing of footwear mens

Casual shoe, formal shoes, flip flops, sandals, sports shoes, boots oxford, derby, phantafola, moccasin. Brogue shoes, loafers, boat shoes, sneaker shoes orthopaedic shoe skate shoes worishofer, clogs, sabton.

**Unit-II**

Drawing of footwear womens

Boots, floaters, gladiators, majaris, heels, wedges, sandls, beellies, flipflops, two part sandal jewel trim, sandal with gem trim, sequined sloe with full fleeriews of the shoe from different angles, fos sandal, evening sandal, ballet pump, plat form sandal, retro perforate court shoe, Birkenstock style sandal, thong sandal.

**Unit-III**

Drawing of footwear children's

Shoe, filp flops, sandals, boots, kitten heel shoe, loafers, jutti, jazz shoes, hurache shoe, jully shoes kung fu shoes, festival willies

**Unit-IV**

Drawing mens accessories

Mens hals –profole hals, three quarter furned hats, full front hats, brim, gown, working the brim of the hat, across the forchead and the eye, angles of the hat follow – angles of the face, wallets bells, suspensess, socks, card haoldrs, key chains, head wraps, neektie, cufflinks, cravats, pocket squares, muffler, umberella.

**Unit-V**

Drawing womens Accessories

Womens hand bags and it varieties, belts, suspenderi, neecktier hair accessories hats and caps, head wraps, cufflinks, umbrellas, crawats, various bracelets.

## PRACTICAL SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<b>Drawing of footwear mens</b> Casual shoe, formal shoes, flip flops, sandals, sports shoes, boots oxford, derby, phantafola, moccasin. Brogue shoes, loafers, boat shoes, sneaker shoes orthopaedic shoe skate shoes worishofer, clogs, sabton.
4 <sup>th</sup> to 6 <sup>th</sup> Week	<b>Drawing of footwear womens</b> Boots, floaters, gladiators, majaris, heels, wedges, sandls, beellies, flipflops, two part sandal jewel trim, sandal with gem trim, sequined sloe with fulle flee riews of the shoe from different angles, fos sandal, evening sandal, ballet pump, plat form sandal, retro perforate court shoe, Birkenstock style sandal, thong sandal.
7 <sup>th</sup> to 10 <sup>th</sup> Week	<b>Drawing of footwear children's</b> Shoe, filp flops, sandals, boots, kitten heel shoe, loafers, jutti, jazz shoes, hurache shoe, jully shoes kung fu shoes, festival willies
11 <sup>th</sup> to 13 <sup>th</sup> Week	<b>Drawing mens accessories</b> Mens hals –profole hals, three quarter furned hats, full front hats, brim, gown, working the brim of the hat, across the forchead and the eye, angles of the hat follow – angles of the face, wallets bells, suspendess, socks, card haoldrs, key chains, head wraps, neektie, cufflinks, cravats, pocket squares, muffler, umberella.
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<b>Drawing womens Accessories</b> Womens hand bags and it varieties, belts, suspenderi, neecktier hair accessories hats and caps, head wraps, cufflinks, umbrellas, crawats, various bracelets.

### Text Books:

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology

### REFERENCE

1. Manuals from CLRI
2. Manuals from NIMI Publications



## INTERNSHIP –II

(Course code: 21FADV0212)

Credits: 0+3

CFA=50

### Specific Learning Outcome:

After successful completion of internship programme students will gain knowledge in manufacturing methodology of different types of footwear, leather goods and garments, how to solve the upcoming problems and how to increase the productivity.

### Field Visit:

From a practical point of view, this approach also seems like it might be a very useful way to document the process of getting to grips with the literature on a subject – helping immensely when it comes to putting together. We have one week/ two week exposure visit at the beginning of first semester. During second semester, the students undertake needs assessment exercise at various shoe making/ shoe designing field sites. Documentation in the form of report should be submitted by the candidates for evaluation purpose. The field training component is spread over in all academic institutes to place the successful candidates.

**III SEMESTER**  
**GENERAL COMPONENTS**

**MATERIAL SCIENCE**  
**(Course Code: 21FADV0313)**

**Credits: 4 + 0**

**(CFA=40+ ESE= 60)**

**Objectives:**

- To make the students understand about Leather products materials
- To make the students gain knowledge on Leather products materials

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in materials which is used for leather products manufacturing .Types of leathers, lining , insole , out sole, mid sole, toe puff, stiffener, shank, grinderies , thread and needle.

**UNIT I**

Leather: Types of leather-upper, lining and sole leather-finished leather-aniline-semi aniline-patent-suede-split-defects-properties-elasticity-strength-stretch-heat and water resistance-performance evaluation

**UNIT II**

Insole: Types of insole, requirement of insole, insole materials, properties of insole Sole-Types of soling materials-PVC, PU, TPR, rubber, EVA, TPU, TPE, & nettle rubber, leather sole-properties of soling materials-leather unit sole preparation

**UNIT III**

Heel: Heel-definition, types of heels-Cuban, Louis wedge and inbuilt heels –heel materials, properties requirement Shank-types of shank, properties, requirement of shank materials

**UNIT IV**

Reinforcement: Toe puff and stiffeners-types of toe puffs and stiffeners-paint on liquid, impregnated fabrics, print on hot melt resin, & filmic –properties of toe puff & stiffeners –requirements of the toe puff & stiffeners

**UNIT V**

Accessories: Ornaments - studs –grinderies- metallic- non metallic grinderies- tack -nail & rivets, wires-eyelet, buckles, buttons, fastness materials-characteristics, requirements and properties of grinderies

Adhesives: classification of adhesives - rubber latex-natural rubber solution -neoprene -poly urethane-hot melt adhesives-principle of adhesion

## LECTURE SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>Types of leather-upper, lining and sole leather-finished leather-aniline-semi aniline-patent-suede-split-defects-properties-elasticity-strength-stretch-heat and water resistance-performance evaluation</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Types of insole, requirement of insole, insole materials, properties of insole Sole-Types of soling materials-PVC, PU, TPR, rubber, EVA, TPU, TPE, &amp; nettle rubber, leather sole-properties of soling materials-leather unit sole preparation</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Heel-definition, types of heels-Cuban, Louis wedge and inbuilt heels –heel materials,</li> <li><b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>Properties requirement Shank-types of shank, properties, requirement of shank materials</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Toe puff and stiffeners-types of toe puffs and stiffeners-paint on liquid, impregnated fabrics, print on hot melt resin, &amp; filmic –properties of toe puff &amp; stiffeners –requirements of the toe puff &amp; stiffeners</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"> <li>Ornaments - studs –grinderies- metallic- non metallic grinderies- tack -nail &amp; rivets, wires-eyelet, buckles, buttons, fastness materials-characteristics, requirements and properties of grinderies</li> <li>Adhesives: classification of adhesives - rubber latex-natural rubber solution -neoprene -poly urethane-hot melt adhesives-principle of adhesion</li> </ul>

### Text Books:

1. Thornton, J.H., “Text book of Footwear Materials”, The National Trade Press Ltd., London, 1970.
2. Harvey, A.J., “Footwear Materials and Process Technology”, N.Z. Leather & Shoe Research Association, New Zealand, 1982.
3. Comprehensive Footwear Technology By S. N Ganguly

### REFERENCES

1. Moulded and bottoming By K.Shooter
2. Leather Processing & Tanning Technology Hand Book by Ajay Kr Gupta NIIR Kamalanagar, New Delhi
3. Technology and employment in Footwear Technology by Gerard Karen

## MACHINES AND MAINTENANCE

(Course Code: 21 FADV0314)

Credits: 4+ 0

(CFA=40+ ESE= 60)

### Objectives:

- To enable the students to understand machines and maintenance of leather products
- To impart basic maintenance of machines

### Specific Learning Outcome:

After learning this paper the students will gain knowledge in different types of mechanics in machines, electronic , magnoelectric, photo cell and control safety systems, clicking room,closing room machines, transport systems in footwear industries and machine arrangements in closing room. Metal detector policy in footwear industries.

#### UNIT – I

General Engineering: Introduction to different mechanics in machines, pneumatic system and hydraulic system, Use of these systems either alone or in combination in the working parts of the machine. Electronic, magnoelectric, photo-cell and control safety systems.

#### UNIT – II

Machines in clicking Designing room, Machines diagram, function of machines, safety precautions while operating. Tools used in clicking room & Designing room.

Types of sewing machines, diagram of sewing machines. Assembling & Dismantling of sewing machines. Fault & remedy of sewing machine.

#### UNIT – III:

Skiving machine, splitting machines, Embossing machines, Fusing machines, Hammering machines, Screen printing.

#### UNIT – IV

Types of conveyor, Trolley, Transportation in closing room, Eye letting machines, punching machines, Gathering machines., TRANSPORT SYSTEM - Different types of material handling system in footwear industry. Manual, semi-automatic and automatic conveyors

#### UNIT – V

Machine Arrangements in closing room, cycle time, take time, in closing room. Broken Needle policy, Metal Detector in closing room.

## LECTURE SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• General Engineering: Introduction to different mechanics in machines, pneumatic system and hydraulic system, Use of these systems either alone or in combination in the working parts of the machine.</li> <li>• Electronic, magnoelectric, photo-cell and control safety systems.</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Machines in clicking Designing room, Machines diagram, function of machines, safety precautions while operating. Tools used in clicking room &amp; Designing room.</li> <li>• Types of sewing machines, diagram of sewing machines. Assembling &amp; Dismantling of sewing machines. Fault &amp; remedy of sewing machine.</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Skiving machine, splitting machines, Embossing machines,</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• Fusing machines, Hammering machines, Screen printing.</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Types of conveyor, Trolley, Transportation in closing room, Eye letting machines, punching machines, Gathering machines.,</li> <li>• TRANSPORT SYSTEM - Different types of material handling system in footwear industry. Manual, semi-automatic and automatic conveyors</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"> <li>• Machine Arrangements in closing room, cycle time, take time, in closing room.</li> <li>• Broken Needle policy, Metal Detector in closing room.</li> </ul>

### Text Books:

1. Shigley, J.E. and Vicker, J.J., "Theory of Machines and mechanisms", McGraw Hill, 1995.
2. Paul, B., "Kinematics and Dynamics of Planar Machinery", Prentice Hall, 1979.
3. Manual of shoe making – clarks ltd

### REFERENCES

1. Swam siddha Manuals from FDDI
2. Manuals from SATRA
3. Internationals footwear journals.

**OCCUPATIONAL HEALTH AND SAFETY FOR FOOTWEAR AND ALLIED INDUSTRIES**  
(Course Code: 21FADV0315)

**Credits: 4 + 0**

**(CFA=40+ ESE= 60)**

**Objectives:**

- To enable the students to learn the Safety in footwear & allied industries.
- To make the students understand the safety procedures involved in the footwear & allied industries.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in safety in footwear and allied industries, Industrial accidents, elements of safety programme, handling of personnel protective equipments and environmental pollution by footwear and allied industries.

**UNIT – I**

Safety in industries; need for development, importance of safety consciousness in Indian Footwear Industries

**UNIT – II**

Elements of safety programme, effective realization of economic & social benefits. Effective communication, training at various levels of production & operation psychological attitude towards safety programmes.

**UNIT – III**

Industrial accidents, identification of accident spots; accident prevention, accident proneness, fire prevention and fire protection identifications of vulnerable areas of accidents.

**UNIT – IV**

Safety performance: Appraisal, effective steps to implement safety procedures; periodic inspection and study of plant layout and maintenance: proper selection and replacement of handling equipments, personal protective equipments.

**UNIT – V**

Atmospheric pollution; waste & dust; Toxic materials and gages: Environmental pollution by footwear industry.

## LECTURE SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>Safety in industries; need for development, importance of safety consciousness in Indian Footwear Industries</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Elements of safety programme, effective realization of economic &amp; social benefits.</li> <li>Effective communication, training at various levels of production &amp; operation psychological attitude towards safety programmes</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Industrial accidents, identification of accident spots;</li> <li><b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>Accident prevention, accident proneness, fire prevention and fire protection identifications of vulnerable areas of accidents</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>Safety performance: Appraisal, effective steps to implement safety procedures; periodic inspection and study of plant layout and maintenance: proper selection and replacement of handling equipments, personal protective equipments.</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"> <li>Atmospheric pollution; waste &amp; dust; Toxic materials and gages: Environmental pollution by footwear industry.</li> </ul>

### Text Books:

- William Handley, Industrial Safety Hard Book, 2<sup>nd</sup> edition, McGraw Hill Book Company, 1969.
- H.W.Heinrich, P.E.Dan Peterson and Nester, Road industrial accident prevention, McGraw Hill Book Co. 1980
- R.P. Blaka industrial safety, 3<sup>rd</sup> Edn. Prentice Hall inc., new Jersey, 1963.

