Lassen Community College Course Outline

Course- GS 70 Stockmaking 3.0 Units

I. Catalog Description

This course is to teach the gunsmithing student design, layout, inletting, shaping and finishing of wood gun stocks. Fabrication, fitting and finishing of composite gun stocks. The student will learn bedding techniques, fitting/installation of recoil pads and sling swivels. The student will learn techniques to repair both wood stocks and composite stocks. One and two piece stocks will be covered.

Prerequisites: GS 50
Recommended Preparation: Successful completion of ENGL105 or equivalent.

Transfer Status: Not Transferable
17 hours lecture, 102 hours lab, 34 out of class hours, 153 total hours of instruction
Scheduled: Spring Semester Only

II. Coding Information

Repeatability: not repeatable
Grading Option: Graded only
Credit Type: Credit - Degree Applicable
TOP Code: 095630

III. Course Objectives

A. Course Student Learning Outcomes

Upon completion of this course the student will be able to:

1. Layout, inlet for barreled action, shape and finish to industry standard one wood stock from a semi inlet stock
2. Fit, bed, finish to industry standard one composite rifle stock from a blank
3. Install recoil pads and sling swivel studs to industry standard
4. Repair wood and composite stocks

B. Course Objectives

Upon completion of this course the student will be able to:

1. Demonstrate the ability to properly inlet a barreled action and bottom metal to a semi inletted wood stock blank.
2. Demonstrate the ability to shape and finish a wood stock
3. Demonstrate the ability to properly inlet a barreled action and bottom metal into a composite stock blank
4. Demonstrate the ability to finish a composite stock from a blank
5. Demonstrate the ability to install recoil pads on rifle and shotgun stocks both wood and composite stocks
6. Demonstrate the ability to install sling swivel studs both quick detach and military/Dakota Style
7. Demonstrate the ability to repair cracks, dents and scratches in wood gun stocks
8. Demonstrate the ability to repair carbon fiber, fiber glass and other composite gun

stocks

9. Demonstrate the ability to properly bed one and two piece gun stocks

IV. Course Content

A. Outline of Topics

1. Differences in wood and composite guns stocks
2. Wood stock and blank selection
3. Wood stock design and layout
4. Inletting techniques
5. Wood stock shaping
6. Wood stock finishing
7. Composite stock selection
8. Composite stock fabrication
9. Composite stock fitting and finishing
10. Recoil pads
11. Sling swivels
12. Wood and composite stock repair
13. Military conversions
14. History
15. Safety and evaluation

V. Assignments

A. Appropriate Readings

Trade manuals will be the primary reference sources, access will be provided by the instructor, may also include instructor handouts. Additional information resources will include product and use guides from industry manufacturers to enhance the learning process.

B. Writing Assignments

Students will be required to complete a set of notes covering lectures, labs and demonstrations. Notes will include appropriate diagrams, when applicable, for clarity of information. Assignments may be made involving repair, refinishing, and/or modifications to the studied firearm parts. Assignments will proximate problems actually encountered in the field. Performance levels must meet or exceed industry and/or shop specifications.

C. Expected Outside Assignments

Students will be required to complete two hours of outside-of-class homework for each hour of lecture. Pertinent supplementary literature and research assignments.

D. Specific Assignments that Demonstrate Critical Thinking

Assignments may include the design and fabrication of a tool, new ideas toward manufacturing techniques, new ways to assemble a gun, new modification techniques. Example: The student will be told what a tool must do and then must design and fabricate the tool without being given dimensions of other information.

VI. Methods of Evaluation

Traditional Evaluation

Student will be evaluated on:

1. Completion of assignments in a timely manner.
2. Completed assignments must meet or exceed industry standard.

3. Lecture notes including line drawings and pictures for clarification must be complete.
4. Final examination may include a practical demonstration of skills learned during the course.

VII. Methods of Delivery

Check those delivery methods for which, this course has been separately approved by the Curriculum/Academic Standards Committee.

☒ Traditional Classroom Delivery

☐ Correspondence Delivery ☐ Hybrid Delivery ☐ Online Delivery

Traditional Classroom Instruction
Lecture, discussion, audio/visual aids, demonstration, group exercises, guest speakers, lab, individualized programs and other as needed.

