



Micro plan

Department of Leather Engineering

- **Course name:** Bottom Component Technology
- **Course code:** LENG3174,
- **Cr.Hr 3 & ECTS 5**
- **Target group:** 3rd year leather engineering [**footwear stream**]

1. *Objective of the course*

After Completion of the course, the students will be able to:

- Know about the different types of the **bottom components** used for making the footwear
- Identify the different types of **materials** used for making the bottom components
- Make the **layout** of different bottom components
- Know the types, selection and **storage of knives** used for cutting the bottom components by machine
- Know about the different types of **shanks** used for making insoles
- Operate the different types of **machines** used for making the insole
- **Know the process of making different types of insoles**
- Calculate the insole cost

2. *Teaching and Learning methods*

- Lectures and class work
- Assignments
- Demonstrations

3. **Assessment/ evaluation & Grading Systems**

- Continuous assessment 100% (**finally change to 50%**)
 - ✚ *Test, Assignment, quiz, lab report, lab exam, attendance, project with presentation*
- Exam (**mid and final**) 100% (**finally change to 50%**)



4. **Course policy**

- All students are expected to abide by the code of conduct of students of the senate legislation of the respective university throughout this course. Academic dishonesty including cheating, fabrication and plagiarism will not be tolerated and will be reported to the concerned bodies for action

5. **Course description**

- This course attempts to introduce the fundamental concepts of making bottom components of footwear. Under this course we give the training about the different types of bottom components, their properties, interlocking process while cutting the bottom components, insole making process, machines used for making the insoles and cost calculation the insole.

6. **Plan**

Chapter	Element /Topic	Chapter item		Total weeks
		Lecture	Practical	
One	Introduction to Components	X		2
	1.1 Introduction to Bottom components 1.2 Insole, 1.3 Sole, 1.4 Midsole, 1.5 Bottom filling, 1.6 Welt, 1.7 Heel, 1.8 Heel lift & top-piece. 1.9 Toe-Puff, 1.10 Counter Stiffener, 1.11 Shank, 1.12 Socks,			
Two	Insoles, shank board, leather, leather board, sole and their Properties	X		2
	2.1 Material required for making insole 2.2 Properties of insole material 2.3 Dimensions of these boards including thickness, length and width and availability in different			



	grades			
Three	Pattern nesting of various bottom components			
	3.1 Importance of pattern nesting 3.2 Practical work on pattern nesting		X	3
Four	Shank & its design types			
	4.1 Different types of Shank 4.2 Importance of shank 4.3 Method of shank attachment	X	X	2
MID TERM EXAM WEEK				
Five	Process of insole making			
	5.1. Different types of insole used in footwear manufacturing, 5.2. Sequence of operation of Various types of Insole	X	X	3
Six	Introduction to Machines used for insole making, their operation and safety checks			
	6.1. Machines 6.1.1. Traveling head cutting press machine 6.1.2. Grooving Machine 6.1.3. Skiving machine 6.1.4. Riveting machine 6.1.5. Cementing machine 6.1.6. Moulding machine 6.1.7. Bevelling Machine 6.1.8. Practice to operate above mentioned machines	X		1
Seven	Quality checks points of Insoles			
	8.1. Identify the nature, characteristics and implications of the fault. 8.2. Corrective action based on the cause of the fault.		X	1
Eight	Costing of Insole			
	9.1. Basic understanding of costing to calculate the cost of product. 9.2. calculate cost of one pair of insole	X	X	2
FINAL TERM EXAM WEEK				
Lab Exercises:		Applicable		
Pre-requisites:		None		
Semester:		6 th		
Status of Course:		Compulsory		



Attendance Requirement:	<ul style="list-style-type: none"> • Minimum of 85% attendance during lecture hours • 100% attendance during practical hours is mandatory
Teaching Material:	<p>Materials: Different types of bottom components:</p> <ul style="list-style-type: none"> • Insole, • Sole • Midsole • Bottom filling, • Welt, • Heel, • Heel lift & top-piece. • Toe-Puff, • Counter Stiffener, • Shank, • Socks
Approval	<ul style="list-style-type: none"> - Bediru A. (Dep't head of leather Engineering) - Tariku H. (Quality officer) - Akalu T. (Course manager)

7. *Personal information*

- **Contact hour (class hour): Thursday (2:30 – 5:00) and Friday (2:30- 5:00) local time.**
- **Office number:** 1525 (the former student clinic building)
- **Course manager:** Akalu T. (Footwear Technologist)
- **Email address:** akaluteshome15@gmail.com
- **Phone number:** +251921939036

8. *Information about class representative*

- **Name of class representative:** Ashenafi T.
- **Phone number:** +251969545785