### REFERENCES

- EN – 344 Standards.

## Skill Based Components

### PRE-ASSEMBLING OPERATIONS OF LEATHER PRODUCTS (P)

(Course Code: 18FADV0316)

Credits: 0 + 4

(CFA=60+ ESE= 40)

#### Objectives:

- To enable the students to learn the pre-assembling operations for leather products.
- To make the students understand pre-assembling operations for leather products like foot wear, Leather Goods & Garments.

#### Specific Learning Outcome:

After learning this paper the students will gain knowledge in making of components for derby, oxford, pantafola, boot, moccasin, ladies court shoe and sandal uppers. Making of components for leather goods and garments.

#### UNIT -I

- Making of components for derby upper
- Making of components for Oxford upper
- Making of components for slip on/pantafola upper

#### UNIT -II

- Making of components for boot upper
- Making of components for moccasin upper
- Making of components for court shoe upper

#### UNIT -III

- Making of components for sandal upper
- Making of components for leather goods – ladies hand bag
- Making of components for leather goods – belt

#### UNIT -IV

- Making of components for leather goods-purse
- Making of components for leather goods-coin pouch
- Making components for leather goods-clutch purse

#### UNIT -V

- Making of components for leather garments-jackets
- Making of components for leather garments-skirts
- Making of components for leather garments-trousers



## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Making of components for derby upper</li><li>• Making of components for Oxford upper</li><li>• Making of components for slip on/pantafola upper</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Making of components for boot upper</li><li>• Making of components for moccasin upper</li><li>• Making of components for court shoe upper</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Making of components for sandal upper</li><li>• Making of components for leather goods – ladies hand bag</li><li>• Making of components for leather goods - belt</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Making of components for leather goods-purse</li><li>• Making of components for leather goods-coin pouch</li><li>• Making components for leather goods-clutch purse</li></ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"><li>• Making of components for leather garments-jackets</li><li>• Making of components for leather garments-skirts</li><li>• Making of components for leather garments-trousers</li></ul>

### Text Books:

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly

### REFERENCES

1. Swam siddha Manual by FDDI
2. Manuals from NIMI Publications
3. Manuals from CLRI

**STITCHING OF COMPONENTS FOR LEATHER PRODUCTS (P)**  
**(Course Code: 21FADV0317)**

**Credits: 0 + 4**

**(CFA=60+ ESE= 40)**

**Objectives:**

- To enable the students to learn the Stitching operations for leather products.
- To make the students understand Stitching operations for leather products like foot wear, Leather Goods & Garments.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in Stitching of components for footwear, Stitching of components for leather goods, Stitching of components for leather garments.

**UNIT-I**

- Making of derby upper
- Making of oxford upper
- Making of slip on/pantafola upper
- Making of boot upper

**UNIT-II**

- Making of moccasin upper
- Making of court shoe upper
- Making of sandal upper

**UNIT-III**

- Making of clutch purse
- Making of belt
- Making of purse

**UNIT-IV**

- Making of coin pouch
- Making of ladies' bag
- Making of jacket

**UNIT-V**

- Making of skirt
- Making of trouser

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Making of derby upper</li><li>• Making of oxford upper</li><li>• Making of slip on/pantafola upper</li><li>• Making of boot upper</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Making of moccasin upper</li><li>• Making of court shoe upper</li><li>• Making of sandal upper</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Making of clutch purse</li><li>• Making of belt</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li><li>• Making of purse</li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Making of coin pouch</li><li>• Making of ladies' bag</li><li>• Making of jacket</li></ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"><li>• Making of skirt</li><li>• Making of trouser</li></ul>

### Text Books:

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology

### REFERENCES

1. Swyam siddha Manual by FDDI
2. Manuals from NIMI Publications
3. Manuals from CLRI

**MATERIAL TESTING (P)**  
**(Course Code: 21FADV0318)**

**Credits: 0 + 4**

**(CFA=60+ ESE= 40)**

**Objective**

- To enable the students to learn about the Footwear & Products Testing
- To make the students understand the various types of testing methods.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in sampling of leather for physical and chemical testing. Physical and chemical testing of footwear and footwear materials.

**UNIT-I**

Sampling-conditioning-measurement of thickness of leathers - % elongation at break, tensile strength-tongue, tear strength-split tear strength-slit tear strength-double hole stitch tear strength

**UNIT-II**

Physical and chemical requirements of upper and lining leather-grain crackiness - pipeness-rub fastness (wet and dry)-water proofness - flexing endurance-abrasion resistance

**UNIT – III**

Footwear bond strength-upper materials –adhesive peeling from upper-non coalescence-adhesive cohesive failure-adhesive peeling from sole-sole break down

**UNIT – IV**

Synthetic soles-thickness-hardness-density- archimedes principle - Insoles-tensile properties-water absorption and desorption-density of insole materials, soles tearing properties

**UNIT – V**

Footwear testing centres in India-water vapour permeability (leather)-water vapor absorption (Leather)-shoe flexing-beneward flexing- heat resistance - seam strength-water resistance-strap strength

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Sampling-conditioning-measurement of thickness of leathers - % elongation at break,</li><li>• tensile strength-tongue, tear strength-split tear strength-slit tear strength-double hole stitch tear strength</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Physical and chemical requirements of upper and lining leather-grain crackness - pipeness-rub fastness (wet and dry)-</li><li>• Water proofness - flexing endurance-abrasion resistance</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Footwear bond strength-upper materials –adhesive peeling from upper-non coalescence-adhesive cohesive failure</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li><li>• Adhesive peeling from sole-sole break down</li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Synthetic soles-thickness-hardness-density- archimides principle –</li><li>• Insoles-tensile properties-water absorption and desorption-density of insole materials, soles tearing properties</li></ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"><li>• Footwear testing centres in India-water vapour permeability (leather)-water vapor absorption (Leather)-shoe flexing-</li><li>• Beneward flexing- heat resistance - seam strength-water resistance-strap strength</li></ul>

### Text Books:

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly

### REFERENCES

1. Footwear Testings – SATRA
2. CLRI publications

**FASHION FOOTWEAR ILLUSTRATIONS- II (P)**  
**(Course Code: 21FADV0319)**

**Credits: 0 + 3**

**(CFA=60+ ESE= 40)**

**Objectives:**

- To provide opportunity for skill development to render the products
- To impart knowledge on fashion accessories and creativity.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in basic design and styles, rendering techniques, templates to draw sketches, drawing of footwear, drawing of men's accessories and drawing of different bags.

**UNIT- I**

Drawing Footwear and Accessories on different surfaces

Dimensional drawing of footwear and accessories – drawing using dimensions and measurements

Dimensional drawing of footwear and accessories – drawing different perspectives

**UNIT- II**

Identify basic design styles

Rendering Techniques - Pencil, Steadler and Color Pencil, Charcoal. Fabric Rendering 10 Samples of Different Varieties of Fabric.

**UNIT-III**

Rendering techniques-spraying, brushing, use template to draw sketches perform rendering, obtaining and observing drawing for rendering operation (30 varieties of rendering using these elements)

**UNIT- IV**

Rendering mediums –water colour, poster colour use template to draw sketches, perform rendering, obtain and observing drawing for rendering (30 varieties of samples use these elements)

**UNIT-V**

Drawing of different style and variety of footwear, bags -  
Travel bags, Ladies hand bags, wallets

## PRACTICAL SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Identify basic design styles</li> <li>• Rendering Techniques - Pencil, Steadler and Color Pencil, Charcoal, Fabric Rendering 10 Samples of Different Varieties of Fabric.</li> <li>• Drawing Footwear and Accessories on different surfaces</li> <li>• Dimensional drawing of footwear and accessories – drawing using dimensions and measurements</li> <li>• Dimensional drawing of footwear and accessories – drawing different perspectives</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Use template to draw sketches</li> <li>• Perform rendering</li> <li>• Obtaining and observing drawing for rendering operation</li> <li>• Identification and selection of appropriate rendering techniques- Spraying, Brushing</li> <li>• Rendering mediums- Water color, Pencil color and Oil color</li> <li>• Creating components using rendering techniques and mediums – Texture, Volume, Light and shade effects</li> <li>• Draw and render materials and accessories – fittings &amp; fasteners</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Drawing of Footwear</li> <li>• Mens – Casual Shoes, formal shoes, flipflops, sandals, sports shoes, boots.</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• Womens – Boots, Floaters, gladiators, mojaris, heels, wedges, sandals, bellies, flipflops</li> <li>• Children – Shoes, flipflops, sandals</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Drawing men's accessories:</li> <li>• Wallets, Belts, suspenders, socks, card holders, key chains, hats 7 caps, head wraps, necktie, cufflinks, cravats, handkerchiefs, pocket squares, muffler, umbrella, stoles and scarves.</li> <li>• Drawing women's accessories:</li> <li>• Wallets, Belts, socks &amp; stockings, suspenders, neckties, hair accessories, mufflers, hats &amp; caps, head wraps, cufflinks, umbrellas, cravats, handkerchiefs, stoles &amp; scarves</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"> <li>• Drawing of different style and variety of footwear, bags</li> <li>• Travel bags, Ladies hand bags, wallets etc</li> </ul>

### Text Books:

1. Quick style", by- Christine Kunzerlman.
2. 1000 Ideas by fashion designers Carolina Cerime
3. 150 Beaded & motifs Kenneth D King

### REFERENCES

1. 21<sup>st</sup> Century Jewellery Mrthe Le Van
  2. Accessories options : Shrugs scaxues stoles
- Bead Fantasies 2 – More beautiful easy to make jeweler Takako Sanejim

### **INTERNSHIP –III**

**(Course code: 21FADV0320)**

**Credits: 0+3**

**(CFA=50)**

#### **Specific Learning Outcome:**

After successful completion of internship programme students will gain knowledge in manufacturing methodology of different types of footwear, leather goods and garments, how to solve the upcoming problems and how to increase the productivity.

#### **Field Visit:**

From a practical point of view, this approach also seems like it might be a very useful way to document the process of getting to grips with the literature on a subject – helping immensely when it comes to putting together. We have one week/ two week exposure visit at the beginning of first semester. During second semester, the students undertake needs assessment exercise at various shoe making/ shoe designing field sites. Documentation in the form of report should be submitted by the candidates for evaluation purpose. The field training component is spread over in all academic institutes to place the successful candidates.



## IV

### **SEMESTER GENERAL COMPONENTS**

#### **FOOT ANATOMY AND SOLID MODELLING**

**(Course Code: 21FADV0421)**

**Credits: 4 + 0**

**(CFA=40+ ESE= 60)**

#### **Objectives:**

- To provide comprehensive knowledge in anatomy of human foot and its functions.
- To understand basic comfort and protection of footwear.
- To impart in-depth knowledge of solid modeling and development of foot wear.

#### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in foot skeleton , long bones and short bones, muscles in foot, foot joints, arches of the foot, foot deformities and shoe sizing systems.

#### **UNIT - I**

##### **Anatomy of human foot:**

Bony structure of leg and foot-joints, ankles, metatarsals, phalanges, their function in structural stability (static and dynamic), muscles help in walking, muscle relate to limb function like flexion, extension, diagram of foot-functions of foot

#### **UNIT - II**

##### **Growth and deformities:**

Growth of foot from infant to maturity, arches of foot, relationship between foot shape and last. Different types of foot deformities like pescavus, valgus, blisters, injuries in sports, methods of prevention -foot care and protection

#### **UNIT - III**

##### **Bio mechanics:**

Free body diagram, analysis-bio mechanics of walking. Types of forces-friction, movements. Gait analysis and foot comfort-gait patterns, pressure distribution in normal and abnormal feet

#### **UNIT - IV**

##### **Sizing systems:**

Foot sizing systems - English, French, American, German, Japan, Mondo-point and their conversion and comparison.

