Woods: Furniture and Cabinet Construction (Grades 9-12)

Course Description:

The curriculum for this course is developed from the Wisconsin Standards for Technology and Engineering. This course will stress problem solving activities using machine and hand tool operations to construct projects out of wood. Students will design, draw plans and fabricate projects increasing in difficulty to gain exposure to varying techniques and methods of tool operation. A student fee is charged for materials used. From Wisconsin Standards for For Technology and Engineering.

Essential Understandings:

1. Knowledge of equipment and safety procedures are essential to responsible use of equipment and tools. (AC1.c, AC1.d, AC1.e, AC1.f, MNF1.a)
2. Understanding and knowledge of tools and materials is requisite for analyzing sound choices in methods and materials. (BB1.b)
3. Quality design, engineering, and construction require accurate knowledge and application of measuring systems. (AC1.a, AC1.b)
4. Experience applying design theory allows for stronger analysis of plans and designs before investment of resources in final production. (ENG1.a, ENG2.a, ENG2.b, ENG3.a, ENG3.b-ENG4.a)
5. Executing and receiving evaluations and feedback on projects is vital to learning and improving skills. (ENG4.c, ENG5.a)
6. Specific tasks require experience and knowledge to correctly identify, select, and safely use appropriate tools, machines, products, systems, and techniques. (MNF1.a, MNF1.b, MNF1.c, MNF1.d, MNF1.e, MNF1.f, MNF1.g, MNF1.h)

Unit	Description of Unit and Learning Targets
Measurement • How do you apply measurement skills and knowledge when building?	Students review and apply measurement skills in project work. Learning Targets: • I can calculate required materials for residential construction projects. • I can apply conventional construction measurement processes accurately. • I can use conventional construction formulas to determine production requirements. • I can select and apply the appropriate units and scales for situations involving measurement.
Plan Generation • How do you design a project to meet specific requirements?	Students design a project to fabricate. Learning Targets: • I can understand established design principles used to evaluate existing designs, to collect data and to guide the design process. • I can analyze the process of engineering design accounts for a number of factors to make decisions. • I can realize the design of structures includes a number of requirements. • I can build or construct an object using the design process.

Safety ● How do you incorporate safety knowledge into construction work?	Students learn and review safety procedures before working with tools. <u>Learning Targets:</u> ● I can demonstrate and use the hand tools of the trade properly and safely. ● I can demonstrate the safety procedures and practices in various work environment settings pertaining to residential and commercial construction. ● I can identify safety and health protections and procedures that are critical to worker well being.
Lumber Types and Properties ● How can knowledge of wood and lumber help you create a stronger design and finished product?	Students are introduced to resources used to create the wood products they design then build. <u>Learning Targets:</u> ● I can select appropriate resources and explain how trade offs between competing values, such as availability, cost, desirability and waste influenced their decision.