

BUTTE COLLEGE

COURSE OUTLINE

I. CATALOG DESCRIPTION

DFT 16 - Print Reading For Industry and Manufacturing

3 Unit(s)

Prerequisite(s): NONE

Recommended Prep: Reading Level IV; English Level III; Math Level III

Transfer Status: CSU

51 hours Lecture

This course introduces students to drawings, symbols and standards used in manufacturing and industrial applications. Topics include line types, views, dimensions, symbols, sketching, geometric dimensioning and tolerancing, version and revision systems and specialty drawings by manufacturing process. Manufacturing prints, drawings and specifications from both manufacturing and industrial applications will be used in the course.

II. OBJECTIVES

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

- A. Interpret and describe the technical information provided on industrial drawings.
- B. Interpret and apply the function of the "alphabet of lines" to freehand sketching and lettering and demonstrate proper techniques.
- C. Determine part dimensions and tolerances according to American National Standards Institute (ANSI) standards including geometric dimensioning and tolerancing.
- D. Read and interpret appropriate measurement units and symbols to working drawings and specifications.
- E. Interpret and describe dimensions and features of working drawings using supplementary views including sectional, breakout and auxiliary views.

III. COURSE CONTENT

A. Unit Titles/Suggested Time Schedule

Lecture	
<u>Topics</u>	<u>Hours</u>
1. Freehand Sketching Techniques	4.00
2. Measurement Methods and Units of Measure	3.00
3. Lines and Lettering	3.00
4. Multiview Drawings and Projections	5.00
5. Dimensions and Notes	4.00
6. Fasteners and Springs	4.00
7. Welding and Fabrication Drawings	5.00
8. Auxiliary, Breakout and Sectional View Drawings	5.00
9. Geometric Dimensioning and Tolerancing	6.00
10. Cams, Gears and Bearings	3.00
11. Working Drawings	6.00
12. Pictorial Drawings and Technical Illustrations	3.00
Total Hours	51.00

IV. METHODS OF INSTRUCTION

- A. Lecture
- B. Collaborative Group Work
- C. Class Activities
- D. Homework: Students are required to complete two hours of outside-of-class homework for each hour of lecture
- E. Demonstrations
- F. Multimedia Presentations

V. METHODS OF EVALUATION

- A. Exams/Tests
- B. Quizzes
- C. Homework
- D. Class participation

VI. EXAMPLES OF ASSIGNMENTS

- A. Reading Assignments
 - 1. Please read the unit on Multiview Drawings. Be prepared for lecture and review on the chapter at next class.
 - 2. Please read the unit on Geometric Dimensioning and Tolerancing. Be prepared to discuss at next class.
- B. Writing Assignments
 - 1. Please complete the review questions from the unit on Geometric Dimensioning and Tolerancing. Submit completed review questions to the instructor when complete.
 - 2. Complete Review Activities on Geometric Dimensioning and Tolerancing. Answer templates are located in the handout. Please submit completed work to instructor when complete.
- C. Out-of-Class Assignments
 - 1. Outside of class, please complete the Bonus Exercise for the manufactured object including dimensions and material specification. Submit answers to instructor when complete.
 - 2. Outside of class and after reading Chapter on Multiview drawings please describe in your own words the differences between first angle and third angle projection. Summarize in a paragraph and turn in at next class.

VII. RECOMMENDED MATERIALS OF INSTRUCTION

Textbooks:

- A. Brown, W.C. and Brown, R.K.. Print Reading for Industry. Goodheart-Willcox Company Inc., 2011.

Created/Revised by: John Dahlgren

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