VIII. Representative Texts and Supplies

1 Remington 700 barreled action or complete rifle
1 Mauser barreled action or complete rifle
1 Wood rifle stock blank 90% inlet
Gouges and chisels for inletting wood (see instructor)
Rasps, files and scrapers for stock shaping (see instructor)
1 Foam filled fiberglass stock
Wood sand paper assortment or different grits 80,120,220,320,400,600
True oil
Paint for finishing composite stock
Epoxy for bedding. Acra glas, marine tex, etc.
Release agent for epoxy i.e. Brownells Acra release, paste wax, etc.
Minimum of three recoil pads and guns to install them on. The guns can also be used for other classes
Sling swivel studs both uncle mikes quick detach and military or Dakota style
Required tools
Safety glasses
Parrot Multi vice
Layout fluid (Dykem)
Steel or carbide scribe
Steel machinist's Protractor
4x 3/8" HSS Tool bits
60 Deg Center Gauge
#3 Center Drill
6" dial Caliper
Steel Rule
Chip brush
Shop rags
8-10" Mill Files (1 each)
Smooth Cut

Second Cut
Bastard Cut
File handles for all files
Hacksaw and blades
4 OZ. Ball Peen Hammer
Assorted flat blade screwdrivers (Fixed type, not magnetic tip)
10" Adjustable Wrench
Allen Wrenches, Standard and Metric
Tapered feeler gauges
Tool box for your belongings-Bench Top, not roll away type
Padlock
3 corner file (Three square file)
3/16" Chainsaw File
Needle file Set
File Card
Stones: (1/2"x1/2"x6"):
1 Medium
1 Fine
1 Extra fine
Dial Indicator, 0-1" w/ Magnetic Base
Gun Cleaning supplies (Rods, Brushes, Jags, Patches, Solvent)
Pin Punch Set
Extra 1/16" punches
Depth Micrometer, 0-1"
Needle Nose Pliers
Sand Paper (min 5 sheets each):
150 Grit
220 Grit
320 Grit
400 Grit
Steel wool, '0000'
Aluminum Oxide General Purpose Shop Rolls 1" wide
220 Grit
320 Grit
Acetone
Simple Green w/ Spray bottle
Breakfree Gun Oil (pump or aerosol)
Toothpicks
Q-tips
Thread Locker (Medium and High Strength)
Dust Masks or Respirator
Dremel or Foredom Tool with Accessories
Masking tape
#5 Welding Goggles
1/16" 2% Thoriated Tungsten Welding electrodes (Red)
Thin Welding Gloves-TIG
Welding Helmet w/ #10 lens-TIG
Stainless Steel wire Brush, small

Quality Drill Index
Mechanical Edge Finder
End Mills, Center Cutting HSS Standard up to ½ inch
Tap Set Complete set to ½" and includes: 6-48, 8-40, similar to Brownells #2 Tap Set
Tap Fluid
Tap Handle (may not be included in set)
Propane or MAP Gas Torch
Tooth Brushes
C Clamps:
2 @3"
2 @5"
Tape Measure
Cross Test Level
Mallet, 10-12 OZ. Non-marring
Scissors
Small Flashlight
Latex/Nitrile Disposable Gloves
One set screw on sights
One set dovetail sights
Dovetail Cutter (3/8"x60 Deg OR .330"x65 Deg-to match your sights)
Assortment of Wooden Dowels
A wide assortment of rubber corks to plug bores and muzzles
Chemical Resistant spray Bottle
Two part epoxy 24hour cure
ACRAGLASS or ACRAGEL bedding Compound
Release Agent
Cerakote Starter Kit OR 1 Can OF TEFLONMOLY, OR GUNKOTE
3 Grind to Fit Recoil Pads
.22 Barrel Liner Drill bit
.22 Barrel Liner
A 2 Sear Trigger such as Timney, or Jard for a centerfire bolt action rifle of your choice
Quality Steel Scope Bases and horizontally split steel rings
Rifle Scope of your choice
Weld-on bolt handle
Jewell Trigger for Remington 700 (Hunter)
White Cotton Gloves
A roll of bailing wire
36" length of 1/4" Allthread with nuts and washers to fit
20 gauge Sheet Steel (aprox 12"x12")
Assorted Spring Stock (Flat and Round) Brownells
2 Pre contoured barrels (un-threaded and un-chambered)
1 un-contoured barrel blank
A Semi-inletted wood stock for a bolt action rifle of your choice
Foam-Filled Fiberglass stock for a bolt action rifle of your choice
Cold Rolled Round stock Steel (10' Lengths):
1/2", 3/4", 1", 1 ¼"
Flat Bar Stocks 27" length of 1"x2"
Flat Bar Stocks 24" length of 1/2"x1-1/2"

Aluminum Bar Stock (1 piece of each dimension below)
1"x3"x6"
36" length of ¼”& ½” Drill Rod

This may not be a complete list of tools and materials, other things may be necessary depending on the particular firearms you choose to bring and projects you attempt to complete.

IX. Discipline/s Assignment

Gunsmithing

X. Course Status

Current Status: Active
Original Approval Date: 10/04/2022
Course Originator: B. Bauer
Board Approval Date: 11/08/2022
Chancellor’s Office Approval Date:
Revised By:
Curriculum/Academic Standards Committee Revision Date: