



ILLINOIS VALLEY COMMUNITY COLLEGE

COURSE OUTLINE

DIVISION: Workforce Development

COURSE: GNT 1209 Blueprint Reading

Date: Spring 2022

Credit Hours: 3

Prerequisite(s): None

Delivery Method:

<input checked="" type="checkbox"/> Lecture	2 Contact Hours (1 contact = 1 credit hour)
<input type="checkbox"/> Seminar	0 Contact Hours (1 contact = 1 credit hour)
<input checked="" type="checkbox"/> Lab	2 Contact Hours (2-3 contact = 1 credit hour)
<input type="checkbox"/> Clinical	0 Contact Hours (3 contact = 1 credit hour)
<input type="checkbox"/> Online	
<input type="checkbox"/> Blended	
<input type="checkbox"/> VCM	

Offered: Fall Spring Summer

CATALOG DESCRIPTION and IAI NUMBER (if applicable):

The Master Blueprint Reading course is designed to progress logically from an introduction to blueprint reading through a study of the fundamental skills and concepts involved in reading, sketching, and interpreting drawings. Basic drafting principles related to information conveyed in oblique, isometric, and multi-view drawings will be reviewed with regards to industrial blueprints from multiple disciplines. Discussion will also include basic metallurgy and nondestructive examination of piping systems.

ACCREDITATION STATEMENTS AND COURSE NOTES:

N/A

COURSE TOPICS AND CONTENT REQUIREMENTS:

- I. Fundamentals of Drafting Symbols
- II. Fundamentals of Orthographic Projection
- III. Sectional and Auxiliary Views
- IV. Sketching
- V. Dimensioning
- VI. Use of Notes and Symbols
- VII. Assembly Drawings
- VIII. Overview of Prints Used in Various Manufacturing Environments

INSTRUCTIONAL METHODS:

1. Lecture on board
2. Demonstration
3. One-on-one attention individualized

EVALUATION OF STUDENT ACHIEVEMENT:

INSTRUCTIONAL MATERIALS:

Textbooks

Print Reading for Industry, 11th edition

Authors: Walter C. Brown, Ryan K. Brown

ISBN 978-1-64564-672-3

Print Reading for Industry, 11th edition. Large Prints Packet

Resources

N/A

LEARNING OUTCOMES AND GOALS:

Institutional Learning Outcomes

- Communication – to communicate effectively;
- Inquiry – to apply critical, logical, creative, aesthetic, or quantitative analytical reasoning to formulate a judgement or conclusion;
- Social Consciousness – to understand what it means to be a socially conscious person, locally and globally;
- Responsibility – to recognize how personal choices affect self and society.

Course Outcomes and Competencies

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

1. To develop skills in visualizing and interpreting prints used in machining, welding, sheet metal, piping, and electrical applications.
2. To develop skills in sketching prints used in machining, welding, sheet metal, piping, and electrical applications.
3. Have an understanding of multi-view and isometric projection and techniques of sketching the student will:
 - a. sketch the front, top, and side views when given an isometric view

- b. sketch the isometric and complete the views of various objects
- c. sketch in the missing lines and views of various multi-view problems
- 4. Given problems involving basic mathematics, the student will perform the mathematical operations involving whole numbers, fractions, and decimals.
- 5. Students will have an understanding of the various concepts used in the making of an engineering drawing as:
 - a. conventional line practices
 - b. orthographic projection
 - c. dimensioning
 - d. auxiliary views
 - e. detail and assembly drawings
 - f. tolerancing
 - g. sectional views
 - h. pictorial drawings
 - i. geometric tolerances
- 6. Students will be able to read and interpret title blocks, material lists, notes and drawing changes.
- 7. Students will be able to read and interpret machining specifications as:
 - a. thread, representation, and specifications
 - b. specification and callouts for machine processes
 - c. tolerances of position and form
 - d. gears, splines, and serrations
- 8. Given CNC and weldment drawing, the student will interpret relative to the construction of the part.
- 9. Given advanced machine drawings or industrial prints, the student will demonstrate his understanding of the part represented by answering questions relative to the construction of the part.