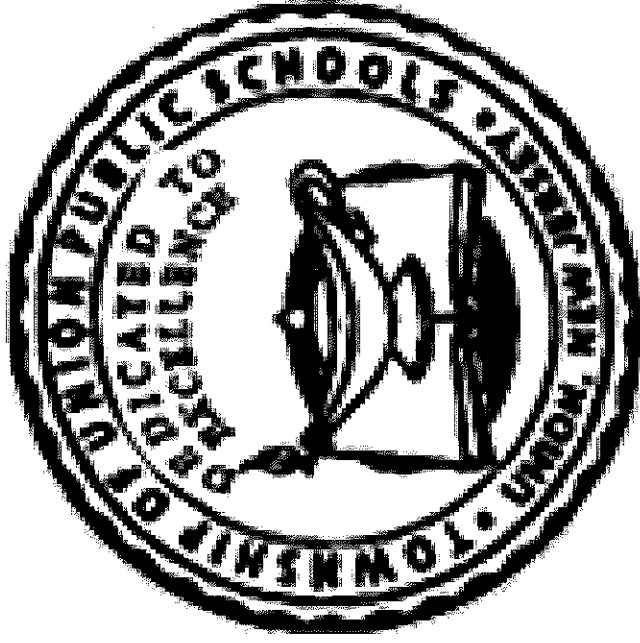
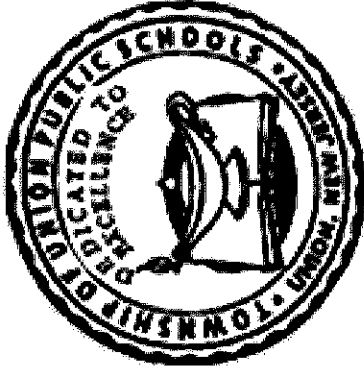


TOWNSHIP OF UNION PUBLIC SCHOOLS



Woodworking II (IE360)

Curriculum Guide Approved June 2015



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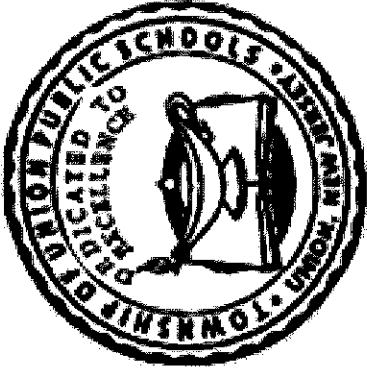
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TOWNSHIP OF UNION PUBLIC SCHOOLS
Administration

SuperintendentMr. Gregory Tatum

Assistant SuperintendentDr. Noreen Lishak

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DEPARTMENT SUPERVISORS

All Academic Areas K-2	Ms. Maureen Corbett
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Woodworking II (IE 360)

Curriculum Committee Members

Edward Gottlin

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Mission Statement

The Township of Union Board of Education believes that every child is entitled to an education designed to meet his or her individual needs in an environment that is conducive to learning. State standards, federal and state mandates, and local goals and objectives, along with community input, must be reviewed and evaluated on a regular basis to ensure that an atmosphere of learning is both encouraged and implemented. Furthermore, any disruption to or interference with a healthy and safe educational environment must be addressed, corrected, or when necessary, removed in order for the district to maintain the appropriate educational setting.

Philosophy Statement

The Township of Union Public School District, as a societal agency, reflects democratic ideals and concepts through its educational practices. It is the belief of the Board of Education that a primary function of the Township of Union Public School System is to formulate a learning climate conducive to the needs of all students in general, providing therein for individual differences. The school operates as a partner with the home and community.

