Architectural Drafting

Course Number: 21103

Rationale Statement: People with careers in design and pre-construction create our future. They turn a concept into a set of plans whether it's a component, a system, or a building. Their plans guide other construction or manufacturing professionals as they continue the building process. Students are introduced to tools and methods used by a skilled draftsperson and engineers,

Suggested Grade Level: 9-12

Topics Covered:

- Basic architectural drafting techniques
- Proper drafting tools and safety
- Design concepts
- New construction techniques
- Plot plan development
- Floor and foundations plans and various elevations
- Basic CAD applications used in Architectural Drafting

Core Technical Standards & Examples

Indicator #1: Study principles, standards, and applications of design	
Bloom's Taxonomy Level	**Standard and Examples**
Comprehension	**AD1.1. Describe basic house design concepts.** Examples: * Interpret good and bad plan layouts * Differentiate key site considerations, restrictions, zoning, and codes * Describe advantages and disadvantages of design concepts * Examine the Americans with Disabilities Act and how it affects design.
Comprehension	**AD1.2. Summarize modern innovations and techniques used in new construction.** Examples: * Discuss advantages of modern applications in the construction industry * Associate modular concepts to the design of a simple residence * Describe alternative construction products for various applications.

	* Distinguish cultural design used in modern construction.
Application	**AD1.3. Demonstrate drawing instruments and drafting techniques** Examples: * Apply the use of drafting equipment on paper with various projects * Classify views in orthographic projections * Apply and use the alphabet of lines
Indicator #2: - Apply basic organizational, spatial, structural and construction principles	
Bloom's Taxonomy Level	**Standard and Examples**
Synthesis	**AD2.1. Create plot plans and site development** Examples: * Design the location of a building on a site * Integrate various features of a typical plot plan
Analysis	**AD2.2. Analyze architectural knowledge to create a foundation plan** Examples: * Arrange the primary features and symbols on a foundation plan * Analyze a typical floor plan to create the appropriate foundation plan and materials needed.
Synthesis	**AD2.3. Integrate architectural design to develop a floor plan** Examples: * Design a residential floor plan using accepted symbols, techniques and codes. * Integrate proper architectural dimensioning techniques * Combine typical materials used in construction * Plan door and window schedules
Application	**AD2.4. Illustrate elevation and perspective views.** Examples: * Examine features included on an exterior elevation * Illustrate one and two point perspective drawings

	* Show a typical exterior elevation using proper techniques * Examine a wall section for a typical frame structure with a basement
Indicator #3: Analyze and implement computer aided software in architectural design	
Bloom's Taxonomy Level	**Standard and Examples**
Analysis	**AD3.1. Compare various types of CAD software** Examples: * Describe benefits of design using CAD * Identify factors that should be included in selecting architectural software
Application	**AD3.2. Apply CAD software to architectural design** Examples: * Create basic floor plans using CAD * Design interior aspects and renderings on a kitchen layout * Create elevations and perspectives of building