#### **UNIT - V**

##### **Solid modeling:**

Lasts-foot and lasts-last manufacture, materials for last making, different measurement of foot and last, Types of lasts-hinge last-telescopic last-solid block last,-scoop block last-thong last-their uses

## LECTURE SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Bony structure of leg and foot-joints, ankles, metatarsals, phalanges, their function in structural stability (static and dynamic),</li> <li>• muscles help in walking, muscle relate to limb function like flexion, extension, diagram of foot-functions of foot</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Growth of foot from infant to maturity, arches of foot, relationship between foot shape and last.</li> <li>• Different types of foot deformities like pescavus, valgus, blisters, injuries in sports, methods of prevention -foot care and protection</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Free body diagram, analysis-bio mechanics of walking.</li> <li>• Types of forces-friction, movements.</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• Gait analysis and foot comfort-gait patterns, pressure distribution in normal and abnormal feet</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Foot sizing systems - English, French, American, German, Japan,</li> <li>• Mondo-point and their conversion and comparison.</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Lasts-foot and lasts-last manufacture, materials for last making, different measurement of foot and last,</li> <li>• Types of lasts-hinge last-telescopic last-solid block last,-scoop block last-thong last-their uses</li> </ul>

### Text Books:

1. Hollinshead, H., "Text book of Anatomy", Oxford IBH London 1967.
2. Morton, D.J., "The Human Foot", Hafner Publishing Co., New York, London, 1964.
3. Thornton, J.H., "Text book of Footwear Manufacture", National Trade Press Ltd., London, 1970

### REFERENCES

1. Edwards, C.A., "Orthopaedic shoe technology", Precision Printing Co., Indiana, 1964.
2. Whittle, M., "Gait Analysis: An introduction," butterworth – Heinemann Publication, 2002.
3. Vincent G Duffy, "Digital Human Modelling", Springer, July 2011.

## **BUSINESS COMMUNICATION**

**(Course Code: 21FADV0422)**

**Credits: 3 + 0**

**(CFA=40+ ESE= 60)**

### **Objectives:**

- To enable the students to learn the basic Business Communication.
- To impart basic Business Communication to the students.

### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in types of business communications, business letter, drafting of business letter and oral communications.

#### **UNIT - I**

##### **Introduction to communication:**

Meaning and definition-process-functions-objectives-importance-essentials of good communication-communication barriers-overcoming communication barriers

#### **UNIT - II**

##### **Types of communication:**

written-oral- face to face - silence-merits and limitations of each type-developing oral business, communication skills - introduction, advantages of oral communication, oral business presentation

#### **UNIT - III**

##### **Business letter:**

Need and functions of business letters-planning and lay out of business letters-kinds of business letters-essentials of effective correspondence

#### **UNIT - IV**

##### **Drafting of business letter:**

Enquiries and replies-placing and fulfilling orders-complaints and follow ups-sales letters-circular letters-application for employment and resume-report writing-notices, agenda and minutes of the meeting – memos

#### **UNIT - V**

##### **Oral communication:**

Meaning, nature and scope-principles of effective oral communications-techniques of effective speech-media of oral communication (face to face conversation- teleconferences-press conference-demonstration-radio recording-meeting-oral report) - The art of listening-principles of good listening

## LECTURE SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Meaning and definition-process-functions-objectives-importance-essentials of good communication-communication barriers-overcoming communication barriers</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• written-oral- face to face - silence-merits and limitations of each type-developing oral business, communication skills –</li> <li>• introduction, advantages of oral communication, oral business presentation</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>○</li> <li>• Need and functions of business letters-planning and lay out of business letters-kinds of business letters-</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• essentials of effective correspondence</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Enquiries and replies-placing and fulfilling orders-complaints and follow ups-sales letters-circular letters-</li> <li>• application for employment and resume-report writing-notices, agenda and minutes of the meeting – memos</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Meaning, nature and scope-principles of effective oral communications-techniques of effective speech-media of oral communication (face to face conversation- teleconferences-press conference-demonstration-radio recording-meeting-oral report) –</li> <li>• The art of listening-principles of good listening</li> </ul>

### Text Books:

1. M.K. Sehgal & V. Khetrpal - Business Communication (Excel books)
2. Tayler Shinley – Communication for Business (Pearson Education, 4<sup>th</sup> Edition)
3. R.C. Sharma, Mohan Krishna – Business : Correspondence and Report Writing (Tata McGraw Hill, 3<sup>rd</sup> Edition)

### REFERENCE

1. R.C. Sharma, Mohan Krishna – Business : Correspondence and Report Writing (Tata McGraw Hill, 3<sup>rd</sup> Edition)
2. M.K. Sehgal & V. Khetrpal - Business Communication (Excel books)
3. Tayler Shinley – Communication for Business (Pearson Education, 4<sup>th</sup> Edition)

**PRODUCTION AND OPERATIONS MANAGEMENT**  
**(Course Code: 21FADV0423)**

**Credits: 3 + 0**

**(CFA=40+ ESE= 60)**

**Objectives:**

- To enable the students to learn the Production Operations Management
- To make the students understand the steps involved in production operation Management.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in production planning and control, quality management, total quality management, production improvements techniques and maintenance policies.

**UNIT - I**

**Production planning and control:**

Production planning techniques for various process choices, techniques of production control, aggregate planning techniques

**UNIT - II**

**Quality management:**

Introduction, meaning, quality, characteristics of goods and services, tools and techniques for quality improvement - check sheet, histogram, scatter diagram, cause and effect diagram, pareto chart, process diagram.

**UNIT - III**

**Total quality management:**

Total quality management -model-service quality, concept of six sigma and its applications-quality assurance

**UNIT - IV**

**Production improvement techniques:**

Work study-method study-work measurement-time study-stop watch time study-work sampling

**UNIT - V**

**Maintenance:**

Maintenance policies for facilities and equipments-time of failure-preventive versus break down maintenance-procedure for maintenance, total productive maintenance (TPM)

## LECTURE SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Production planning techniques for various process choices, techniques of production control,</li> <li>• aggregate planning techniques</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Introduction, meaning, quality, characteristics of goods and services, tools and techniques for quality improvement –</li> <li>• check sheet, histogram, scatter diagram, cause and effect diagram, pareto chart, process diagram.</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• Total quality management -model-service quality,</li> <li>• concept of six sigma and its applications-quality assurance</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Work study-method study-work measurement-time study-</li> <li>• stop watch time study-work sampling</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Maintenance policies for facilities and equipments-time of failure-preventive versus break down maintenance-</li> <li>• procedure for maintenance, total productive maintenance (TPM)</li> </ul>

### Text Books:

1. Adam Jr Everetl E. R J – Production and Operations Management (Prentice-Hall, 1992), 2000 5th ed.
2. Chary- Production and Operations Management (Tata McGraw-Hill, 1997 9th ed.)
3. Hill T- Operations Management (Palgrave, 2000)
4. Johnston R et al – Cases in Operations Management (Pitman, 1993)
5. McGregor D – Operations Management (McGraw-Hill, 1960) Morton- Production and Operations Management (Vikas)

### REFERENCES

1. Haleem A- Production and Operations Management (Galgotia books, 2004)
2. Shanker Ravi- Industrial Engineering ( Galgotia)
3. Chase & Production and operation Management, Richard Irwin London; 1995, 7th ed.
4. Production & Operations Management.- Kanishka Bedi, (Oxford University Press)

## **SKILL BASED COMPONENTS**

### **CAD FOR LEATHER GOODS & GARMENTS (P)** **(Course Code: 21FADV0424)**

**Credits: 0 + 5**

**(CFA=60+ ESE= 40)**

#### **Objectives:**

- To enable the students to understand the CAD for leather goods & garments
- To make the students to understand the step involved in the CAD

#### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in goods and garments CAD operating systems. ladies'' bag, Wallet, executive bag

#### **UNIT-I**

CAD for leather goods: hand bag

- Start leather goods CAD operating system for hand bag
- Prepare and digitize patterns for hand bag
- Edit digitized patterns for hand bag
- Take measurements and verify patterns for hand bag
- Perform nesting for hand bag,
- Plot and cut patterns using pattern plotter/cutter for hand bag

#### **UNIT-II**

CAD for leather goods: wallet for both men & women''s

- Start leather goods CAD operating system for wallet
- Prepare and digitize patterns for wallet
- Edit digitized patterns for wallet
- Take measurements and verify patterns for wallet
- Perform nesting for wallet
- Plot and cut patterns using pattern plotter/cutter for wallet

#### **UNIT-III**

CAD for leather goods: Executive bag

- Start leather goods CAD operating system for executive bag
- Prepare and digitize patterns for executive bag
- Edit digitized patterns for executive bag

- Take measurements and verify patterns for executive bag
- Perform nesting for executive bag
- Plot and cut patterns using pattern plotter/cutter for executive bag

#### **UNIT-IV**

CAD for leather garments: Jackets with sleeves variations

- Start leather garment CAD operating systems for jackets
- Prepare and digitize patterns for-jackets,
- Edit digitized pattern for jackets
- Grade patterns using CAD for jackets
- Take measurements and verify patterns for jackets
- Perform nesting and laying for marker making for jackets
- Plot and cut patterns using pattern plotter/cutter for jackets
- Perform pattern conversion for jackets.

#### **UNIT-V**

CAD for leather garments: waist coat and its variations

- Start leather garment CAD operating systems for skirts and waist coat
- Prepare and digitize patterns for skirts and waist coat
- Edit digitized pattern for skirts and waist coat
- Grade patterns using CAD for skirts and waist coat
- Take measurements and verify patterns for skirts and waist coat
- Perform nesting and laying for marker making for skirts and waist coat
- Plot and cut patterns using pattern plotter/cutter for skirts and waist coat
- Perform pattern conversion for skirts and waist coat



## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	1. CAD for leather goods: hand bag <ul style="list-style-type: none"> <li>• Start leather goods CAD operating system for hand bag</li> <li>• Prepare and digitize patterns for hand bag</li> <li>• Edit digitized patterns for hand bag,</li> <li>• Take measurements and verify patterns for hand bag</li> <li>• Perform nesting for hand bag</li> <li>• Plot and cut patterns using pattern plotter/cutter for hand bag</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	2. CAD for leather goods: wallet for both men & women's <ul style="list-style-type: none"> <li>• Start leather goods CAD operating system for Prepare and digitize patterns for wallet</li> <li>• Edit digitized patterns for wallet</li> <li>• Take measurements and verify patterns for wallet</li> <li>• Perform nesting for wallet</li> <li>• Plot and cut patterns using pattern plotter/cutter for wallet</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul> 3. CAD for leather goods: Executive bag <ul style="list-style-type: none"> <li>• Start leather goods CAD operating system for Executive bag</li> <li>• Prepare and digitize patterns for Executive bag</li> <li>• Edit digitized patterns for Executive bag</li> <li>• Take measurements and verify patterns for Executive bag</li> <li>• Perform nesting for Executive bag</li> <li>Plot and cut patterns using pattern plotter/cutter for Executive bag</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	4. CAD for leather garments: Jackets with sleeves variations <ul style="list-style-type: none"> <li>• Start leather garment CAD operating systems for jackets</li> <li>• Prepare and digitize patterns for-jackets,</li> <li>• Edit digitized pattern for jackets</li> <li>• Grade patterns using CAD for jackets</li> <li>• Take measurements and verify patterns for jackets</li> </ul>

	<ul style="list-style-type: none"> <li>• Perform nesting and laying for marker making for jackets</li> <li>• Plot and cut patterns using pattern plotter/cutter for jackets</li> <li>• Perform pattern conversion for jackets.</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<p>5. CAD for leather garments: waist coat and its variations</p> <ul style="list-style-type: none"> <li>• Start leather garment CAD operating systems for jackets</li> <li>• Prepare and digitize patterns for-jackets,</li> <li>• Edit digitized pattern for jackets</li> <li>• Grade patterns using CAD for jackets</li> <li>• Take measurements and verify patterns for jackets</li> <li>• Perform nesting and laying for marker making for jackets</li> <li>• Plot and cut patterns using pattern plotter/cutter for jackets</li> <li>• Perform pattern conversion for jackets.</li> </ul>

**Text Books:**

1. Modular employees skill text book from NIMI

**REFERENCES**

1. Manuals from Software suppliers
2. Handouts

## **CAD FOR FOOTWEAR (P)**

**(Course Code: 21FADV0425)**

**Credits: 0 + 5**

**(CFA=60+ ESE= 40)**

### **Objectives:**

- To enable the students to understand the CAD for shoe
- To make the students to understand the step involved in the CAD

### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in digitizing of shell, piece making, mirroring of pieces, adding of notches and fillets, assessments of the patterns, grading of one styles to another.