Statement of District Goals

- **Develop reading, writing, speaking, listening, and mathematical skills.**
- **Develop a pride in work and a feeling of self-worth, self-reliance, and self-discipline.**
- **Acquire and use the skills and habits involved in critical and constructive thinking.**
- **Develop a code of behavior based on moral and ethical principles.**
- **Work with others cooperatively.**
- **Acquire a knowledge and appreciation of the historical record of human achievement and failures and current societal issues.**
- **Acquire a knowledge and understanding of the physical and biological sciences.**
- **Participate effectively and efficiently in economic life and the development of skills to enter a specific field of work.**
- **Appreciate and understand literature, art, music, and other cultural activities.**
- **Develop an understanding of the historical and cultural heritage.**
- **Develop a concern for the proper use and/or preservation of natural resources.**
- **Develop basic skills in sports and other forms of recreation.**

Course Description

Advanced machine cabinetmaking is intended to develop a deeper understanding of the safe and proper use of stationary, portable power and hand tools used to produce a variety of woodworking joints and processes to develop furniture construction. Students will gain a greater understanding of techniques involved in developing cabinet frame, drawer, And door construction along with associated hardware and various glue up procedures along with finishing techniques. The student will develop a deeper understanding of the lumber industry, wood by-products and wood identification.

Activities for the student will include using a multitude of shop equipment to produce a variety of increasingly challenging approved projects as their skill level and confidence increase throughout the school year.

Recommended Textbooks:

Modern Woodworking

By

The Goodheart-Wilcox Company, Inc.

Course Proficiencies

Students will be able to...

1. Understand and applying safe and proper shop safety rules as they apply to operating machines and equipment in the lab.
2. Students will be able to produce a three view drawing complete with dimensions depicting their desired project.
3. Apply an approved finish to their project.
4. Display a mastery of the safe and proper use of a variety of portable and stationary woodworking equipment and machinery.
5. Construct and identify a variety of woodworking joints.
6. Identify ,construct and assemble drawers to be used in various cabinet construction.
7. Properly use a variety of wood fasteners associated with different aspects of cabinet construction.
8. Assemble their various project parts using a variety of acquired techniques and procedures.

Curriculum Units

- | | |
|---|---|
| Unit 1: Shop safety | Unit 2: Portable and stationary power tools |
| Unit 3: Project design and drawing | Unit 4: Woodworking joints |
| Unit 5: Drawer and door construction | Unit 6: Cabinet and wood fasteners |
| Unit 7: Project assembly | Unit 8: Woodturning Operations |
| Unit 9: Finishing and finishing materials | Unit 10: Types of wood and wood products |
| Unit 11: Careers in Woodworking | |

Pacing Guide- Course

<u>Content</u>	<u>Number of Days</u>
<u>Unit 1: Wood Shop Safety</u>	<u>2-4 weeks</u>
<u>Unit 2: Portable and Stationary Power Tools</u>	<u>5-7 weeks</u>
<u>Unit 3: Project Design and Drawing</u>	<u>5-7 weeks</u>
<u>Unit 4: Woodworking Joints</u>	<u>3-5 weeks</u>
<u>Unit 5: Drawer & Door Construction</u>	<u>4-5 weeks</u>
<u>Unit 6: Cabinet and Wood Fasteners</u>	<u>4-5 weeks</u>
<u>Unit 7: Project Assembly</u>	<u>2-3 weeks</u>
<u>Unit 8: Woodturning Operations</u>	<u>3-4 weeks</u>
<u>Unit 9: Finishing and Finishing Materials</u>	<u>3-4 weeks</u>
<u>Unit 10: Types of wood and wood products</u>	<u>2-3 weeks</u>
<u>Unit 11: Careers in Woodworking</u>	<u>2-3 weeks</u>

Unit 1: Wood Shop Safety

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>Why is shop safety Important?</p> <p>Are there safety features for different types of tools And machinery?</p> <p>Why is important to follow wood shop safety rules?</p> <p>How does wearing safety glasses decrease your chances of incurring an injury?</p>	<p>To promote safety in the Classroom</p> <p>Encourage students to abide by established safety rules and regulations.</p> <p>9.3.12..ac</p>	<p>View safety video</p> <p>Read text book and complete worksheets</p> <p>Observe and participate in machine demonstrations</p>	<p>Tests / quizzes</p> <p>Observations</p> <p>Peer and self evaluation</p>

