

Lassen Community College Course Outline

GSS-98.23 Machine Shop Special Projects

1.0 - 3.0 Units

I. Catalog Description

This course is designed to provide the student with the skill development to machine custom tools and gun parts. This course has been approved for open entry/open exit.

Prerequisite(s): GSS 52.01 Prerequisite Skills: Before entering this course, the student should be able to:

1. Be able to grind and sharpen general turning and form cutting tools.
2. Measure work pieces using common machine shop measuring tools.
3. Cut, face and turn steel to pre-determined length and diameters.
4. Mill steel to a pre-determined size and shape.

Transfers to CSU only

153 Hours Lab, 153 Total Hours of Instruction

Scheduled:

II. Coding Information

Repeatability: Take 1 Time

Grading Option: Graded or Pass/No Pass

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:

Demonstrate the ability to correctly diagnose and resolve a problem (complexity dependent on units taken) with accuracy and professionalism found in machine parts or tools 80% of the time.

B. Course Objectives

Demonstrate the ability to machine parts or tools within .005 of their design dimensions 90% of the time.

Demonstrate the ability to use a four jaw or tram a mill in correctly.

IV. Course Content

A. Shop Safety

B. Proper Tool Use

1. Measuring tools
2. Hand and power tools

C. Cutting Tools

1. Grinding lathe bits
2. Proper use
3. End mills and there use

D. Lathe Operation

1. Speed and Feed
2. Chucks

3. Adjustment
- E. Mill Operation
 1. Speed and Feed
 2. Traming the mill
 3. Surface mill
 4. Side Milling

V. Assignments

A. Appropriate Readings

Trade manuals will be the primary reference sources, 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

Pertinent supplementary literature.

D. Specific Assignments that Demonstrate Critical Thinking

Assignments may include the design and fabrication of a tool, new ideas towards 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 or other information.

VI. Methods of Evaluation

The student will be evaluated on:

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

Lecture/Demonstration/Laboratory

1. Overview and goals of the course.
2. Instructor-modeled review and analysis of specific techniques relevant to the topics, followed by group discussion.

3. Instructor-modeled review and analysis of specific techniques relevant to the topics, followed by group discussion.
4. Student in-class presentation of assignments, followed by instructor-guided group discussion and analysis.

VIII. Representative Texts and Supplies

Trade manuals will be the primary reference resources.

AGI Professional Series

The most current edition/publication will be used for all manuals.

IX. Discipline/s Assignment

Gunsmithing

X. Course Status

Current Status: Active

Original Approval Date: 9/16/2003

Revised By: John Martin

Curriculum/Academic Standards Committee Revision Date: 11/15/2022