### **UNIT-I**

Lay out and digitizations:

- Digitize the shell
- Prepare the digitizing layout
- Digitize the styles-in 2D shape
- Check digitized file for errors

### **UNIT-II**

File creations:

- Translate the digitized file to graphics
- Store the file on the hard disc
- Plot the SHELL for evaluation of digitizing

### **UNIT-III**

Modifications:

- Edit or add digitized lines, if necessary
- Add offset lines for different allowances, variable offset for lasting allowance
- Define piece boundary, add fillets, notches

### **UNIT-IV**

Adding of drills and stencils:

- Add different lines for drills and stencils
- Generate pattern assessment for all or selected pieces
- Define grade specification

## UNIT-V

### Grading:

- Grade the style either normally or apply modifiers for non standard gradings
- Check the graded styles using stack and measure functions
- Generate a cut file for cutting of patterns

### PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	Lay out and digitization's: <ul style="list-style-type: none"> <li>• Digitize the shell</li> <li>• Prepare the digitizing layout</li> <li>• Digitize the styles-in 2D shape</li> <li>• Check digitized file for errors</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	File creations: <ul style="list-style-type: none"> <li>• Translate the digitized file to graphics</li> <li>• Store the file on the hard disc</li> <li>• Plot the SHELL for evaluation of digitizing</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	Modifications : <ul style="list-style-type: none"> <li>• Edit or add digitized lines, if necessary</li> <li>• Add offset lines for different allowances, variable offset for lasting allowance</li> <li>• Define piece boundary, add fillets, notches</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	Adding of drills and stencils: <ul style="list-style-type: none"> <li>• Add different lines for drills and stencils</li> <li>• Generate pattern assessment for all or selected pieces</li> <li>• Define grade specification</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	Grading : <ul style="list-style-type: none"> <li>• Grade the style either normally or apply modifiers for non standard gradings</li> <li>• Check the graded styles using stack and measure functions</li> <li>• Generate a cut file for cutting of patterns</li> </ul>

**Text Books:**

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe designing by Md.Sadique Principal scientist clri Chennai.
3. Comprehensive Footwear Technology by S.N.Ganguly

**REFERENCES**

1. Manuals from Software suppliers
2. Handouts

GRU-DTBU

## **FOOTWEAR RETAILING (T)**

**(Course Code: 21FADVO426)**

**Credits: 5+0**

**(CFA=40+ ESE=60)**

### **Objectives:**

- To make the students understand about products development in leather garments
- To enable the students to gain knowledge on products development in leather garments

### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in History of retailing, size of retail market, carriers in retailing. Retail formats, planning product range and feasibility of retail outlet. Depth & range of product mix, cost and viability of a new outlet. Inventory management

**UNIT - I :** History of retailing, size of retail market, carriers in retailing , Buying cycle, planning sourcing ranging , scope of plan –range profile , range with and stock depth ,average selling price, margin mix, and sales density

**UNIT - II :** Retail formats, planning product range and feasibility of retail outlet range planning and product development – identification of range needs – range boards , competitors, market trends, products orientation core and fashion ranges

**UNIT - III :** Depth & range of product mix, cost and viability of a new outlet, departments of stores store chains single unit independents stores.

### **UNIT - IV :**

Classifications of major discount operations , characteristics of major discount operations buyers rote. What of price ,timing a purchases , pricing , indirect purchasing , incentives of vendor.

**UNIT - V :** Retail pricing, costing and IT applications in retail purchasing in domestic market Vs purchasing in foreign markets. Reason , problems, methods , buyers qualification.

<b>No. of week (4 hrs. per week)</b>	<b>Topics covered</b>
1 <sup>st</sup> to 3 <sup>rd</sup> Week	History of retailing, size of retail market, carriers in retailing , Buying cycle, planning sourcing ranging , scope of plan –range profile , range with and stock depth ,average selling price, margin mix, and sales density
4 <sup>th</sup> to 6 <sup>th</sup> Week	Retail formats, planning product range and feasibility of retail outlet range planning and product development – identification of range needs – range boards , competitors, market trends, products orientation core and fashion ranges
7 <sup>th</sup> to 10 <sup>th</sup> Week	Depth & range of product mix, cost and viability of a new outlet, departments of stores store chains single unit independents stores.  <b>8<sup>th</sup> week : Mid-Semester Examinations</b>
11 <sup>th</sup> to 13 <sup>th</sup> Week	Classifications of major discount operations , characteristics of major discount operations buyers rote. What of price ,timing a purchases , pricing , indirect purchasing , incentives of vendor.
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	Retail pricing, costing and IT applications in retail purchasing in domestic market Vs purchasing in foreign markets. Reason , problems, methods , buyers qualification.

**Text Books:**

1. Retail Management Berman B
2. Retail Management Levy Michael
3. Mail management: Singh & Shrinivasan

**REFERENCES**

1. Retail Management Berman B
2. Retail Management Levy Michael
3. Mail management: Singh & Shrinivasan

## INTERNSHIP – IV

(Course code: 21FADV0427)

Credits: 0+3

( CFA=50)

### Specific Learning Outcome:

After successful completion of internship programme students will gain knowledge in manufacturing methodology of different types of footwear, how to solve the upcoming problems and how to increase the productivity

### Field Visit:

From a practical point of view, this approach also seems like it might be a very useful way to document the process of getting to grips with the literature on a subject – helping immensely when it comes to putting together. We have one week/ two week exposure visit at the beginning of first semester. During second semester, the students undertake needs assessment exercise at various shoe making/ shoe designing field sites. Documentation in the form of report should be submitted by the candidates for evaluation purpose. The field training component is spread over in all academic institutes to place the successful candidates.



## SEMESTER – V

### GENERAL COMPONENTS

#### **HUMAN RESOURCE MANAGEMENT (Course Code: 21FADV0528)**

**Credits: 4 + 0**

**(CFA=40+ ESE= 60)**

#### **Objectives:**

- To enable the students to learn the human resource management
- To make the students understand the human resource management

#### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in role of human resource managers, training process, establishing pay plans and labour relations.

#### **UNIT – I**

Human resource philosophy-changing environments of HRM- strategic Human Resource Management-using HRM to attain competence advantage-trends in HRM-organization of HRM departments-line and staff functions-role of Human Resource Managers

#### **UNIT – II**

Employment planning and forecasting, recruitment, selection process-building employee commitment-promotion from within sources-induction

#### **UNIT – III**

Orientation and training-orienting the employees, training process, need analysis, training – techniques-developing managers-management development-performance appraisal in practice-managing careers-career planning and development-managing promotions and transfer

#### **UNIT – IV**

Establishing pay plans-basics of compensations - factors determining pay rate-current trends in compensation-job evaluation-incentives-benefits-welfare measures to build employee commitment

#### **UNIT – V**

Labour relations-employee security-industrial relation-discipline administration-managing dismissals and separation-labour welfare-importance of labour legislations-employee health-auditing-future of HRM function

## LECTURE SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Human resource philosophy-changing environments of HRM- strategic Human Resource Management-using HRM to attain competence advantage-</li> <li>• trends in HRM-organization of HRM departments-line and staff functions-role of Human Resource Managers</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Employment planning and forecasting, recruitment,</li> <li>• selection process-building employee commitment-promotion from within sources-induction</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Orientation and training-orienting the employees, training process, need analysis,</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• training –techniques-developing managers-management development-performance appraisal in practice-managing careers-career planning and development-managing promotions and transfer</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Establishing pay plans-basics of compensations –</li> <li>• factors determining pay rate-current trends in compensation-job evaluation-incentives-benefits-welfare measures to build employee commitment</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Labour relations-employee security-industrial relation-discipline administration-managing dismissals and separation-labour welfare-</li> <li>• importance of labour legislations-employee health-auditing-future of HRM function</li> </ul>

### Text Books:

1. Garry Dessler, “Human Resource Management”, seventh edition, Prentice Hall of India
2. Venkatapathy.R.& Assissi Menacheri,  
“Industrial Relation and Labour Welfare”, Adithya Publication, CBE, 2001
3. VSP Roa, Human Resource Management: Text and Cases, I Edition, Excel Books

### REFERENCE

1. Garry Dessler, “Human Resource Management”, seventh edition, Prentice Hall of India
2. Venkatapathy.R.& Assissi Menacheri,  
“Industrial Relation and Labour Welfare”, Adithya Publication, CBE, 2001
3. VSP Roa, Human Resource Management: Text and Cases, I Edition, Excel Books

## **MATERIAL MANAGEMENT**

**(Course Code: 21 FADV0529)**

**Credits: 4 + 0**

**(CFA=40+ ESE= 60)**

### **Objectives:**

- To enable the students to learn the material management
- To make the students understand the material management

### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in material management, supply chain management, material managements linkages, elements of production process cost involved in material managements.

#### **UNIT – I**

Introduction to materials management:

Meaning-definition-scope and functions of material management, objectives and advantages of material management-interfaces of materials management-internal and external interfaces-organization for material management

#### **UNIT – II**

Supply chain management:

Concept, objectives of supply-production and distribution system, role and management of flow of materials in supply chain management

#### **UNIT – III**

Material management linkages:

Linkages with other functional areas of management i.e. production, accounting and finance-marketing-HRM-IT-TQM-functions of functional areas of management

#### **UNIT – IV**

Elements of production process:

Familiarities with broad categories of production process used in industries. Commonly used machines and tools in industries

#### **UNIT – V**

Cost involved in material management:

General discussion on concept of cost and cost classification, specific cost associated with material management. Cost in short run-long run-revenue-profit

## LECTURE SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Meaning-definition-scope and functions of material management, objectives and advantages of material management-interfaces of materials management-internal and external interfaces-</li><li>• Organization for material management</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Concept, objectives of supply-production and distribution system,</li><li>• Role and management of flow of materials in supply chain management</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Linkages with other functional areas of management i.e. production, accounting and finance-marketing</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li><li>• HRM-IT-TQM-functions of functional areas of management</li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Familiarities with broad categories of production process used in industries.</li><li>• Commonly used machines and tools in industries</li></ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<ul style="list-style-type: none"><li>• General discussion on concept of cost and cost classification, specific cost associated with material management.</li><li>• Cost in short run-long run-revenue-profit</li></ul>

### Text Books:

1. Dutt A.K. "Materials management:procedures, text and cases, Prentice Hall of India Pvt. Ltd., New Delhi
2. Gopalakrishnan.P. & Sundaresan. M, Materials management; An Integrated Approach, Prentice Hall of India, Pvt. Ltd. New Delhi
3. Varma.M.M., Essentials of Store Keeping and Purchasing, Sultanchand & Sons, New Delhi

### REFERENCE

- 1.Dutt A.K. "Materials management:procedures, text and cases, Prentice Hall of India Pvt. Ltd., New Delhi
- 2.Gopalakrishnan.P. & Sundaresan. M, Materials management; An Integrated Approach, Prentice Hall of India, Pvt. Ltd. New Delhi
3. Varma.M.M., Essentials of Store Keeping and Purchasing, Sultanchand & Sons, New Delhi

## SKILL BASED COMPONENTS

### **DESIGNING & PATTERN MAKING OF FOOTWEAR – I(P)** (Course Code: 21FADV0530)

**Credits: 0 + 4**

**(CFA=60+ ESE= 40)**

**Objectives:**

- To make the students understand about Designing and Pattern Making of Footwear.
- To enable the students to gain knowledge on Footwear Designing.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in basics designs , masking methods, standard , bottom profile preparations for derby, oxford, pantafola, boot, moccasin, court shoe and sandals.

**UNIT-I**

- Introduction to
  1. Basic designs
  2. Designing tools
  3. Pattern cutting techniques
  4. Last
  5. Safety precautions

**UNIT-II**

- Derivation of mean forme by different methods
  1. Masking
  2. Vacuum
  3. Slotted

**UNIT-III**

- Derivation of standards for
  1. Derby , 2. Oxford, 3. Slip on / pantafola
  4. Boot , 5. Moccasin, 6. Court shoe
  7. Sandals

**UNIT-IV**

- Preparation /Derivation of Bottom profiles
  1. Outsole
  2. Insole
  3. Insocks
  4. Half insocks
  5. Stiffner
  6. Toe puff
  7. Sandal insole

**UNIT-V**

Derivation/preparation of Derby upper, lining shell and sectional patterns.  
Derivation of oxford upper, lining shell and sectional patterns.

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Basic designs</li> <li>• Designing tools</li> <li>• Pattern cutting techniques</li> <li>• Last</li> <li>• Safety precautions</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Masking</li> <li>• Vacuum</li> <li>• Slotted</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• Derivation of standards for</li> <li>• 1. Derby , 2. Oxford, 3. Slip on / pantafola</li> <li>• 4. Boot , 5. Moccasin, 6. Court shoe</li> <li>• Sandals</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Preparation /Derivation of Bottom profiles</li> <li>• Outsole</li> <li>• Insole</li> <li>• Insocks</li> <li>• Half insocks</li> <li>• Stiffner</li> <li>• Toe puff</li> <li>• Sandal insole</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Derivation/preparation of Derby upper, lining shell and sectional patterns.</li> <li>• Derivation of oxford upper, lining shell and sectional patterns.</li> </ul>

### Text Books:

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly

### REFERENCES

1. Manual of Shoe Designing, Md. Sadique, CLRI.
2. Patrick, H.J. "Modern Pattern Cutting and Design, Mobbs & Lewis Ltd, Kettering, England, 1983.
3. Lyon, D., "Modern approach to footwear pattern cutting", 2nd Edition, 1979.

