

# K: 3D CAD & Rendering

Content Area: **Generic Content Area**  
Course(s): **Generic Course, Level 1 Engineering Drawing**  
Time Period: **Generic Time Period**  
Length: **3 weeks**  
Status: **Published**

## Unit Introduction

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In this unit, throughout the school year, students will learn how to use/apply different computer Aided drawing software. Students will use AutoCad for a majority of their detail work. Other programs such as Sketch-up will be used to produce 3D models as well as interior /exterior renderings...This is a new unit that will require extensive learning and development for confident application.

## Standards

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9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.2	Use architecture and construction skills to create and manage a project.
9.3.12.AC.6	Read, interpret and use technical drawings, documents and specifications to plan a project.
9.3.12.AC.7	Describe career opportunities and means to achieve those opportunities in each of the Architecture & Construction Career Pathways.
9.3.12.AC-CST.7	Compare and contrast the building systems and components required for a construction project.
9.3.12.AC-DES.6	Apply the techniques and skills of modern drafting, design, engineering and construction to projects.
9.3.12.AC-DES.8	Apply standards, applications and restrictions pertaining to the selection and use of construction materials, components and assemblies in the project design.
12.9.3.ST.6	Demonstrate technical skills needed in a chosen STEM field.
12.9.3.ST-ET.5	Apply the knowledge learned in STEM to solve problems.

## Essential Questions

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1. How does the world/societies/cultures/environments impact/influence Architecture past, present and future?
2. What is the role the "Design Process" in good Architecture?

## Content / Skills

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### *Textbooks:*

**Basic Technical Drawing** - Spencer, Dygdon, Novak, 8th edition, 2004

**Engineering Drawing & Design** - D.A. Madsen, D.P. Madsen, 6th edition, 2017

**Architectural Drafting & Design** – A. Jefferis, D.A. Madsen, D.P. Madsen, 7th edition, 2017

### *Skills: See Below*

• Layout	.
• Plotting Drawings to Scale	.
• math operations	.
• measurement	.
• mechanical drawing	.
• safety	.
• sketching	.
• teamwork	.
• using CAD	.
• visualization	.