Unit 2: Portable and Stationary Power Tools

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPI/s)	Activities	Assessments
<p>Why is it necessary to have a multitude of machines and equipment?</p> <p>What are the functions of the various portable and power tools?</p> <p>How do you safely and properly use all available equipment in the shop?</p>	<p>Develop a mastery in the knowledge and Use of all the available machines and equipment in the shop</p> <p>Differentiate the capabilities and purpose of the equipment and the knowledge of which is best suited for use of the desired operation being performed</p> <p>9.3.12.ac.6</p>	<p>Observe presentations and demonstrations</p> <p>Perform tool and machine procedures under supervision of instructor</p> <p>Complete a variety of class assignments in progressive difficulty to achieve mastery of skills required</p>	<p>Tests / quizzes</p> <p>Projects</p> <p>Observations</p> <p>Self Evaluation</p>

Unit 3: Project Design and Drawing

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>Why is it necessary to design and draw your intended project before construction?</p> <p>How do you incorporate your ideas and concepts onto paper such that it can be understood by everyone?</p>	<p>Design all the important aspects of a desired object and incorporate into a three view drawing.</p> <p>Use their design concepts and learned techniques to produce a three view representation of their project</p> <p>8.2.12.c.1</p>	<p>Observe presentations and demonstrations,</p> <p>Self Evaluation</p> <p>Read handout and textbook.</p> <p>Hands on instruction with one on one interaction.</p> <p>Use of graph paper, rulers, straight edges, Triangles, and mechanical drawing tools to produce a scaled drawing</p>	<p>Observe presentations and demonstrations, Tests / quizzes</p> <p>Projects</p> <p>Observations</p> <p>Results of drawings</p> <p>Self and peer assessment</p>

Unit 4: Woodworking Joints

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>Why is it necessary to have knowledge of a variety of woodworking joints?</p> <p>How do you duplicate the desired wood joint for your project?</p> <p>Which type of machinery is best suited for the desired result?</p>	<p>Select the proper joint for the particular application.</p> <p>Use the various equipment To produce the desired Wood joint safely and properly.</p> <p>Measure, layout and prepare prior cutting and shaping the wood.</p> <p>9.3.12.ac.6</p>	<p>Observe presentations And demonstrations, read Handouts and text book.</p> <p>Hands on instruction with one on one interaction With supervisor.</p> <p>Use of a variety of tools And equipment to layout, Cut and shape to proper Size and dimensions.</p>	<p>Teacher observation</p> <p>Accuracy and compliance With stated requirements</p> <p>Tolerance between mating parts pf project</p> <p>Self and peer assessment</p>

Unit 5: Drawer and Door Construction

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>What are the key components which make-up quality drawer and construction?</p> <p>How do you incorporate drawers and doors into your cabinet design process?</p> <p>What type of machines and procedures are necessary to produce quality doors and drawers?</p>	<p>Design all important aspects of the desired drawer and door and incorporate into a three view drawing.</p> <p>Use their design concepts and use learned techniques, along with the proper machines and equipment , to produce</p> <p>The desired drawer and doors to properly fit into the desired cabinet.</p> <p>9.3.12.ac.6;9.3.12.ac-cst.8</p>	<p>Observe demonstrations and presentations.</p> <p>Hands on instruction</p> <p>One-on-one instruction.</p>	<p>Teacher observation</p> <p>Projects</p> <p>Tests and Quizzes</p> <p>Self and peer assessment</p>