## DESIGNING & PATTERN MAKING OF LEATHER GOODS – I(P)

(Course Code: 21FADV0531)

Credits: 0 + 4

(CFA=60+ ESE= 40)

### Objectives:

- To make the students understand about Designing and Pattern Making of leather goods
- To enable the students to gain knowledge on leather goods designing.

### Specific Learning Outcome:

After learning this paper the students will gain knowledge in developing of upper and lining patterns for coin pouch, wallet, clutch purse, card case and cell phone pouch.

### UNIT-I

Developing of coin pouch-Button and Zipper type

- Select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing.

### UNIT-II

Developing of Men's & Women's wallet

- Select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing.

### **UNIT-III**

Developing of clutch purse with three compartments model

- Select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing.

### **UNIT-IV**

Developing of card case flap type model

- select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing.

### **UNIT-V**

Developing of cell phone pouch open and closed type model

- select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing.



## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	Developing of coin pouch Button and Zipper type <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Sketch the design</li> <li>• Prepare a net upper pattern</li> <li>• Check the pattern against the selected design and measurements</li> <li>• Prepare a upper pattern with allowances</li> <li>• Prepare a lining pattern</li> <li>• Assemble the upper and lining patterns</li> </ul> Make sure the measurements and allowance before manufacturing
4 <sup>th</sup> to 6 <sup>th</sup> Week	Developing of Men's & Women's wallet <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Sketch the design</li> <li>• Prepare a net upper pattern</li> <li>• Check the pattern against the selected design and measurements</li> <li>• Prepare a upper pattern with allowances</li> <li>• Prepare a lining pattern</li> <li>• Assemble the upper and lining patterns</li> </ul> Make sure the measurements and allowance before manufacturing
7 <sup>th</sup> to 10 <sup>th</sup> Week	Developing of clutch purse with three compartments model <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Sketch the design</li> <li>• Prepare a net upper pattern</li> <li>• Check the pattern against the selected design and measurements</li> <li>• Prepare a upper pattern with allowances</li> <li>• Prepare a lining pattern</li> <li>• Assemble the upper and lining patterns</li> <li>• Make sure the measurements and allowance before manufacturing</li> </ul> <b>8<sup>th</sup> week : Mid-Semester Examinations</b>

11 <sup>th</sup> to 13 <sup>th</sup> Week	Developing of card case flap type model <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Sketch the design</li> <li>• Prepare a net upper pattern</li> <li>• Check the pattern against the selected design and measurements</li> <li>• Prepare a upper pattern with allowances</li> <li>• Prepare a lining pattern</li> <li>• Assemble the upper and lining patterns</li> </ul> Make sure the measurements and allowance before manufacturing
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	Developing of cell phone pouch open and closed type model <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Sketch the design</li> <li>• Prepare a net upper pattern</li> <li>• Check the pattern against the selected design and measurements</li> <li>• Prepare a upper pattern with allowances</li> <li>• Prepare a lining pattern</li> <li>• Assemble the upper and lining patterns</li> </ul> Make sure the measurements and allowance before manufacturing

**Text Books:**

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly

**REFERENCES**

1. Manuals from CLRI
2. Manuals from NIMI Publications

## DESIGNING & PATTERN MAKING OF LEATHER GARMENTS – I(P)

(Course Code: 21 FADV0532)

Credits: 0 + 4

(CFA=60+ ESE= 40)

### Objectives:

- To make the students understand about Designing and Pattern Making of leather garments
- To enable the students to gain knowledge on leather garments designing.

### Specific Learning Outcome:

After learning this paper the students will gain knowledge in developing of outer shell, inner shell, facing and fusing patterns for jacket, skirt, trousers.

### UNIT-I

Developing of pattern  
Measurement  
Pattern making for leather garments  
Front bodice  
Back bodice  
Sleeve

### UNIT-II

Developing of Jacket(3 miniature)  
Simple jacket  
Attach hoodie  
Attach zip

### UNIT-III

Developing leather jacket(3 miniature)  
Long coat  
Sleeve  
With pocket

### UNIT-IV

Developing skirt  
Plain skirt  
Pleated skirt  
Circular skirt

### UNIT-V

#### Developing of trouser (3 miniature)

Pencil fit trouser  
Pleated trouser  
Bell bottom trouser

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<b>Developing of pattern</b> <ul style="list-style-type: none"> <li>• Measurement</li> <li>• Pattern making for leather garments</li> <li>• Front bodice</li> <li>• Back bodice</li> <li>• Sleeve</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<b>Developing of Jacket(3 miniature)</b> <ul style="list-style-type: none"> <li>• Simple jacket</li> <li>• Attach hoodie</li> <li>• Attach zip</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<b>Developing leather jacket(3 miniature)</b> <ul style="list-style-type: none"> <li>• Long coat</li> <li>• Sleeve</li> <li>• With pocket</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<b>Developing skirt</b> <ul style="list-style-type: none"> <li>• Plain skirt</li> <li>• Pleated skirt</li> <li>• Circular skirt</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<b>Developing of trouser (3 miniature)</b> <ul style="list-style-type: none"> <li>• Pencil fit trouser</li> <li>• Pleated trouser</li> <li>• Bell bottom trouser</li> </ul>

### Text Books:

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly

### REFERENCES

1. Manuals from CLRI
2. Manuals from NIMI Publications

## INTERNSHIP – V

(Course code: 21FADV0533)

Credits: 0+3

(CFA=50)

### Specific Learning Outcome:

After successful completion of internship programme students will gain knowledge in manufacturing methodology of different types of footwear, how to solve the upcoming problems and how to increase the productivity

### Field Visit:

From a practical point of view, this approach also seems like it might be a very useful way to document the process of getting to grips with the literature on a subject – helping immensely when it comes to putting together. We have one week/ two week exposure visit at the beginning of first semester. During second semester, the students undertake needs assessment exercise at various shoe making/ shoe designing field sites. Documentation in the form of report should be submitted by the candidates for evaluation purpose. The field training component is spread over in all academic institutes to place the successful candidates.

## SEMESTER – VI

### GENERAL COMPONENTS

#### ENTREPRENEURSHIP DEVELOPMENT

(Course Code: 21FADV0634)

Credits: 4 + 0

(CFA=40+ ESE= 60)

#### Objectives:

- To enable the students to learn the Entrepreneurship Development.
- To make the students understand the Entrepreneurship opportunities.

#### Specific Learning Outcome:

After learning this paper the students will gain knowledge in Entrepreneurship, Entrepreneurial Development, Project Management, Finance and Marketing, small industry set up.

#### Unit I

Entrepreneur and Entrepreneurship - Concept, Definition, Role and Importance in Indian Economy, Theories of Entrepreneurship, Entrepreneurial Traits and Motivation, Entrepreneurs Vs Professional Managers, Future challenges.

#### Unit II

Entrepreneurial Development: Entrepreneurial Environment – Meaning, Private Enterprise and Development, Significance of Entrepreneurial Development Programmes, Meaning Evolution and Objectives of EDP, Institutional efforts to develop Entrepreneurship, Operational Problem of EDPs

#### Unit III

Project Management: Search for Business idea, Concepts of Projects and Classification, Project Identification, Project formulation, Project Design and Network Analysis, Project Report, Project Appraisal, Factory design and Plant Layout, Financial Analysis- Risk and Return Unit

#### Unit IV

Finance and Marketing: Finance: Sources of Development Finance, Project Financing Institutions- Financial Institutions, Consultancy, Organisations. Marketing: Methods, Channel of Marketing, Marketing Institutions and Assistance.

#### Unit V

Small Industry Setup: Considerations in Selection of Particular Form of Organisations- Sole proprietorship, Partnership, Joint Stock Company, Cooperative Organisations- Their Merits, Limitations, Suitability, Brief Procedure of Incorporation. :Location for a Small Industry, Steps of Starting a small Industry, Incentives and Subsidies, Exploring Export Possibilities, Problems of Entrepreneurship.

## LECTURE SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Entrepreneur and Entrepreneurship - Concept, Definition, Role and Importance in Indian Economy,</li> <li>• Theories of Entrepreneurship, Entrepreneurial Traits and Motivation, Entrepreneurs Vs Professional Managers, Future challenges.</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Entrepreneurial Development: Entrepreneurial Environment – Meaning, Private Enterprise and Development, Significance of Entrepreneurial Development Programmes,</li> <li>• Meaning Evolution and Objectives of EDP, Institutional efforts to develop Entrepreneurship, Operational Problem of EDPs</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Project Management: Search for Business idea, Concepts of Projects and Classification, Project Identification, Project formulation,</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• Project Design and Network Analysis, Project Report, Project Appraisal, Factory design and Plant Layout, Financial Analysis- Risk and Return Unit</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Finance and Marketing: Finance: Sources of Development Finance, Project Financing Institutions-</li> <li>• Financial Institutions, Consultancy, Organisations. Marketing: Methods, Channel of Marketing, Marketing Institutions and Assistance.</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<ul style="list-style-type: none"> <li>• Small Industry Setup: Considerations in Selection of Particular Form of Organisations- Sole proprietorship, Partnership, Joint Stock Company, Cooperative Organisations- Their Merits, Limitations, Suitability,</li> <li>• Brief Procedure of Incorporation. :Location for a Small Industry, Steps of Starting a small Industry, Incentives and Subsidies, Exploring Export Possibilities, Problems of Entrepreneurship.</li> </ul>

### Text Books:

1. Dynamics of Entrepreneurial Development Management Vasant Desai, Himalaya Publishing House.
2. Entrepreneurial Development S.S. Khanna Entrepreneurship & Small Business Management CL Bansal, Haranand Publication
- 3 .Entrepreneurial Development in India Sami Uddin, Mittal Publication

### REFERENCES

1. Entrepreneur Vs Entrepreneurship- Human Diagnosis of Development Banking Nagendra P. Singh, Asian society for Enterpreneurship Education and development

## **COSTING OF LEATHER PRODUCTS**

**(Course Code: 21FADV0635)**

**Credits: 4 + 0**

**(CFA=40+ ESE= 60)**

### **Objectives:**

- To provide trainees the skills, knowledge and attitudes required to calculate and establish costs for leather products.

### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in identifying cost items for footwear , goods and garments. Calculating total cost and documentations.

### **UNIT-I**

Identify cost items of Derby shoe,

- Obtaining and verifying details of job requirements and specifications
- Determination and estimation of types and quantities of materials including accessories required for work
- Identification and estimation of labor requirements to perform required work
- Estimation of time requirements to perform the work
- Developing and recording details of product to be produced
- Calculate total product cost
- Calculating total materials costs and labour cost
- Calculating total job cost including overheads and mark-up percentages
- Final cost is calculated
- Document
- Costing sheets for cost items
- Verification of cost, calculations and other details as required by supervisor
- Documenting details of costs and charges for future reference.



## UNIT-II

Identify cost items of Oxford shoe Moccasin, Boots,

- Obtaining and verifying details of job requirements and specifications
- Determination and estimation of types and quantities of materials including accessories required for work
- Identification and estimation of labor requirements to perform required work
- Estimation of time requirements to perform the work
- Developing and recording details of product to be produced
- Calculate total product cost
- Calculating total materials costs and labour cost
- Calculating total job cost including overheads and mark-up percentages
- Final cost is calculated
- Document
- Costing sheets for cost items
- Verification of cost, calculations and other details as required by supervisor
- Documenting details of costs and charges for future reference.

## UNIT-III

Identify cost items of Moccasin and Boots,

- Obtaining and verifying details of job requirements and specifications
- Determination and estimation of types and quantities of materials including accessories required for work
- Identification and estimation of labor requirements to perform required work
- Estimation of time requirements to perform the work
- Developing and recording details of product to be produced
- Calculate total product cost
- Calculating total materials costs and labour cost
- Calculating total job cost including overheads and mark-up percentages
- Final cost is calculated
- Document
- Costing sheets for cost items
- Verification of cost, calculations and other details as required by supervisor
- Documenting details of costs and charges for future reference.

## UNIT-IV

Identify cost items of Jacket, apron, trouser , skirt.

- Obtaining and verifying details of job requirements and specifications
- Determination and estimation of types and quantities of materials including

accessories required for work

- Identification and estimation of labor requirements to perform required work
- Estimation of time requirements to perform the work
- Developing and recording details of product to be produced
- Calculate total product cost
- Calculating total materials costs and labour cost
- Calculating total job cost including overheads and mark-up percentages
- Final cost is calculated
- Document
- Costing sheets for cost items
- Verification of cost, calculations and other details as required by supervisor
- Documenting details of costs and charges for future reference.

#### **UNIT-V**

Identify cost items of Wallet, purse, ladies bag and travel bag.

