

West Linn–Wilsonville School District
The Arts (Communications/Technology) – Course Statement

<u>Course Title: Computer Aided Drafting (CAD)</u>	
Length of Course:	Semester
Number of Credits:	1
Grade Level:	9, 10, 11, 12
Prerequisites:	None
CIM Work Samples	
Offered in Course:	Speaking work sample
Date of Description/Revision: 2006	
Course Overview	
<p>This course is designed to introduce students to basic computer aided drafting, also known as CAD. This course acquaints students with the computer drafting program <i>AutoCAD LT</i>. The students will learn the basic functions of the CAD program while working on a variety of drawings. Each student will create and maintain a portfolio which will include hard copies of their CAD drawings, a computer disk of their drawings, written self-evaluations of class work, and class notes.</p>	
Essential Questions	Concepts providing focus for student learning
<ul style="list-style-type: none"> • How can I create and interpret two- and three-dimensional drawings using ANSI drafting standards? • What are the considerations for meeting the challenge of the design? 	
Proficiency Statements	
<p>Upon completion of course, students will be able to:</p> <ul style="list-style-type: none"> • Draw orthographic and isometric drawings and analyze their elements, comparing and contrasting appropriate usage. • Demonstrate knowledge of ANSI standards. • Demonstrate knowledge of the <i>AutoCAD LT</i> software program. • Work independently at own pace meeting assigned deadlines. • Keep work in an organized portfolio. • Analyze how technical, organizational, and aesthetics elements contribute to the design. • Respond to one's own design work and the design of others, giving reasons for the preferences. • Uncover the relationships amongst cultural, societal, practical, historical, and architectural perspectives throughout the design process. • Present and defend their design ideas amongst their peers. • Evaluate and reflect on one's own final product through the elements under investigation and the process of design. 	

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General Course Topics/Units & Timeframes	
<ul style="list-style-type: none">A. Portfolio Cover (basic CAD commands)B. Robot (extend & trim)C. Car (copy, fillet, polygon)D. Dog House (architectural settings, scaled drawing)E. Coffee Cup (chamfer, layers, fillet radius)F. Coffee Table (angles, offset, continuous dimensions)G. Desk (angles, mirror)H. Rod Holder (tangent)I. Wrench (circle-ttr, polygon–C)J. Machine Part (circle-ttr, tangents)K. Tire (polar array, modify properties)L. Bench (rectangular array, polyline)M. Pie Chart (angles, hatch pattern)N. Blocks (making blocks, inserting blocks)O. Kitchen Plan (blocks, scale, move)P. Isometric 1 (isometric mode, isocircles)Q. Isometric 2 (isometric mode, line hatch)R. Isometric Bird House (isometrics, problem solving)S. Orthographic 1 (orthographic layouts)T. Dimension 1 (ANSI standards)U. Orthographic 2 (orthographic layouts)V. Dimension 2 (ANSI standards)W. Orthographic 3 (orthographic layouts)X. Dimension 3 (ANSI standards)Y. Corner Block (orthographic isometric ANSI problem solving)Z. Stop Block (orthographic isometric ANSI problem solving)AA. Rest Block (orthographic isometric ANSI problem solving)BB. Adjustment Block (orthographic isometric ANSI problem solving)CC. Locating Block (orthographic isometric ANSI problem solving)DD. Safety Block (orthographic isometric ANSI problem solving)EE. Angle Block (orthographic isometric ANSI problem solving)FF. Cross Stop (orthographic isometric ANSI problem solving)GG. End Block (orthographic isometric ANSI problem solving)HH. Bevel Block (orthographic isometric ANSI problem solving)II. Stabilizer Block (orthographic isometric ANSI problem solving)JJ. Portfolio	

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Resources	
<ul style="list-style-type: none">• Software: <i>AutoCAD LT</i>, Autodesk• Text: <i>Engineering Drawing and Design</i>, David A. Madsen, Thomson Delmar Learning• Other: Class handouts	