



Course Title : **Utilization of Fish and Frog Skins as an Alternative Source of Leather**

Duration : **four (4) days**



COURSE STRUCTURE

Competencies	Topics	Sub-Topics	Allotted Time (hrs)
Knowledge on the existing status of the leather industry in the Philippines	Leather industry in the Philippines	<ul style="list-style-type: none"> Status of the leather industry in the Philippines 	0.5
Knowledge on the materials, tools and equipment needed in processing fish and frog skins	Materials, tools and equipment needed in fish and frog skins processing	<ul style="list-style-type: none"> The raw material <ul style="list-style-type: none"> Fish skin; Frog skins Tools and equipment needed Chemicals needed 	1.0
Knowledge on the principles of tanning	Principles of tanning	<ul style="list-style-type: none"> Acidity and alkalinity Determination of pH Major section in leather production <ul style="list-style-type: none"> Preparation; Soaking; Stabilization; Beautification 	1.0
Knowledge and application of different tanning process	Different tanning Process	<ul style="list-style-type: none"> Vegetable tanning Chrome tanning Practical application 	1.0
Knowledge on how to compute cost and return	Costing	<ul style="list-style-type: none"> Fish skin leather Frog skin leather 	1.0
Knowledge on the proper disposal tannery waste	Waste disposal	<ul style="list-style-type: none"> Waste disposal procedure 	1.0
TOTAL			31.0



SCHEDULE OF ACTIVITIES

Day	Topics	Training Methodology		Total Hour(s)
		Lecture	Practical Application	
1	Leather industry in the Philippines	x		0.5
	Materials, tools and equipment needed in fish/frog skins processing	x		1.0
	Principles of tanning	x		1.0
	Different tanning processes	x		1.0
	Fish/frog skins processing (soaking / liming)		x	4.0
2	Fish/frog skins processing (liming / deliming / bating / pickling)		x	8.0
3	Fish/frog skins processing (deliming / bating / pickling / tanning / neutralization / dyeing / fat liquoring / drying)		x	7.0
	Costing	x		1.0
4	Fish/frog skins processing (retaning / neutralization / dyeing / drying / finishing / glazing)		x	6.5
	Waste management	x		1.0
TOTAL				31.0

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