- Obtaining and verifying details of job requirements and specifications
- Determination and estimation of types and quantities of materials including accessories required for work
- Identification and estimation of labor requirements to perform required work
- Estimation of time requirements to perform the work
- Developing and recording details of product to be produced
- Calculate total product cost
- Calculating total materials costs and labour cost
- Calculating total job cost including overheads and mark-up percentages
- Final cost is calculated
- Document
- Costing sheets for cost items
- Verification of cost, calculations and other details as required by supervisor
- Documenting details of costs and charges for future reference.

## LECTURE SCHEDULE

<b>No. of week (4hrs. per week)</b>	<b>Topics covered</b>
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<p>Identify cost items of Derby,</p> <ul style="list-style-type: none"><li>• Obtaining and verifying details of job requirements and specifications</li><li>• Determination and estimation of types and quantities of materials including accessories required for work</li><li>• Identification and estimation of labor requirements to perform required work</li><li>• Estimation of time requirements to perform the work</li><li>• Developing and recording details of product to be produced</li><li>• Calculate total product cost</li><li>• Calculating total materials costs and labour cost</li><li>• Calculating total job cost including overheads and mark-up percentages</li><li>• Final cost is calculated</li><li>• Document</li><li>• Costing sheets for cost items</li><li>• Verification of cost, calculations and other details as required by supervisor</li><li>• Documenting details of costs and charges for future reference.</li></ul>

4 <sup>th</sup> to 6 <sup>th</sup> Week	<p>Identify cost items of Oxford,</p> <ul style="list-style-type: none"><li>• Obtaining and verifying details of job requirements and specifications</li><li>• Determination and estimation of types and quantities of materials including accessories required for work</li><li>• Identification and estimation of labor requirements to perform required work</li><li>• Estimation of time requirements to perform the work</li><li>• Developing and recording details of product to be produced</li><li>• Calculate total product cost</li><li>• Calculating total materials costs and labour cost</li><li>• Calculating total job cost including overheads and mark-up percentages</li><li>• Final cost is calculated</li><li>• Document</li><li>• Costing sheets for cost items</li><li>• Verification of cost, calculations and other details as required by supervisor</li><li>• Documenting details of costs and charges for future reference.</li></ul>
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7 <sup>th</sup> to 10 <sup>th</sup> Week	<p>Identify cost items of Moccasin and Boots,</p> <ul style="list-style-type: none"> <li>• Obtaining and verifying details of job requirements and specifications</li> <li>• Determination and estimation of types and quantities of materials including accessories required for work</li> <li>• Identification and estimation of labor requirements to perform required work</li> <li>• Estimation of time requirements to perform the work</li> <li>• Developing and recording details of product to be produced</li> <li>• Calculate total product cost</li> <li>• Calculating total materials costs and labour cost</li> <li>• Calculating total job cost including overheads and mark-up percentages</li> <li>• Final cost is calculated</li> <li>• Document</li> <li>• Costing sheets for cost items</li> <li>• Verification of cost, calculations and other details as required by supervisor</li> <li>• Documenting details of costs and charges for future reference.</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<p>Identify cost items of Jacket, apron, trouser , skirt.</p> <ul style="list-style-type: none"> <li>• Obtaining and verifying details of job requirements and specifications</li> <li>• Determination and estimation of types and quantities of materials including accessories required for work</li> <li>• Identification and estimation of labor requirements to perform required work</li> <li>• Estimation of time requirements to perform the work</li> <li>• Developing and recording details of product to be produced</li> <li>• Calculate total product cost</li> <li>• Calculating total materials costs and labour cost</li> <li>• Calculating total job cost including overheads and mark-up percentages</li> <li>• Final cost is calculated</li> <li>• Document</li> <li>• Costing sheets for cost items</li> <li>• Verification of cost, calculations and other details as required</li> </ul>

	<p>by supervisor</p> <ul style="list-style-type: none"> <li>• Documenting details of costs and charges for future reference.</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
<p>14<sup>th</sup> to 16<sup>th</sup> Week Total hours: 60</p>	<p>Identify cost items of Wallet, purse, ladies bag, travel bag.</p> <ul style="list-style-type: none"> <li>• Obtaining and verifying details of job requirements and specifications</li> <li>• Determination and estimation of types and quantities of materials including accessories required for work</li> <li>• Identification and estimation of labor requirements to perform required work</li> <li>• Estimation of time requirements to perform the work</li> <li>• Developing and recording details of product to be produced</li> <li>• Calculate total product cost</li> <li>• Calculating total materials costs and labour cost</li> <li>• Calculating total job cost including overheads and mark-up percentages</li> <li>• Final cost is calculated</li> <li>• Document</li> <li>• Costing sheets for cost items</li> <li>• Verification of cost, calculations and other details as required by supervisor</li> <li>• Documenting details of costs and charges for future reference.</li> </ul>

**Text Books:**

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly

**REFERENCE**

1. CLRI – publications
2. NIMI Publications

**PORTFOLIO (P)**  
**(Course Code: 21FADV0636)**

**Credits: 0+4**

**(CFA=60+ ESE= 40)**

**Objectives:**

- To make students understand the importance and concepts of Portfolio presentation.
- To impart practical skills for portfolio presentation
- The quality in the portfolio is more important than the quantity so we would only expect to see the work and to try 10 pieces of work.
- Our focus on innovative thinking – evidence of unusual approaches to solving a problem.

**Specific Learning Outcome:**

After portfolio presentations the students will get confidence on their product development skills – Designing, cutting, sewing, lasting and finishing.

**Units**

1. Last Development- Designing-Technical development- material Development-material footwear concept getting its first shape-developing by hand to get perfect shape-quality and fitting. Drawing skills demonstrating a range of techniques and style.
2. Designing-Design shape most vital part of the footwear developing process-designing perfect balance between the right lines. Right line and proportions to impart pleasure to eye and joy to the wears.
  - Making- Footwear involves modelling as per the interest-demonstration as portfolio.
  - It could be customized culture or fashion projects etc.
3. CAD Technical development- creativity own base patterns to get better understanding of the manufacturing process used by the clients. Experimental approach in 3D work to handling materials in unusual combination.
4. Outsole- Creating and outsole from first sketch to final proto type in developing an own identity within the footwear concepts.
5. Materials- All footwear concepts or design with speech sheets for the best material's and colour to be used.
6. Product Development- theme
  - Idea generation- quick initial doodles, sketches and thought process.
  - Development of ideas- Evidence of individual thinking.
  - An interest in footwear and fashion and product design.
  - Men's
  - Kids
  - Women's
  - Fashion and Sports- Technical Athletic and Team Sports
  - Indoor/Outdoor- Hiking, work wear and Sneakers
  - Back to school
  - Beach footwear
  - Last, Outsoles, outsoles specifications – Trend forecast
  - Trims and hard wear
  - Street Fashions

## PRACTICAL SCHEDULE

No. of week (3 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Last Development- Designing-Technical development- outsold Development-material footwear concept getting its first shape-developing by hand to get perfect shape-quality and fitting. Drawing skills demonstrating a range if techniques and style.</li> <li>• Designing-Design shape most vital part of the footwear developing process-designing perfect balance between the right lines. Right line and proportions to import pleasure to eye and joy to the wears.</li> <li>• Making- Footwear involves modelling as per the interest-demonstration as portfolio.</li> <li>• It could be customized culture or fashion projects etc.</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• CAD Technical development- creativity own base patterns to get better understanding of the manufacturing process used by the clients. Experimental approach in 3D work to handling materials in unusual combination.</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Outsole- Creating and outsole from first sketch to final proto type in developing an own identity within the footwear concepts</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Materials- All footwear concepts or design with speech sheets for the best material"s and colour to be used.</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :45hrs	<ul style="list-style-type: none"> <li>• Idea generation- quick initial doodles, sketches and thought process.</li> <li>• Development of ideas- Evidence of individual thinking.</li> <li>• An interest in footwear and fashion and product design.</li> <li>• Men"s</li> <li>• Kids</li> <li>• Women"s</li> <li>• Fashion and Sports- Technical Athletic and Team Sports</li> <li>• Indoor/Outdoor- Hiking, work wear and Spleers</li> <li>• Back to school</li> <li>• Beach footwear</li> <li>• Last, Outsoles, outsoles specifications – Trend forecat</li> <li>• Trims and hard wear</li> <li>• Street Fashions</li> </ul>



## **SKILL BASED COMPONENTS**

### **DESIGNING AND PATTERN MAKING OF FOOTWEAR – II (P)**

**(Course Code: 21FADV0637)**

**Credits: 0 + 4**

**(CFA=60+ ESE= 40)**

#### **Objectives:**

- To enable the students to designing & pattern making of footwear
- To make the students understand the steps involved in foot wear designing

#### **Specific Learning Outcome:**

After learning this paper the students will gain knowledge in developing and preparing of upper, lining shell and sectional patterns for derby, oxford, moccasin , ankle boot and sandals.

#### **UNIT-I:**

Developing patterns for Derby models

- Masking the Last
- Make in and out side forme
- Make mean forme
- Make a W standard
- Make a upper base
- Make a upper shell
- Make a upper components
- Make a lining shell
- Make a lining components
- Make a bottom profiles.

#### **UNIT-II**

Developing patterns for Oxford models

- Masking the Last
- Make in and out side forme
- Make mean forme
- Make a W standard
- Make a upper base
- Make a upper shell
- Make a upper components
- Make a lining shell
- Make a lining components
- Make a bottom profile

### **UNIT-III**

Developing patterns for Moccasin models (lace type)

- Masking the Last
- Make in and out side forme
- Make mean forme
- Make a W standard
- Make a upper base
- Make a upper shell
- Make a upper components
- Make a lining shell
- Make a lining components
- Make a bottom profiles.

### **UNIT-IV**

Developing patterns for Ankle boot

- Masking the Last
- Make in and out side forme
- Make mean forme
- Make a W standard
- Make a upper base
- Make a upper shell
- Make a upper components
- Make a lining shell
- Make a lining components
- Make a bottom profiles.

### **UNIT-V**

Developing patterns for Sandals

- Masking the Last
- Make in and out side forme
- Make mean forme
- Make a W standard
- Make a upper base
- Make a upper shell
- Make a upper components
- Make a lining shell
- Make a lining components
- Make a bottom profiles.

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	Developi patterns for Derby models <ul style="list-style-type: none"> <li>• Masking the Last</li> <li>• Make in and out side forme</li> <li>• Make mean forme</li> <li>• Make a W standard</li> <li>• Make a upper base</li> <li>• Make a upper shell</li> <li>• Make a upper components</li> <li>• Make a lining shell</li> <li>• Make a lining components</li> <li>• Make a bottom profiles.</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	Developing Oxford models <ul style="list-style-type: none"> <li>• Masking the Last</li> <li>• Make in and out side forme</li> <li>• Make mean forme</li> <li>• Make a W standard</li> <li>• Make a upper base</li> <li>• Make a upper shell</li> <li>• Make a upper components</li> <li>• Make a lining shell</li> <li>• Make a lining components</li> <li>• Make a bottom profiles.</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	Developing patterns for Moccasin models (lace type) <ul style="list-style-type: none"> <li>• Masking the Last</li> <li>• Make in and out side forme</li> <li>• Make mean forme</li> <li>• Make a W standard</li> <li>• Make a upper base</li> <li>• Make a upper shell</li> <li>• Make a upper components</li> <li>• Make a lining shell</li> <li>• Make a lining components</li> <li>• Make a bottom profiles.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	Developing patterns for Ankle boot <ul style="list-style-type: none"> <li>• Masking the Last</li> <li>• Make in and out side forme</li> <li>• Make mean forme</li> <li>• Make a W standard</li> <li>• Make a upper base</li> <li>• Make a upper shell</li> <li>• Make a upper components</li> <li>• Make a lining shell</li> <li>• Make a lining components</li> <li>• Make a bottom profiles</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	Developing patterns for Sandals <ul style="list-style-type: none"> <li>• Masking the Last</li> <li>• Make in and out side forme</li> <li>• Make mean forme</li> <li>• Make a W standard</li> <li>• Make a upper base</li> <li>• Make a upper shell</li> <li>• Make a upper components</li> <li>• Make a lining shell</li> <li>• Make a lining components</li> <li>• Make a bottom profiles.</li> </ul>

**Text Books:**

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe designing by Md.Sadique Principal scientist clri Chennai.
3. Comprehensive Footwear Technology– S.N.Ganguly

**REFERENCES**

1. Modern shoe making – SATRA
2. Manual of shoe making – Clarks
3. Swam siddha manual by F

## DESIGNING AND PATTERN MAKING OF LEATHER GOODS – II(P)

(Course Code: 21 FADV0638)

Credits: 0 + 4

(CFA=60+ ESE= 40)

### Objectives:

- To enable the students to designing & pattern making of leather goods
- To make the students understand the steps involved in leather goods designing

### Specific Learning Outcome:

After learning this paper the students will gain knowledge in designing and developing of upper and lining patterns for different types of ladies hand bags, school bag, travel bags.

