



SCHOOL DISTRICT OF MONROE

Preparing for the Future, One Child at a Time

Cabinet Making & Prototyping

Course Description:

The curriculum for this course is developed from the [Wisconsin Standards for Technology and Engineering](#). This advanced elective 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. This is a 2 Trimester Course. The 1st trimester project will be a “Mass Production” project and the 2nd trimester project will be an individually designed project. The information in this course overview outlines what students should understand and be able to do by the end of the both trimesters. Students must meet the prerequisites as listed in the course description book to take this course.

Mastery Standards:

Knowledge of equipment and safety procedures are essential to responsible use of equipment and tools in the woods manufacturing industry . (AC1.c, AC1.d, AC1.e, AC1.f, MNF1.a)

Understanding and knowledge of tools and materials is requisite for analyzing sound choices in methods and materials in the woods manufacturing industry. (BB1.b)

Quality design, engineering, and construction require accurate knowledge and application of measuring systems. (AC1.a, AC1.b)

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)

Executing and receiving evaluations and feedback on projects is vital to learning and improving skills. (ENG4.c, ENG5.a)

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
<p>Unit Title: General Safety</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the Woods Manufacturing Industry? 	<p>Students learn and review safety procedures before working with tools and machines.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the hand and power tools of the trade properly and safely. I can demonstrate the safety procedures and practices in various work environment settings pertaining to the Woods Manufacturing Industry. I can identify safety and health protections and procedures that are critical to worker well being.
<p>Unit Title: Radial Arm Saw Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the 	<p>Students review Safety and operating procedures for the Radial Arm Saw.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Radial Arm Saw safely and correctly.

<p>Woods Manufacturing Industry?</p>	
<p>Unit Title: Jointer Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the Woods Manufacturing Industry? 	<p>Students review Safety and operating procedures for the Jointer..</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Jointer safely and correctly.
<p>Unit Title: Planer/Surfacer Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the Woods Manufacturing Industry? 	<p>Students review Safety and operating procedures for the Planer/Surfacer.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Planer/Surfacer safely and correctly.
<p>Unit Title: Table Saw Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the Woods Manufacturing Industry? 	<p>Students review Safety and operating procedures for the Table Saw..</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Table Saw safely and correctly.
<p>Unit Title: Bandsaw Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the Woods Manufacturing Industry? 	<p>Students review Safety and operating procedures for the Bandsaw.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Bandsaw safely and correctly.
<p>Unit Title: Portable Router Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the Woods Manufacturing Industry? 	<p>Students review Safety and operating procedures for the Portable Router.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Portable Router safely and correctly.
<p>Unit Title: Miter Saw Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the Woods Manufacturing Industry? 	<p>Students review Safety and operating procedures for the Miter Saw.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Miter Saw safely and correctly.
<p>Unit Title: Panel Saw Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the Woods Manufacturing Industry? 	<p>Students review Safety and operating procedures for the Panel Saw</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Panel Saw safely and correctly.
<p>Unit Title: Sanding Machines Safety and Operation</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> How do you incorporate safety knowledge and practice into the 	<p>Students review Safety and operating procedures for the Sanding Machines.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> I can demonstrate and use the Spindle Sander safely and correctly.

<p>Woods Manufacturing Industry?</p>	<ul style="list-style-type: none"> • I can demonstrate and use the Disc Sander safely and correctly. • I can demonstrate and use the Edge Sander safely and correctly.
<p>Unit Title: Measurement</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> • How do you apply measurement skills and knowledge when designing, manufacturing and assembling Woods Manufacturing products? 	<p>Students review and apply measurement skills in project work.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> • I can calculate required materials for Woods Manufacturing 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.
<p>Unit Title: Mass Production</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> • What is the purpose of Mass Production in Industry? 	<p>Students will work together to mass produce a predetermined project.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> • I can work together with my team to produce the parts for the product. • I can perform the task that I am assigned in the Mass Production processes.
<p>Unit Title: Individual Project Production</p> <p><u>Essential Questions:</u></p> <ul style="list-style-type: none"> • How do you design a project to meet specific requirements? 	<p>Students design a project to fabricate.</p> <p><u>Learning Targets:</u></p> <ul style="list-style-type: none"> • 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. • I can use various cabinet making techniques to design and produce a product. • I can use various types of jointery to assemble the parts to make the end product.