

Technical Drawing

11th /12th Grades

ART 700 Technical Drawing

½ credit
5 days per week, 1 semester
Taught in Spanish

This is **an elective course for 11th and 12th grade students** in the Mexican and/or U.S. diploma program that will expose them to various introductory topics associated with Technical Drawing. They will develop their spatial and mathematical senses, as well as use tools, equipment, and supplies necessary to produce and solve technical drawings precisely. With the use of mechanical pencils, T-squares, and a set of triangles (30, 45, and 60 degrees) students will learn how to draw different shapes from their views and create an isometric pictorial. They will learn how to read measurements and draw two-dimensional and three-dimensional figures and real life objects. This course is designed for the student interested in career opportunities related to design, architecture and engineering.

Textbook: NONE
Prerequisite: NONE

Benchmark Code – Subject: Technical Drawing = TD
Strand 1 = Introduction to Technical Drawing
Strand 2 = Techniques and Tools of Technical Drawing
Strand 3 = Aesthetic Perception
Strand 4 = Applications

Code: Subject.Grade.Strand#.Standard#.Benchmark#.
Example: TD.11/12.1.4.3 –Technical Drawing, Eleventh/Twelfth Grades, Strand 1, Standard 4, Benchmark 3

Strand 1: Introduction to Technical Drawing

Standard 1: The student understands the specifications and conventions of technical drawing.

Benchmark Code	Benchmark
TD.11/12.1.1.1	The student will distinguish the purposes of technical drawing.
TD.11/12.1.1.2	The student will identify basic vocabulary, rules, tools, and procedures specific to technical drawing.
TD.11/12.1.1.3	The student will explain the various careers in which technical drawing is required.

Strand 2: Techniques and Tools of Technical Drawing

Standard 1: The student understands and applies media, techniques, and processes related to technical drawing.

Benchmark Code	Benchmark
TD.11/12.2.1.1	The student will visualize the processes and specifications of a technical drawing before actually beginning its execution.
TD.11/12.2.1.2	The student will execute basic free-hand sketching.

TD.11/12.2.1.3	The student will use equipment and tools correctly for producing for producing the required technical drawings.
TD.11/12.2.1.4	The student will use the limitations of perspective drawing with the basis of linear perspective and vanishing points.
TD.11/12.2.1.5	The student will measure views, representations, and dimensions.
TD.11/12.2.1.6	The student will identify the layout of drawings, lines, line work, lettering, numerals, and systems of projection.
TD.11/12.2.1.7	The student will apply orthographic projection, including auxiliary views and sections.
TD.11/12.2.1.8	The student will apply pictorial projection and isometrics from orthographic projection.
TD.11/12.2.1.9	The student will execute inking of drawings.
TD.11/12.2.1.10	The student will apply geometric values, scales, and drafting.
Strand 3: Aesthetic Perception	
Standard 1: The student knows how to use the elements and functions of technical drawing to communicate ideas.	
Benchmark Code	Benchmark
TD.11/12.3.1.1	The student will identify some of the effects of various visual structures (e.g., design elements such as line, color, shape; principles such as repetition, rhythm, balance).
TD.11/12.3.1.2	The student will demonstrate an understanding of what makes various organizational structures effective (or ineffective) in the communication of ideas.
TD.11/12.3.1.3	The student will use own technical drawings as an expression of own creative ideas.
TD.11/12.3.1.4	The student will evaluate the skills and merits of technical drawing in own works and the works of others.
Strand 4: Applications	
Standard 1: The student understands connections technical drawings and other art forms and other disciplines.	
Benchmark Code	Benchmark
TD.11/12.4.1.1	The student will identify the visual and spatial communication in relation to careers in engineering, art, and design.
TD.11/12.4.1.2	The student will locate the use of technical drawing in other subjects, arts, and daily life.