

# COMPUTER AIDED DRAFTING

## Core courses:

CAD A/B

Advanced CAD A/B

## Electives:

Innovations & Inventions

## COURSE DESCRIPTIONS

### 3823 CAD A/B

Grade Level: 9th, 10th, 11th, 12th

Credits: 1 (full-year) max. 2 credits (1 per year)

This class is broken into two years: 1<sup>st</sup> year – The basic concept of drafting is taught the first year covering sketching, geometric construction, view drawings, Isometric drawings, and Auto CAD introduction. 2<sup>nd</sup> year: Students will choose to meet state competencies with either mechanical or Architecture drawings. **Mechanical**- students draw sectional, thread, working drawings, auxiliary and use of Vernier calipers. **Architect** – students draw complete set of house plans that meet Williamson county code using AutoCAD. The plan consists of floor plan, foundation, front, rear, left elevation, electrical and a wall section. Projects consist of storyboard, 3/4 scale balsa house, video tape of floor plan, and a 3/16 scale foam board model.

### 3824 Advanced CAD A/B

Grade Level: 10<sup>th</sup>, 11<sup>th</sup>, 12th

Credits: 1 (full-year) max. 2 credits (1 per year)

Prerequisite: CAD and Geometry (Honors option available)

This course is broken into a two year course:

**Architectural** – Students draw and design a complete set of plans in order to get a building permit in Williamson County using Auto CAD. **Mechanical** – Mechanical students will draw sectional, thread, working drawings, auxiliary and will use Vernier calipers. **Inventor** – This is solid modeling drawing class in which students learn Autodesk program Inventor. Students do all previous drawing techniques plus learn to animate working drawings and present them in PowerPoint format. Students also design engineering projects.

### *Student Organization:*

SkillsUSA prepares America's high performance workers. It provides quality education experiences for students in leadership, teamwork, citizenship and character development. It builds and reinforces self-confidence, work attitudes and communications skills. It emphasizes total quality at work, high ethical standards, superior work skills, life-long education and pride in the dignity of work. SkillsUSA also promotes understanding of the free enterprise system and involvement in community service activities. SkillsUSA meets during school on assigned club days. **SkillsUSA MEMBERSHIP IS EXPECTED.**

### 5398 T&I Co-Op

Grade Level: 12

Credit(s): 1-2

Teacher recommendation is required.

### **Work-based Learning:**

- Opportunity for an internship during the summer between the Junior and Senior years in the chosen pathway.
- Opportunity for a cooperative learning experience during the senior year.

### **Related Careers:**

Aeronautical and Aerospace Engineer, Chemical Engineer, Civil Engineer, Electrical and Electronics Engineer, Industrial Engineer, Nuclear Engineer, Petroleum Engineer, Architect, Draftsman, Project Designer