WESTERN IOWA TECH COMMUNITY COLLEGE
Course Syllabus

Term:
Course Number and Section: ELT 102 ___
Course Title: Blueprint Reading
Semester Hours: 2.00
Meeting time/location:
Instructor:
Phone: 712.274.8733 Ext.
E-mail: @witcc.edu
Office Location:
Office Hours:

COURSE DESCRIPTION AND PREREQUISITES/COREQUISITES:

This course is designed to give meaning to the lines and symbols found on a set of blueprints. Students use inanimate objects and familiar construction shapes or orthographic and isometric drawings to learn the understanding of shapes, sizes and dimensions. Topics include building terms and construction features of the carpentry, masonry, electrical, mechanical and plumbing trades.

Prerequisite: None
Corequisite: None

REQUIRED TEXTBOOKS/MATERIALS

1. Jensen. *Interpreting Engineering Drawings*, 6th ed. Delmar , ISBN-13: 0-7668-2897-2

COURSE OBJECTIVES

The course will provide information which should enable the student to:

1. Identify principal views used in orthographic projection
2. Recognize types of lines and their purposes
3. Match auxiliary and sectional views
4. Determine the difference between third and first angle projection
5. Describe how dimensions apply to drawings
6. Explain how an object?s features are defined and located using dimensions
7. Explain tolerance dimensions
8. Identify differences between drawings
9. Recognize notes and symbols
10. Identify special markings
11. Identify typical thread features
12. Describe common thread forms and characteristics
13. Recognize differences between English and metric thread notes
14. Explain the importance of gauging
15. Describe the two systems of measurement used in gauging
16. Define the basic terms concerning the gauging process
17. Describe basic counting and numbering, decimals number system and the basic componenets of the unit systems used in gauging
18. Convert measurements from English to metric and vice versa
19. Identify the various lines used on a blueprint
20. Identify the geometric tolerance symbols used on a blueprint
21. Describe the relationship between statistical process control and gauging process
22. Identify and describe the various types of plant documents used in the gauging process
23. Classify various gauges into four basic types
24. Describe the limitations of each gauge
25. Describe the limitations of each gauge
26. Explain the importance of the proper care and handling of gauging instrument
27. Identify the types of gauges used to measure the properties of a part
28. Describe the proper operating procedure for each gauge

29. Describe the types of physical dimensions that each gauge is capable of measuring
30. Interpret the reading of each gauge

CONTENT OUTLINE:

I. Orthographic projection
   A. Principle views
   B. Types of Lines
   C. Auxiliary views
   D. Sectional views
   E. First angle projection
   F. Third angle projection
II. Drawing format and dimensioning
   A. Dimensions
   B. Features
   C. Tolerance
III. Drawing types and symbols
   A. Drawing differences
   B. Notes and symbols
   C. Special markings
IV. Thread specification
   A. Features
   B. Forms
   C. Notes
V. Gauging
   A. Types
   B. Fundamentals
VI. Measurement
   A. Procedures
   B. Operations

COMPETENCIES:

At the conclusion of the course the student will be able to:
1. Differentiate the meaning of orthographic projections
2. Read drawing types and Symbols
3. Discriminate thread specifications and utilize correctly
4. Utilize gauging and measurement fundamentals
5. Perform basic mathematical operations using whole numbers, decimals and measurement conversions
6. Demonstrate gauging and measurement procedure and operation
7. Interpret gauge readings, and determine whether parts are in tolerance
8. Interpret the reading of each gauge