Moon Area School District Curriculum Map

Course: Computer Aided Drafting and Design (CADD)
Grade Level: 9-12
Content Area: Technology Education
Frequency: Full-Year Course

Big Ideas

1. Sketching develops a design for later use.
2. The use of drafting tools will help produce clean mechanical drawings.
3. Orthographic Projection drawings produce true-sized graphical representation of objects.
4. Dimensioning drawings using a universal standard.
5. Eliminating part of an object on a drawing can help show hidden detail.
6. Isometric Drawings show equal foreshortened axis on a 3-D drawing.
7. CAD software is used to develop visual representation of design ideas in 2D and 3D drawings
8. A portfolio is a collection of accomplishments, skills, experience, and attributes.

Essential Questions

9. What is the importance of sketching design?
10. Why do mechanical drawings follow industry standards?
11. Why does industry use orthographic projection drawings?
12. Why is it important for all drawings to be dimensioned in the same way?
13. Why might a section of a part be removed to draw it?
14. Why is an Isomeric drawing the preferred 3-D drawing for engineering drawings?
15. Why are international CAD standards necessary when creating drawings to communicate design solutions?
16. What are the advantages of using a CAD system to create, view, and manage design drawings?
17. How can a CAD portfolio be useful in the future?

Primary Resource(s) & Technology:
AutoCAD, AutoDesk Inventor,
Promethean Boards, Student Computer Workstations

Pennsylvania and/or focus standards referenced at:
www.pdesas.org
www.education.pa.gov

Big Ideas/ EQs	Focus Standard(s)	Assessed Competencies (Key content and skills)	Timeline
1,8	Waiting for Technology Ed standards to be finalized	• 2-D sketching techniques, Isometric sketching, Measurement review, Single Stroke Gothic lettering	August - September 2 Weeks
2,9		• Drafting Tools, Line Types, Border, Title Strip, Centering a drawing	September-October 4 Weeks
3,10		• Orthographic Projection, Multiview Drawings, Centering a Multiview, Counter bores and Countersinks	October 3 Weeks
4,11		• Dimensioning	November 3 Weeks
5,12		• Full Section, Half Section, and Aligned Section Drawings	December 3 Weeks
6,13		• Isometric Drawings, Centering an Isometric, Dimensioning an Isometric	January 2 Weeks
7,14, and 15		• AutoCAD Introduction, Draw, Modify Panels	January-February 3 Weeks
7,14, and 15		• Multiviews and Isometric drawings on AutoCAD, and AutoCAD Dimensioning	Feb-March 3 Weeks
7,14, and 15		• Arrays and Gears	March 2 Weeks
7,14, and 15		• 3-D Modeling, Introduction to AutoDesk Inventor, Part files, Assmebly Files, Presentation Files, and Drawing Files	April- May 3 Weeks
		• CAD Portfolio	May-June 4 Weeks