### UNIT-I

#### Developing of ladies' hand bag - tote model

- Select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing

### UNIT-II

#### Developing ladies' hand bag- shoulder model

- Select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing

### UNIT-III

#### Developing of school bag – single compartment

- Select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing

## UNIT-IV

### Developing of travel bag

- Select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing

## UNIT-V

### Developing of executive bag

- Select the design
- Sketch the design
- Prepare a net upper pattern
- Check the pattern against the selected design and measurements
- Prepare a upper pattern with allowances
- Prepare a lining pattern
- Assemble the upper and lining patterns
- Make sure the measurements and allowance before manufacturing

## PRACTICAL SCHEDULE

No. of week (4hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	Ladies'' hand bag - tote model Select the design <ul style="list-style-type: none"><li>• Select the design</li><li>• Sketch the design</li><li>• Prepare a net upper pattern</li><li>• Check the pattern against the selected design and measurements</li><li>• Prepare a upper pattern with allowances</li><li>• Prepare a lining pattern</li><li>• Assemble the upper and lining patterns</li><li>• Make sure the measurements and allowance before manufacturing</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	Ladies'' hand bag- shoulder model <ul style="list-style-type: none"><li>• Select the design</li><li>• Sketch the design</li><li>• Prepare a net upper pattern</li><li>• Check the pattern against the selected design and measurements</li><li>• Prepare a upper pattern with allowances</li><li>• Prepare a lining pattern</li><li>• Assemble the upper and lining patterns</li><li>• Make sure the measurements and allowance before manufacturing</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	School bag – single compartment <ul style="list-style-type: none"><li>• Select the design</li><li>• Sketch the design</li><li>• Prepare a net upper pattern</li><li>• Check the pattern against the selected design and measurements</li><li>• Prepare a upper pattern with allowances</li><li>• Prepare a lining pattern</li></ul>

	<ul style="list-style-type: none"> <li>• Assemble the upper and lining patterns</li> <li>• Make sure the measurements and allowance before manufacturing</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<p>Travel bag</p> <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Sketch the design</li> <li>• Prepare a net upper pattern</li> <li>• Check the pattern against the selected design and measurements</li> <li>• Prepare a upper pattern with allowances</li> <li>• Prepare a lining pattern</li> <li>• Assemble the upper and lining patterns</li> <li>• Make sure the measurements and allowance before manufacturing</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<p>Executive bag</p> <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Sketch the design</li> <li>• Prepare a net upper pattern</li> <li>• Check the pattern against the selected design and measurements</li> <li>• Prepare a upper pattern with allowances</li> <li>• Prepare a lining pattern</li> <li>• Assemble the upper and lining patterns</li> <li>• Make sure the measurements and allowance before manufacturing</li> </ul>

**Text Books:**

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly

**REFERENCES**

1. Manuals from CLRI
2. Manuals from NIMI Publications

## DESIGNING AND PATTERN MAKING OF LEATHER GARMENTS – II (P)

(Course Code: 21FADV0639)

Credits: 0 + 4

(CFA=60+ ESE= 40)

### Objectives:

- To enable the students to designing & pattern making of leather garments
- To make the students understand the steps involved in leather garments designing

### Specific Learning Outcome:

After learning this paper the students will gain knowledge in developing outer shell, inner shell, facing and fusing patterns for trouser, half trouser, pleated trouser, long coat and jacket without sleeves.

### Unit -I

#### Developing of Leather over coat(2types)

- Select the design
- Sketch the design
- Prepare a outer shell
- Prepare a inner shell
- Prepare a facing pattern
- Prepare a fusing pattern
- Check the pattern against the selected design and measurements
- Assemble the upper and lining patterns
- Ensure the measurements and allowance before manufacturing

### Unit -II

#### Developing of Leather bomber jacket

- Select the design
- Sketch the design
- Prepare a outer shell
- Prepare a inner shell
- Prepare a facing pattern
- Prepare a fusing pattern
- Check the pattern against the selected design and measurements
- Assemble the upper and lining patterns
- Ensure the measurements and allowance before manufacturing

### Unit -III

#### Developing and pleated trouser (2types)

- Select the design
- Sketch the design
- Prepare a outer shell
- Prepare a inner shell
- Prepare a facing pattern
- Prepare a fusing pattern
- Check the pattern against the selected design and measurements
- Assemble the upper and lining patterns
- Ensure the measurements and allowance before manufacturing



#### Unit -IV

##### Developing of biker jacket(2types)

- Select the design
- Sketch the design
- Prepare a outer shell
- Prepare a inner shell
- Prepare a facing pattern
- Prepare a fusing pattern
- Check the pattern against the selected design and measurements
- Assemble the upper and lining patterns
- Ensure the measurements and allowance before manufacturing

#### Unit -V

##### Developing of Field jacket(2types)

- Select the design
- Sketch the design
- Prepare a outer shell
- Prepare a inner shell
- Prepare a facing pattern
- Prepare a fusing pattern
- Check the pattern against the selected design and measurements
- Assemble the upper and lining patterns
- Ensure the measurements and allowance before manufacturing

#### PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<b>Developing of Leather over coat(2types)</b> <ul style="list-style-type: none"><li>• Select the design</li><li>• Select the materials</li><li>• Prepare the patterns</li><li>• Cut the components</li><li>• Perform folding and attaching</li><li>• Sew the components</li><li>• Do the finishing operations</li><li>• Show case the trouser.</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<b>Developing of Leather bomber jacket</b> <ul style="list-style-type: none"><li>• Select the design</li><li>• Select the materials</li><li>• Prepare the patterns</li><li>• Cut the components</li><li>• Perform folding and attaching</li><li>• Sew the components</li><li>• Do the finishing operations</li><li>• Show case the half trouser.</li><li>•</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<b>Developing and pleated trouser (2types)</b> <ul style="list-style-type: none"><li>• Select the design</li><li>• Select the materials</li><li>• Prepare the patterns</li></ul>

	<ul style="list-style-type: none"> <li>• Cut the components</li> <li>• Perform folding and attaching</li> <li>• Sew the components</li> <li>• Do the finishing operations</li> <li>• Show case the pleated trouser.</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<p><b>Developing of biker jacket(2types)</b></p> <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Select the materials</li> <li>• Prepare the patterns</li> <li>• Cut the components</li> <li>• Perform folding and attaching</li> <li>• Sew the components</li> <li>• Do the finishing operations</li> <li>• Show case the long coat.</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<p><b>Developing of Field jacket(2types)</b></p> <ul style="list-style-type: none"> <li>• Select the design</li> <li>• Select the materials</li> <li>• Prepare the patterns</li> <li>• Cut the components</li> <li>• Perform folding and attaching</li> <li>• Sew the components</li> <li>• Do the finishing operations</li> <li>• Show case the jacket.</li> </ul>

**Text Books:**

1. Text book of footwear manufacture by J.H.Thornton
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly.

**REFERENCES**

1. Manuals from CLRI
2. Manuals from NIMI Publications

## **PROJECT**

**(Course Code: 21FADV0640)**

**Credits: 0+6**

**(CFA=40 + ESE=60)**

Final year under graduate students at the end of final semester under goes a minor research work. Based on the curriculum/ area of interest by the individual has been focused with objectives, and detailed work on literature, methodology, result analysis and submitting as bound work with summary ,conclusion with evidence of tools used, appendix. This will be evaluated as per the scheme.

GRU-DTBU

## ELECTIVES

### FINISHING TECHNIQUES OF LEATHER PRODUCTS (T)

(Course Code: 21FADV05E1)

Credits: 4 + 0

(CFA=40+ ESE= 60)

#### Objectives:

- To make the students understand about finishing techniques of leather products
- To enable the students to gain knowledge on finishing techniques of leather products.

#### SOL (Specific Objective Learning):

- The students understand about finishing techniques of leather products
- The students to gain knowledge on finishing techniques of leather products.

#### UNIT I

Finishes on leather

Dressing for leather finishes

Selecting the dressing systems for leather

#### UNIT II

Uni-forming, repairing and antiquing

Waxes- Cutting, Burnishing and polishing

Post finishing – treating non leather uppers

#### UNIT III

Problems with dressings

Repair and renovation on finishing,

Causes of repairs works

Spraying

#### UNIT IV

Auxilliary operation

Testing shoe room finishes

#### UNIT V

Prepare and perform finishing operation of leather goods & garments

Determine requirements for repair of leather goods & garments

Prepare leather goods & garments for repair work

Perform repair work

## LECTURE SCHEDULE

<b>No. of week (4 hrs. per week)</b>	<b>Topics covered</b>
1 <sup>st</sup> to 3 <sup>rd</sup> Week	Finishes on leather Dressing for leather finishes Selecting the dressing systems for leather
4 <sup>th</sup> to 6 <sup>th</sup> Week	Uni-forming, repairing and antiquing Waxes- Cutting, Burnishing and polishing Post finishing – treating non leather uppers
7 <sup>th</sup> to 10 <sup>th</sup> Week	Problems with dressings Repair and renovation on finishing, Causes of repairs works Spraying
11 <sup>th</sup> to 13 <sup>th</sup> Week	Auxilliary operation Testing shoe room finishes
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	Prepare and perform finishing operation of leather goods & garments Determine requirements for repair of leather goods & garments Prepare leather goods & garments for repair work Perform repair work

### Text Books:

1. Text book of footwear manufacture by J.H.Thornton
2. Comprehensive Footwear Technology by S.N.Ganguly.

### REFERENCES:

1. J.H. Thornton, Text book of footwear Manufacture, National Trade Press Book Ltd., London, 1970.
2. Modern Shoe Making – Lasting, SATRA Publication
3. Manual of Shoe Making, Clarks Ltd., London, 1978.

## SAFETY SHOES MANUFACTURING (T)

(Course Code: 21FADV05E2)

**Credits: 4 + 0**

**(CFA=40+ ESE= 60)**

### Objectives:

- To make the students understand about products development in leather garments
- To enable the students to gain knowledge on products development in leather garments

### Specific Learning Outcome:

After learning this paper the students will gain knowledge in principles and methodology involved in safety footwear manufacturing. Testing methods of safety footwear. Function of safety footwear.

#### UNIT – I

Introduction of safety footwear, principles and method of manufacturing of safety footwear, materials used for safety footwear- finishing and machinery

#### UNIT – II

Testing methods for safety footwear – measurement of back height, quarter height, seams strength, strap strength- toe load- whole top line strength – heel pull off- sole bond strength

#### UNIT – III

Safety footwear - toe cap impact resistance – steel midsole flexing – nail penetration – electrical resistance – hot , cold insulation materials- steel toe caps- TPU- aluminium - nubuck, patent, suede leathers

#### UNIT – IV

Functions of safety footwear – protect from falling and flying objects – punctures – cutting hazards – electrical hazards – slips, trips and falls- fatigue – burns – extreme weather

#### UNIT – V

Different types of foot deformities – types of deformities which could be corrected using footwear – introduction to orthosis – types – types of arch supports – specialized in outsole – different types of safety footwear

### LECTURE SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Introduction of safety footwear, principles and method of manufacturing of safety footwear, materials used for safety footwear- finishing and machinery</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Testing methods for safety footwear – measurement of back height, quarter height, seams strength, strap strength- toe load- whole top line strength – heel pull off- sole bond strength</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Safety footwear - toe cap impact resistance – steel midsole</li><li>• flexing – nail penetration – electrical resistance – hot ,</li></ul>

	<ul style="list-style-type: none"> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• cold insulation materials- steel toe caps- TPU- aluminium - nubuck, patent, suede leathers</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Functions of safety footwear – protect from falling and flying objects – punctures – cutting hazards – electrical hazards – slips, trips and falls- fatigue – burns – extreme weather</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<ul style="list-style-type: none"> <li>• Different types of foot deformities – types of deformities which could be corrected using footwear – introduction to orthosis – types – types of arch supports – specialized in outsole – different types of safety footwear</li> </ul>

### Text Books:

1. Thomton, J.H., “Text book of footwear Manufacture”, National Trade Press Book Ltd., London, 1970.
2. Skoggard, I.A., “Modern Show Making – Lasting”, SATRA Publication, Sharpe, 1996
3. Miller R.G., “Manual of Shoe Making”, Clarks Ltd., London, 1

### REFERENCES

1. Manuals from FDDI
2. International footwear journals
3. Manuals from CLRI

**SPORTS SHOE MANUFACTURING (T)**  
**(Course Code: 21FADV05E3)**

**Credits: 4+0**

**(CFA= 40+ ESE=60)**

**Objectives:**

- To make the students understand about products development in leather garments
- To enable the students to gain knowledge on products development in leather garments

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in historical evaluation of sports and sports shoe, principles involved in sports shoe making and different types of sports shoe constructions.

