

LABETTE COMMUNITY COLLEGE BRIEF SYLLABUS

SPECIAL NOTE:

This brief syllabus is not intended to be a legal contract. A full syllabus will be distributed to students at the first class session.

TEXT AND SUPPLEMENTARY MATERIALS USED IN THE COURSE (if any):

Please check with the LCC bookstore <http://www.labette.edu/bookstore> for the required texts for this class.

<u>COURSE NUMBER:</u>	INDU 109
<u>COURSE TITLE:</u>	BLUEPRINT READING (MANUFACTURING)
<u>SEMESTER CREDIT HOURS:</u>	3
<u>DEPARTMENT:</u>	Manufacturing
<u>DIVISION:</u>	Career Technical Education
<u>PREREQUISITE:</u>	None

COURSE DESCRIPTION:

This course will teach the student how to read and interpret shop drawings, a basic understanding of Geometric Tolerance and a basic understanding of the drawing language.

COURSE OUTCOMES AND COMPETENCIES:

Students who successfully complete this course will be able to:

This course will teach the student the basic concepts of Blueprint reading and reading engineering drawings. The material used in this course follows ANSI standards, the drafting standard used by most companies.

COMPETENCIES

Chapter 1: The Basics of Manufacturing Prints

The student will learn:

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| 1. The Manufacturing Cycle |
| 2. The Manufacturing Print |

Chapter 2: The Reading of Manufacturing Prints

The student will learn:
1. Types of Drawings used in Manufacturing
2. Points of View
3. Projected Views-Orthographic Projection
4. Visualizing how 2-D objects look in 3-D

Chapter 3: The Lines and Views of Manufacturing Prints

The student will learn:
1. The Lines used in Manufacturing Prints
2. The Views used in Manufacturing Prints
3. Auxiliary Views
4. Section Views
5. General Rules for Section Views

Chapter 4: The Total Manufacturing Print

The student will learn:
1. The Manufacturing Print Arrangement
2. Standard Print Sizes
3. Scale of Drawings
4. Change or Revision Block

Chapter 5: Dimensions

The student will learn:
1. Basic Dimension Elements
2. Arrangement of Dimensions
3. Dimensions for Specific Purposes
4. Dimensions not Shown on a drawing

Chapter 6: Tolerances

The student will learn:
1. The types of tolerances
2. Methods of Displaying Tolerances
3. Factors that affect tolerances
4. The Importance of Tolerances

Chapter 7: Surface Texture

The student will learn:
1. History of Surface Finishes
2. Definitions of Surface Characteristics
3. Symbols - what they mean and location

4. Other Finish Designations used
5. Methods used to check Surface Finishes

Chapter 8: Threads

The student will learn:
1. How Threads are displayed on a drawing
2. Thread Forms
3. Integral threads

Chapter 9: Fasteners

The student will learn:
1. Threaded Fasteners
2. Nonthreaded Fasteners
3. Special Purpose Fasteners
4. How to Identify fasteners
5. Welding and Bonding

Chapter 10: Gears

The student will learn:
1. Types of Gears
2. Gear Terms and Definitions
3. Gear Formulas
4. Spur Gears
5. Bevel Gears
6. Worm Gears

Chapter 11: Machine Terms and Holes

The student will learn:
1. Machine Terms
2. Holes

Chapter 12: Machining Requirements

The student will learn:
1. Machine Notes use on Drawings
2. Symbols

Chapter 13: Geometric Dimensioning and Tolerance

The student will learn:
1. Preliminary Examples
2. Geometric Symbols
3. Datum
4. Characteristic Symbols Except Position
5. Maximum Material Condition
6. Position
7. Least Material Condition

Chapter 14: Types of Blueprints and Computer Aided Design

The student will learn:
1. Assembly Drawings
2. Welding Drawings
3. Casting
4. Forging
5. Sheet Metal
6. Piping
7. Circuit Diagrams
8. Pictorial
9. Computer Aided Design

Chapter 15: Reading Aircraft Blueprints

The student will learn:
1. Basic Aircraft Terms Relating To Blueprints
2. Unique Characteristic for Aircraft Drawings

Chapter 16: Reading Sheet Metal Blueprints

The student will learn:
1. Flat Patterns
2. Terminology Relating to Sheet Metal Prints

Chapter 17: Reading Assembly Drawings

The student will learn:
1. Types of Assembly Drawings
2. Bill of Materials