



## ***Technical Drafting Synopsis***

### **Goals:**

An introduction to reading, interpreting, and developing technical drawings, including the principles of drafting and computer-aided design. This class serves as the introductory computer-aided-design (CAD) course. This course is through the continuing Education Department at Austin Community College.

### **Objectives:**

At the completion of this course, the student will have demonstrated the ability to:

- Create technical sketches, geometric constructions, orthographic projections, pictorial/sectional views, dimension drawings, and apply lettering techniques (source WECM manual end-of-course outcome).
- Prepare free-hand multiview sketches of objects assigned by the instructor.
- Prepare technical drawings utilizing traditional drafting tools and techniques.
- Prepare orthographic/multiview drawings using miter line construction techniques employing line conventions and line weights that comply with the ASME Y14.3-2003 standard.
- Prepare technical drawings with AutoCAD requiring students to set units, limits, layers, and utilize the tools of AutoCAD's Draw, Modify, and Dimension toolbars.
- Print CAD drawings to the scale and sheet sizes specified by their instructor.
- Create AutoCAD dimension styles that comply with the ASME Y14.5-2009 standard and fully dimension multiview drawings.
- Add dimensions that comply with accepted industry standards to architectural drawings.
- Draw section views of machine parts using AutoCAD techniques complying with the ASME Y14.3-2003 standard.
- Prepare isometric, pictorial drawings of machine parts utilizing AutoCAD.
- Prepare auxiliary views of machine parts with AutoCAD that comply with the ASME Y14.3-2003 standard.
- Create, insert and edit blocks with AutoCAD.
- Utilize AutoCAD to prepare multi-sheet working drawings for machine assemblies that comply with the ASME Y14.34-2008 standard.
- Utilize AutoCAD to prepare multi-sheet working drawings (floor plan and elevations) for a small residential project.
- Create a block library of architectural symbols in one drawing and insert the blocks into a different drawing using AutoCAD's Design Center.
- Create 3D models of machine parts utilizing AutoCAD software utilizing the tools located on AutoCAD's Modeling, View, Orbit, and Visual Styles toolbars.