Unit 6: Cabinet and Wood Fasteners

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>Why is it necessary to have a multitude of cabinet and wood fasteners?</p> <p>What type of fasteners are available for cabinet construction</p> <p>Which type of fastener is best suited for a particular application</p> <p>How do you properly use the variety of available fasteners?</p>	<p><i>Develop mastery in the knowledge and use of all the available cabinet and wood fasteners...</i></p> <p><i>Differentiate the capabilities and purpose of the variety of available cabinet and wood fasteners and the knowledge of which is best suited for use for the desired operation being performed.</i></p> <p><i>Properly align, drill and attach the required fastener or hardware in accordance with the prescribed method instructed.</i></p> <p>9.3.12.ac.6</p>	<p>Observe presentations and demonstrations</p> <p>Read handouts and texts</p> <p>Perform tool and machine procedures</p> <p>Complete a variety of class assignments and tasks in differentiated instruction to master the skill necessary to achieve success.</p>	<p>Teacher observation</p> <p>Projects</p> <p>Student assessment</p> <p>Tests and Quizzes</p> <p>Student Presentations</p> <p>Self and peer assessment</p>

Unit 7: Project Assembly

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p><i>What are the key components which enable a student to assemble project pieces properly.</i></p> <p><i>How do you incorporate previously developed skills into the proper techniques of project assembly?</i></p> <p><i>What type of tools, equipment and fasteners are required for proper assembly of parts?</i></p>	<p><i>Develop a knowledge of the proper methods and techniques required for proper assembly of project pieces.</i></p> <p><i>Use available tools and equipment along with appropriate fasteners, to Assemble all project pieces correctly.</i></p> <p>9.3.12.ac.6</p>	<p>Observe presentations And demonstrations.</p> <p>Read handouts and text.</p> <p>Perform gluing and clamping activities under supervision of instructor.</p> <p>Complete one project using different clamps and glues.</p>	<p>Teacher observation</p> <p>Projects</p> <p>Student assessment</p> <p>Test/Quizzes</p> <p>Student Presentations</p> <p>Self and peer assessment</p>

Unit 8: Woodturning Operations

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>What are the key components which enable a student to understand the fundamentals of The lathe?</p>	<p>Use design techniques to develop a Lathe project.</p>	<p>Observe presentations and demos.</p>	<p>Teacher observation</p>
<p>What are the two Major classifications of Lathe turning?</p>	<p>Develop knowledge of the proper methods and techniques required for Faceplate and spindle turning.</p>	<p>Read handouts and text. Perform proper techniques while under supervision.</p>	<p>Projects Test/Quizzes Student Presentations</p>
<p>What type of tools and processes are required for lathe Turning?</p>	<p>Use available tools and equipment to successfully complete a faceplate or a Spindle turning.</p>	<p>Complete a variety of tasks to achieve skills needed for using fasteners.</p>	<p>Self and peer assessment</p>
<p align="right">9.3.12.ac.6</p>			

Unit 9: Finishing and finishing materials

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>What are the key components which enable a student to understand the fundamentals of sanding and finishing materials?</p> <p>What are the preparations needed for finishing a piece of wood properly.</p> <p>What types of finishes are available to the beginner woodworker?</p>	<p>Develop knowledge of the proper methods and techniques required to apply a proper finish to a project.</p> <p>Use available tools and equipment to prepare a project properly for finishing.</p> <p>Use available finishes according to manufactures standards for quality results.</p> <p>9.3.12.ac.6</p>	<p>Observe presentations and demonstrations.</p> <p>Read handouts and textbook.</p> <p>Hands on instruction with one on one interaction with supervisor.</p>	<p>Teacher observation</p> <p>Projects</p> <p>Student assessment</p> <p>Test/Quizzes</p> <p>Student Presentations</p> <p>Self and peer assessment</p>

Unit 10: Types of Wood and Wood Products

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CPIs)	Activities	Assessments
<p>What are the key components which enable a student to understand the fundamentals of the variety of woods And wood products?</p>	<p>Develop an understanding and a appreciation of the variety Of wood species.</p> <p>Expose students to the multitude of manufactured wood products.</p>	<p>Observe presentations and demonstrations.</p> <p>Read handouts and textbook.</p> <p>Hands on instruction with one on one interaction with supervisor.</p>	<p>Teacher observation</p> <p>Projects</p> <p>Student assessment</p> <p>Test/Quizzes</p> <p>Student Presentations</p> <p>Self and peer assessment</p>

