



North Polk Community Schools Pacing & Course Description Guide



Grade Level: 11-12

Content: COMPUTER-AIDED DRAFTING & DESIGN

Year: 2022-23

Course Description/Rationale

This course will help students develop general drafting skills, and place a particular emphasis on interior and exterior residential design, site orientation, floor plans, design sketches, and presentation drawings. It starts out with some basic hand drawing and then progressively switches to Computer Drafting. (1 HS credit) ©

Name of Unit	Time Frame	Essential Learning Target	Standard(s)
Housing	8-12 weeks	<p>Students will design a variety of house plans.</p> <p>Students will understand some basic ideas that go into house designing.</p>	<p>1. Demonstrate basic employability skills</p> <p>7. Use interpersonal skills to influence and guide others toward a goal</p> <p>11. Demonstrate accountability for individual performance.</p> <p>2. Demonstrate basic communication skills</p> <p>4. Communicate effectively on the job using electronic communication devices.</p>

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| | | | <p>5. Effectively work in as a participating team member.</p> <p>4. Demonstrate knowledge regarding the essential components of sustainable design and construction</p> <p>6. Incorporate and identify Universal Design Standards into the design and construction.</p> <p>9. Describe the basic physical principles that apply to the built environment</p> <p>10. Read and interpret construction drawings.</p> <p>1. Recognize and identify basic construction drawing terms, components, and symbols.</p> <p>2. Relate information on construction drawings to actual locations</p> |
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Introduction to CAD	2-3 weeks	<p>Students will be able to understand the difference from Hand drawings and Computer drawings and the importance of both.</p> <p>Students will build computer drawing skills to develop detailed drawings.</p>	<p>11. Demonstrate basic employability skills</p> <p>4. Demonstrate knowledge of computer systems and explain common uses for computers in the construction industry.</p> <p>8. Demonstrate integrity and ethical behavior.</p> <p>2. Demonstrate basic communication skills</p> <p>1. Interpret information and instructions presented in both verbal and written form.</p> <p>5. Understand the basic safety and safety operating procedures necessary for a construction project.</p> <p>1. Explain the idea of a safety culture and its</p>

importance in the construction crafts.

6. Demonstrate competency in the mathematics and geometry required for construction layout, including machinery, cut lists, fractions, decimals, area, volume, and percentages.

7. Demonstrate competency in various measuring systems in the construction field, including English, metrics, engineers, and scales used in construction processes and basic surveying.

2. Use a standard ruler, a metric ruler, and a measuring tape to measure.

3. Add, subtract, multiply, and divide fractions.

5. Convert decimals to percentages and percentages to decimals.

6. Convert fractions to decimals and

			decimals to fractions. 9. Recognize some of the basic shapes used in the construction industry and apply basic geometry to measure them.