Las Positas College
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Course Outline for INDT 61

MANUFACTURING PROCESSES

Effective: Fall

I. CATALOG DESCRIPTION:
INDT 61 — MANUFACTURING PROCESSES — 2.00 units

Examination of machine shop, welding, and general manufacturing processes; practice in the use of hand tools, basic machine tools, and welding equipment; understanding the relationship between manufacturing processes and design.

1.00 Units Lecture 1.00 Units Lab

Grading Methods:
Letter or P/NP

Discipline:

	MIN
Lecture Hours:	18.00
Lab Hours:	54.00
Total Hours:	72.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

A. product design and tooling for manufacturing and be able to select the correct processes for manufacture from design drawings;
B. the use of drafting techniques for the development of product design, and the manufacture of the complete product from the design;
C. machine tool operation and be able to operate an engine lathe, milling machine, and related equipment for manufacturing of class projects;
D. welding equipment set up and be able to complete welds with a minimum of two different types of equipment.

V. CONTENT:
A. Product design concepts
    1. design and planning metal products
    2. production process analysis
    3. cost estimating
B. Oxyacetylene welding, soldering, and cutting processes
C. Electric arc welding and cutting processes
D. Casting techniques
E. Heat treating and hardness testing
F. Machining various metals and plastics
G. Computer-integrated manufacturing
H. Advanced production operations
    1. special processes
    2. mass production methods
    3. numerical controlled machinery

VI. METHODS OF INSTRUCTION:
A. **Lecture** -
B. Sample materials and products from industry
C. Class projects
D. **Demonstration** -

VII. TYPICAL ASSIGNMENTS:

VIII. EVALUATION:
A. **Methods**

B. **Frequency**

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IX. TYPICAL TEXTS:

1. John E. Neely and Richard R. Kibbe *Modern Materials and Manufacturing Processes.*, -, 0.

X. OTHER MATERIALS REQUIRED OF STUDENTS:

A. Safety glasses, shop coat or apron, padlock