Conneaut School District

Planned Course for: DRAFTING TECHNOLOGY I Date Revised: July 2000

Course Description:

Drafting is designed to accelerate student learning in order to keep pace with the expansion of subject matter in order to keep pace with the expansion of subject matter in order to keep pace with the expansion of subject matter in the drafting field. A broad foundation of the subject matter is stressed. Areas of study include career planning, lettering, measuring, sketching, use and projection, auxiliary views, sectional views, pictorial drawings, surface developments and computer-assisted drafting.

Length of course: (X) Semester – Intensive Schedule ( ) Quarter ( ) Other _____

Type of Offering: ( ) Required ( ) Elective ( ) Selective _____

Credit: One

Prerequisite (s):

Goal: The goals Drafting Technology I are:

(1) To help every student acquire the knowledge, understanding and appreciation of science and technology.
(2) To help every student develop self-understanding and a feeling of self-worth.
(3) To help every student acquire the knowledge, skills and attitudes necessary to become a self-supporting member of society.
(4) To help every student acquire skills in mathematics.

COURSE OBJECTIVES:

The student will:

(1) Be able to identify common types of technical drawings and list traits necessary for success in a drafting career (3.5B)
(2) Be able to hand letter vertical Gothic letters and numerals and space them correctly (3.5B)
(3) Be able to sketch the various types of lines, geometric shapes and use the various methods of sketching and develop pictorial sketches (3.5B)
(4) Be able to identify the various drafting instruments and describe the use of each. The student will also be able to prepare accurate mechanical drawings to scale (3.5B)
(5) Be able to identify the basic elements of drafting geometry and use geometric construction as a tool in developing drawings (3.5B)
(6) Be able to visualize an object an interpret it graphically through the use of various views and project details from view to view (3.5B)
(7) Be able to graphically define the basic geometry elements and shapes and prepare drawings using descriptive geometry problems (3.5B)
(8) Be able to visualize the interior details of an object and prepare drawings involving sectional views using correct symbols and lines (3.5C)
(9) Be able to describe the use of the auxiliary projection plan and complete practical solutions to the problems (3.5B)
(10) Be able to recognize the various types of pictorial drawings (3.5B)
(11) Be able to visualize the surface development of three dimensional objects and make accurate developments using parallel lines, radial lines and triangulation (3.5B)
(12) Be able to understand systems and applications of computer graphics to industry standards (3.5B)

Drafting Technology I – 9th – 10th Grade Level (grade revision Feb. 2023)

Course Contents By Units: 90 Days (85 min. period)	**Learning Strategies including Enrichments/Adaptations**	**Assessment Measures/Expected Levels of Achievement**
Twenty-First Century Drafting (3 days) • History • Types of drawing • Careers in drafting **Letters (3 days)** • Lettering styles • Guidelines and spacing • Techniques • Instruments **Sketching (10 days)** • Classes • Materials • Line technique • Multiview • Pictorial • Steps in preparing a sketch **Tools and Techniques (2 days)** • Tools • Techniques **Geometry (3 days)** • Bisecting figures • Dividing lines • Perpendiculars • Parallel lines • Triangle construction • Polygon construction • Tangent construction • Ellipse construction	• Lecture • Discussion • Question / Answer • Cooperation Learning • Demonstration • Drawings • Guest Speakers • Individually Guided Instruction • Exams • Note Taking • CD-ROM	• Exams: Teacher Made – Standardized • Performance Tests (Drawing) • Teacher Observation • Class Participation **Instructional Materials** • Text: Mechanical Drawing – 12th Edition, Glencoe, ©1997 • Student Workbook: Mechanical Drawing – 12th Edition, Glencoe, ©1997 • Reference Books • Video Tapes • Transparencies • CD-ROM • Worksheets • Instruction Sheets • Models

Drafting Technology I – 9th – 10th Grade Level (grade revision Feb. 2023)

Course Contents By Units: 90 Days (85 min. period)	**Learning Strategies including Enrichments/Adaptations**	**Assessment Measures/Expected Levels of Achievement**
Multiview Drawing (25 days) • Projection box • Six views • Types of lines • Choice of views • Locating views **Descriptive Geometry (4 days)** • Basic geometric elements • Points and reference planes • Line terminology • Basic planes • Point-line plane relationships • True length point projection • Edgeview-true size of plane **Sectional Views (10 days)** • Cutting plane • Sectionlining and symbols • Full sections • Half sections • Offset sections • Revolved sections • Broken out sections • Conventional breaks and symbols **Auxiliary Views (10 days)** • Inclined surfaces • Auxiliary planes • Primary auxiliary views • Center plane references method		**Instructional Materials**

Drafting Technology I – 9th – 10th Grade Level (grade revision Feb. 2023)

Course Contents By Units: 90 Days (85 min. period)	**Learning Strategies including Enrichments/Adaptations**	**Assessment Measures/Expected Levels of Achievement**
Pictorial Drawing (15 days) • Uses of pictorial drawings • Axonometric • Oblique • Perspective **Surface Development (5 days)** • Drafting for sheet metal • Development • Parallel line development • Radial line development • Triangulation **Computer Assisted Drafting – "CAD" (incorporated throughout the course)** • CAD concepts • Operation of the system • Generating hard copies • Drawing management		**Instructional Materials**