**Unit – I :** Sports – various types of sports – origin of the sports – Historical evaluation of sports.

**Unit - II :** Athlete shoe – principle involved in making of Athlete shoes, materials, properties, function, comfort types of construction.

**Unit - III :** Shoe for Foot ball, Hockey – Principle involved in making, materials and their properties, functions, comfort, types of construction.

**Unit - IV :** Shoe for Cricket, Skating - Principle involved in making, materials and their properties, functions, comfort, types of construction.

**Unit - V :** Shoe for Trucking, Fishing, Badminton - Principle involved in making, materials and their properties, functions, comfort, types of construction.

**LECTURE SCHEDULE**

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Sports – various types of sports – origin of the sports – Historical evaluation of sports.</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Athlete shoe</li> <li>• principle involved in making of Athlete shoes, materials, properties, function, comfort types of construction</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Shoe for Foot ball, Hockey</li> <li>• Principle involved in making, materials and their properties, functions, comfort, types of construction.</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Shoe for Cricket, Skating –</li> <li>• Principle involved in making, materials and their properties, functions, comfort, types of construction.</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<ul style="list-style-type: none"> <li>• Shoe for Trucking, Fishing, Badminton</li> <li>• Principle involved in making, materials and their properties, functions, comfort, types of construction</li> </ul>

**Text Books:**

1. Nigg Benno.M Biomechanics of Running shoes. Human kinetics publishers, Inc 1986.
2. Rossi wiliam A, ed. The complete footwear Dictionary Krieger publishing, 1993.
3. The shoe in sport, Mosby – year book, 1989.

**REFERENCES**

1. Cavanagh, Peter.R “ The Running shoe book”
2. Cheskin Melvyn. P “ The complete hand book of athletic footwear” Fair child books 1986.



**ADVANCED SHOE STYLING & DESIGNING USING OF CAD /CAM (P)**  
**(Course Code: 21FADV05E4)**

**Credits: 0+3**

**(CFA=60+ ESE=40)**

**UNIT – I :**

Introduction, Principles Capabilities and Operation of graphical workstations. Central processing Unit, Graphic terminals, input/output devices, interface and storage devices, net working concepts of LAN & WAN.

**UNIT – II**

Digitization: 2D & 3D Coordinate extracting principles of digital and analog conversion, digital input / output processing systems. CNC devices for computer aided cutting including laser jet and water jet, computer aided manufacturing.

**UNIT – III**

Computerized techniques for pattern generation grading and assessment of footwear patterns, consumptions calculations, pattern nesting and costing, stitching etc, through computerized techniques.

**UNIT – IV**

Last modelling – Digitization with 3D scanner, manipulation and optimization of digitized last use of macros. Last comparison, grading wizard flattening.

**UNIT – V**

3D visualization of last and styles concept of e-last, introduction to sole and sole mould design.

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Introduction, Principles Capabilities and Operation of graphical workstations. Central processing Unit, Graphic terminals, input/output devices, interface and storage devices, net working concepts of LAN &amp; WAN.</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Digitization: 2D &amp; 3D Coordinate extracting principles of digital and analog conversion, digital input / output processing systems. CNC devices for computer aided cutting including laser jet and water jet, computer aided manufacturing.</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Computerized techniques for pattern generation grading and assessment of footwear patterns, consumptions calculations, pattern nesting and costing, stitching etc, through computerized techniques.</li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Last modelling – Digitization with 3D scanner, manipulation and optimization of digitized last use of macros. Last comparison, grading wizard flattening.</li></ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<ul style="list-style-type: none"><li>• 3D visualization of last and styles concept of e-last, introduction to sole and sole mould design.</li></ul>

### Text Books:

1. Groover, M.P., and Zinimers, M.P., “CAD/CAM, Computer Aided Design and Manufacturing”, Prentice Hall of India, 1984.
2. Newman and Sul, S.P., “Introduction to Computer Graphics, Published by Morgan Kaufmango, 1995.

### REFERENCES

1. Desai and Abel, “Introduction to FEM”, “Step by Step guide to CAD for footwear”. CAD Centre, SDDC, CLRI.
2. Mass Customization and Footwear: Myth, Salvation Or Really?: A Comprehensive Analysis Of The Adoption Of The Mass Customization Paradigm in Footwear by Claudio R. Bor, Sergio Dulio, Springer Verlag, 2007.

**PRODUCTS DEVELOPMENT IN FOOTWEAR (P)**  
**(Course Code: 21FADV05E5)**

**Credits: 0 + 3**

**(CFA=60+ ESE= 40)**

**Objectives:**

- To make the students understand about products development in footwear
- To enable the students to gain knowledge on products development in footwear.

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in designing, cutting, pre closing, closing and lasting of different types of men's and ladies footwear and sandals.

**UNIT-I**

Selection of footwear's :suitable to men/ladies / children, footwear/sandals, Designing and pattern making, cutting, pre- closing, closing and finishing of men's footwear/sandals

**UNIT-II**

Designing and pattern making, cutting, pre- closing, closing and finishing of Ladies footwear/sandals

**UNIT-III**

Designing and pattern making, cutting, pre- closing, closing and finishing of children's footwear/sandals.

**UNIT-IV**

Designing and pattern making, cutting, pre- closing, closing and finishing of need based – Diabetic footwear, disables designing, comfort footwear/sandals

**UNIT-V**

Working and designing costing, raw materials for men's footwear/ladies footwear/sandals, Costing and show casing of men's footwear/ladies footwear/sandals.

## PRACTICAL SCHEDULE

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"><li>• Selection of products – men’s footwear/ladies footwear/sandals</li><li>• Designing and pattern making of men’s footwear/ladies footwear/sandals</li><li>• Cutting of men’s footwear/ladies footwear/sandals</li></ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Pre – closing of men’s footwear/ladies footwear/sandals</li><li>• Closing of men’s footwear/ladies footwear/sandals</li></ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Lasting and making of men’s footwear/ladies footwear/sandals</li><li>• Finishing of men’s footwear/ladies footwear/sandals</li><li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li></ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"><li>• Process flow chart for men’s footwear/ladies footwear/sandals</li><li>• Bill of materials for men’s footwear/ladies footwear/sandals</li></ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<ul style="list-style-type: none"><li>• Costing of men’s footwear/ladies footwear/sandals</li><li>• Show casing of men’s footwear/ladies footwear/sandals</li></ul>

### Text Books:

1. J.H. Thornton, Text book of footwear Manufacture, National Trade Press Book Ltd., London, 1970
2. Manual of shoe making – clarks ltd
3. Comprehensive Footwear Technology by S.N.Ganguly

### REFERENCES:

4. Modern Shoe Making – Lasting, SATRA Publication
5. Manual of Shoe Making, Clarks Ltd., London,

**PRODUCTS DEVELOPMENT IN LEATHER GOODS (P)**  
(Course Code: 21FADV05E6)

**Credits: 0 + 3**

**(CFA=60+ ESE= 40)**

**Objectives:**

- To make the students understand about products development in leather goods
- To enable the students to gain knowledge on products development in leather good

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in making of ladies hand bag, travel bag and executive bag.

**UNIT-I**

Selection of products – ladies hand bag/travel bag/executive bag- Designing and pattern making, Cutting, Pre – closing, Closing, making and finishing of ladies hand bags./travel bag/executive bags

**UNIT-II**

Travel bag - Designing and pattern making, Cutting, Pre – closing, Closing, making and finishing of travel bags.

**UNIT-III**

Executive bag- Designing and pattern making, Cutting, Pre – closing, Closing, making and finishing of executive bags

**UNIT-IV**

Designing and pattern making, Cutting, Pre – closing, Closing, making and finishing of innovative goods, wealth out of waste, wall hangers, car accessories, interior decorative pieces, wall and floor and door decorations.

**UNIT-V**

Costing and Show casing of developed products for display and sale.

**PRACTICAL SCHEDULE**

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Selection of products – ladies hand bag/travel bag/executive bag</li> <li>• Designing and pattern making of ladies hand bag/travel bag/executive bag</li> <li>• Cutting of ladies hand bag/travel bag/executive bag</li> <li>• innovative goods, wealth out of waste, wall hangers, car accessories, interior decorative pieces, wall and floor and door decorations</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Pre – closing of ladies hand bag/travel bag/executive bag</li> <li>• Closing of ladies hand bag/travel bag/executive bag</li> <li>• innovative goods, wealth out of waste, wall hangers, car accessories, interior decorative pieces, wall and floor and door decorations</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Lasting and making of ladies hand bag/travel bag/executive bag</li> <li>• Finishing of ladies hand bag/travel bag/executive bag</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> <li>• innovative goods, wealth out of waste, wall hangers, car accessories, interior decorative pieces, wall and floor and door decorations</li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Process flow chart for ladies hand bag/travel bag/executive bag</li> </ul>

	<ul style="list-style-type: none"> <li>• Bill of materials for ladies hand bag/travel bag/executive bag</li> <li>• innovative goods, wealth out of waste, wall hangers, car accessories, interior decorative pieces, wall and floor and door decorations</li> </ul>
14 <sup>th</sup> to 16 <sup>th</sup> Week Total hours: 60	<ul style="list-style-type: none"> <li>• Costing of ladies hand bag/travel bag/executive bag</li> <li>• Show casing of ladies hand bag/travel bag/executive bag</li> <li>• innovative goods, wealth out of waste, wall hangers, car accessories, interior decorative pieces, wall and floor and door decorations</li> </ul>

**Text Books:**

1. J.H. Thornton, Text book of footwear Manufacture, National Trade Press Book Ltd., London, 1970.
2. Comprehensive footwear Technology by S.N.GANGULY
3. Manual of Shoe Making, Clarks Ltd., London, 1978.

**REFERENCES:**

1. Manuals from NIMI Publication
2. Manuals from CLRI

GRU-DTBU

**PRODUCTS DEVELOPMENT IN LEATHER GARMENTS (P)**  
(Course Code: 21FADV05E7)

Credits: 0 + 3

(CFA=60+ ESE= 40)

**Objectives:**

- To make the students understand about products development in leather garments
- To enable the students to gain knowledge on products development in leather garments

**Specific Learning Outcome:**

After learning this paper the students will gain knowledge in making of jacket, trouser and long coat.

**UNIT-I**

Selection of products jacket/trouser/long coat – jacket/ Designing Process flow chart for jacket/trouser/long coat and pattern making of jacket/trouser/long coat Cutting of jacket,Pre – closing and finishing of jacket.

**UNIT-II**

Long coat, Designing and pattern making of jacket Cutting ,Pre – closing of long coat Closing and finishing of Coat

**UNIT-III**

Trouser/ Designing and pattern making of trouser/ cutting of trouser, Pre – closing of trouser. closing and finishing of trouser

**UNIT-IV**

Accessories Types, selection, suitability, and fixing for the designed products. Fabricating of jacket/trouser/long coat

**UNIT-V**

Costing of jacket/trouser/long coat – raw material cost, stitching cost, designing, accessories, suitability and finishes, Show casing of jacket/trouser/long coat

**PRACTICAL SCHEDULE**

No. of week (4 hrs. per week)	Topics covered
1 <sup>st</sup> to 3 <sup>rd</sup> Week	<ul style="list-style-type: none"> <li>• Selection of products – jacket/trouser/long coat</li> <li>• Designing and pattern making of jacket/trouser/long coat</li> <li>• Cutting of jacket/trouser/long coat</li> </ul>
4 <sup>th</sup> to 6 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Pre – closing of jacket/trouser/long coat</li> <li>• Closing of jacket/trouser/long coat</li> </ul>
7 <sup>th</sup> to 10 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Fabricating of jacket/trouser/long coat</li> <li>• Finishing of jacket/trouser/long coat</li> <li>• <b>8<sup>th</sup> week : Mid-Semester Examinations</b></li> </ul>
11 <sup>th</sup> to 13 <sup>th</sup> Week	<ul style="list-style-type: none"> <li>• Process flow chart for jacket/trouser/long coat</li> <li>• Bill of materials for jacket/trouser/long coat</li> </ul>
14 <sup>th</sup> to 15 <sup>th</sup> Week Total :60hours	<ul style="list-style-type: none"> <li>• Costing of jacket/trouser/long coat</li> <li>• Show casing of jacket/trouser/long coat</li> </ul>

**Text Books:**

1. J.H. Thornton, Text book of footwear Manufacture, National Trade Press Book Ltd., London, 1970.
2. Modern Shoe Making – Lasting, SATRA Publication
3. Manual of Shoe Making, Clarks Ltd., London, 197

**REFERENCES:**

1. Manuals from NIMI publications
2. manuals from CLRI

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