



URBANDALE
COMMUNITY SCHOOL DISTRICT

| Course Title: Seventh Grade Engineering (Design and Modeling) | | |
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| Description: In seventh grade engineering, the content focuses on drawing in 2D and 3D and 3D modeling (physical and on computer software). | | |
| Reporting Topic | Grade Level Standards | Competency Statement |
| <u>Technical Drawings</u> | <ul style="list-style-type: none"> ● 11.6-8.J - Students will develop the abilities to apply the design process. <ul style="list-style-type: none"> ○ Make two-dimensional and three-dimensional representations of the designed solution. ● 17.6-8.K - Students will develop an understanding of and be able to select and use information and communication technologies. <ul style="list-style-type: none"> ○ The use of symbols, measurements, and drawings promotes a clear communication by providing a common language to express ideas. | <p>Students will:</p> <ul style="list-style-type: none"> ● Draw a multiview sketch that includes the front, top, and right views drawn, labeled, and aligned from a specified spine. ● Dimension a multiview sketch using the correct measurement, dimensioning lines going the correct way, and tool specified |
| <u>Three Dimensional Modeling</u> | <ul style="list-style-type: none"> ● NGSS.MS-ETS1-4 - Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved. ● 11.6-8.J - Students will develop the abilities to apply the design process. <ul style="list-style-type: none"> ○ Make two-dimensional and three-dimensional representations of the designed solution. | <p>Students will:</p> <ul style="list-style-type: none"> ● Design a puzzle cube that meets specific criteria ● Use the correct measurements to create a cube that directly resembles the physical cube you created on a 3D software |