Northwest State Community College  
Course Information Sheet

# Course Information

Title: Print Reading & Sketching A

Course Number: INT 107

Credit Hours: 1

Pre-requisite: INT 111

# Description

This is the first course in a sequence of 3 one credit hour courses. These three courses together are equivalent to IND 107. Emphasis on PRINT READING including lines, abbreviations, terminology, view identification, dimensioning practices, dimensioning calculations, tolerancing calculations, and SKETCHING including orthographic, isometric, section, and auxiliary views.

The course objective is for students to gain a basic proficiency for understanding and manipulating technical drawings and associated conventions. The course material for Print Reading and Sketching includes the alphabet of lines, orthographic projection, ordinary views, section views, auxiliary views, pictorial sketching, dimensioning, tolerancing, screw threads and fasteners, mathematics for design and an introduction to geometric dimensioning and tolerances.

# Learning Outcomes

Upon completion of this course the students will be able to:

1. Identify the various line types
2. Identify the various views and their correct projection
3. Identify the sequence of machining operations
4. Identify drawing revisions

# Required Material

**Text**:

Print Reading for Industry 11th edition; Brown, Walter C.; Brown, Ryan K. Goodheart-Willcox, 2020.   
ISBN 978-1-64564-672-3

**Supplies**:

Calculator

Drafting Kit

# Print Reading & Sketching A Module 1: Introduction to Prints

In this module, students will begin to understand the importance of prints within industry.

Upon completion of this module the student will be able to:

1. Define the various purposes and functions of prints
2. Identify and define terms related to prints
3. Describe the process of print reading
4. Identify and define the information contained within a print title block
5. Describe sheet sizes and layouts used for engineering, architectural, and ISO standards
6. Describe the function of the revision history block
7. Explain the techniques for identifying parts of an assembly drawing as represented in a basic parts list

### Module 1 Activities

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 Read Print Reading for Industry, Unit 1 - Prints: The Language of Industry

Text Book

 Read Print Reading for Industry, Unit 3 - Title Blocks and Part Lists

Text Book

 Review Print Reading for Industry, Appendix A - Applied Mathematics

Text Book

 Complete Math Review quiz at least once (ungraded quiz, unlimited attempts)

See Quiz INT107 Math Review Content Packing file to upload to LMS System

 Complete Quiz 107-1

See Quiz INT107-1 Content Packing file to upload to LMS System

 Review Hands-on Lab 107-1.1 and Lab 107-1.2

See INT107 1.1 & INT107 2.1 Lab Content

 Complete Hands-on Lab 107-1.1

See INT107 1.1 Lab Content

 Complete Hands-on Lab 107-1.2

See INT107 1.2 Lab Content

# Print Reading & Sketching A Module 2: Lines and Geometry

In this module, students will be introduced to the "alphabet of lines" that are used in drawings and their meaning, based on the ASME Line Conventions and Lettering standard. We will also look at two- and three- dimensional geometric shapes and their relationships.

Upon completion of this module the student will be able to:

1. Define the alphabet of lines
2. Describe the line properties used for visible, hidden, and center lines, dimensioning, and sectional views
3. Identify the types of lines by appearance and purpose
4. Identify the style of lettering recommended for standard industrial drawings
5. Identify two- and three-dimensional geometric objects
6. Explain the relationship of a regular polygon to a theoretical circle about which it is circumscribed or inscribed
7. Identify and describe geometric relationships such as parallelism, perpendicularity, concentricity, eccentricity, and coaxiality
8. Identify specialized geometric shapes that are used in product design
9. Describe how polygon meshes and splines can be used to describe an object

### Module 2 Activities

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 Read Print Reading for Industry, Unit 2: Line Conventions and Lettering

Text Book

 Read Print Reading for Industry, Unit 4: Geometric Terms and Construction

Text Book

 Complete Quiz 107-2

See Quiz INT107-2 Content Packing file to upload to LMS System

 Review Hands-on Lab 107-2.1, Lab 107-2.2, and Lab 107-2.3

See INT107 2.1 & INT107 2.2 & INT107 2.3 Lab Content

 Complete Hands-on Lab 107-2.1

See INT107 2.1 Lab Content

 Complete Hands-on Lab 107-2.2

See INT107 2.2 Lab Content

 Complete Hands-on Lab 107-2.3

See INT107 2.3 Lab Content

# Print Reading & Sketching A Module 3: Print Views

The purpose of prints is to show the size, shape, and features of an object. Depending on the complexity of the object, a single view may not be sufficient to show every feature. This module will introduce students to multiview drawings, section views, and auxiliary views that are used to show greater detail.

Upon completion of this module the student will be able to:

1. Define spatial visualization and discuss its role in multiview drawings.
2. Describe the general nature of a section view and explain its purpose
3. Identify and define the three dimensions of an object.
4. Describe characteristics of various shapes in multiview drawings, including cylindrical surfaces, fillets, rounds, and runouts.
5. Describe the characteristics of full-section, half-section, and offset-section views.
6. Sketch basic multiview drawings of objects
7. Describe the characteristics computer-generated multiview, section, and auxiliary views
8. Interpret a print that includes a multiview layout, section view, or auxiliary view.

### Module 3 Activities

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 Read Print Reading for Industry, Unit 5 - Multiview Drawings

Text Book

 Read Print Reading for Industry, Unit 6 - Section Views

Text Book

 Read Print Reading for Industry, Unit 7 - Auxiliary Views

Text Book

 Complete Quiz 107-3

See Quiz INT107-3 Content Packing file to upload to LMS System

 Review Hands-on Lab 107-3.1, Lab 107-3.2, and Lab 107-3.3

See INT107 3.1 & INT107 3.2 & INT107 3.3 Lab Content

 Complete Hands-on Lab 107-3.1

Complete Hands-on Lab 107-3.1

 Complete Hands-on Lab 107-3.2

Complete Hands-on Lab 107-3.2

 Complete Hands-on Lab 107-3.3

Complete Hands-on Lab 107-3.3

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