Unit 11: Career Opportunities

Essential Questions	Instructional Objectives/ Skills and Benchmarks (CP/s)	Activities	Assessments
<p>What are the key components which enable a student to be familiar with the variety of career opportunities available in the field of woodworking?</p>	<p>Develop an understanding and appreciation for the variety of available woodworking careers and opportunities.</p> <p>9.2.12.ac.1</p>	<p>Observe presentations and demonstrations.</p> <p>Read handouts and textbook.</p> <p>Visit a cabinet making shop.</p>	<p>Review of completed worksheets.</p> <p>Self and peer assessment</p> <p>Student Presentations</p> <p>Teacher observation and interaction.</p>

New Jersey Core Curriculum Content Standards
Academic Area

Technology

(8.2.12.c.1-design, 8.2.12.c.6- create scaled drawings)

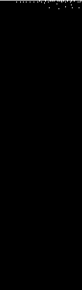
Career Awareness

(9.2.12.c.1-career goals, 9.2.12.c.3-career skills)

Life and Careers (construction)

(9.3.12.ac.1-vocabulary and symbols for architecture and construction, 9.3.12.ac.2-construction skills,
9.3.12. Ac.6 -implement drawing and specs. Of project plans,
9.3.12. ac-cst.8-demonstrate construction craft, 9.3.12.ac-cst.9-safely use tools

New Jersey Scoring Rubric

					
Measurement	Poor	Fair	Good	Fair	Good
Cuts / Joints	No attention to measurements. Very little accuracy in following plans.	Minor measurement errors. Plans followed but some steps skipped or done incorrectly.	Measurements are accurate. Plans followed.	Fair	Good
Cuts / Joints	Poor	Fair	Good	Fair	Good
Cuts / Joints	Cuts not square, joints do not fit tightly.	Some minor errors in cuts or joint fit.	Cuts accurate. Joints fit tightly.	Fair	Good
Assembly	Poor	Fair	Good	Fair	Good
Assembly	Little care taken in assembly of project. Some pieces do not fit correctly. Evidence of glue	Minor errors in assembly. Overall assembly is accurate. Minor evidence of glue	No visible errors in assembly. No visible glue.	Fair	Good
Sanding	Poor	Fair	Good	Fair	Good
Sanding	Large scratches in wood surface. Sanding across grain is obvious. Not sanded to the proper grit paper.	Some scratches are visible. Some cross grain sanding may be visible.	Smooth finish with no visible scratches.	Fair	Good
Finish	Poor	Fair	Good	Fair	Good

<p>Stain is blotchy or incomplete. Finish does not cover all of the wood or has visible brush marks and bubbles.</p>	<p>Stain is not consistent throughout the project. Finish has minor imperfections.</p>	<p>Stain is even. Finish is even with only the smallest of imperfections noticeable.</p>
<p>Poor</p>	<p>Fair</p>	<p>Good</p>

Safety

<p>Student neglects to use proper safety equipment and is careless in the work. Does not keep area neat and organized.</p>	<p>With prompting, student uses safety glasses and ear protection. Student is somewhat careless about work and does not keep area neat.</p>	<p>Student uses safety glasses/ear protection, works carefully and keeps work area neat and clutter free.</p>
<p>Poor</p>	<p>Fair</p>	<p>Good</p>

Craftsmanship

<p>Project has many errors. Student did not apply given talent.</p>	<p>Project has few minor errors. Student applied given talent to satisfactory standards.</p>	<p>Project built to detailed standards. Able to be sold in a store.</p>
<p>Poor</p>	<p>Fair</p>	<p>Good</p>