

## Rumson-Fair Haven Regional High School

**Course:** *Woods Technology*

**Staff Writers:** Dino Pagano and Jon Reynolds

**Supervisor:** Jon Pennetti

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### **Section I: Course Description**

*Woods Technology* is an elective designed to introduce high school students to woodworking safety and techniques. The students will learn through lectures, teacher demonstrations, and hands-on projects. Throughout the course, students will research basic designs, improve upon their problem-solving skills, demonstrate various assembly methods, and understand various finishing techniques. Students will learn the proper and safe operation of a variety of hand and power tools. Projects include a European Bookshelf, the “Bulldawg Footstool”, and other independent projects as time permits.

### **Section II: NJSL: New Jersey Student Learning Standards/Learning Objectives**

1. **2020 New Jersey Student Learning Standards – Science:**
  - “Scientific and technological advances have proliferated and now permeate most aspects of life in the 21st century. It is increasingly important that all members of our society develop an understanding of scientific and engineering concepts and processes. Learning how to construct scientific explanations and how to design evidence-based solutions provides students with tools to think critically about personal and societal issues and needs. Students can then contribute meaningfully to decision-making processes, such as discussions about climate change, new approaches to health care, and innovative solutions to local and global problems.”
2. **2016 English Language Arts Companions for Grades 9-10:**
  - The ELA Standards were revised in 2016, with the recommendations of teams of teachers, parents, administrators, supervisors, and other stakeholders, and reflect the strong beliefs that, “...Literacy must be recognized and guided in content areas so that students recognize the academic vocabulary, media representations, and power of language inherent in the work of scholars and experts...”
3. **Standard 8.1 (Computer Science) and 8.2 (Design Thinking) of the 2020 NJSL:**
  - “The ‘Intent and Spirit of the Computer Science and Design Thinking Standards’ is to focus on deep understanding of concepts that enable students to think critically and systematically about leveraging technology to solve local and global issues. Authentic learning experiences that enable students to apply content knowledge, integrate concepts across disciplines, develop computational thinking skills, acquire and incorporate varied perspectives, and communicate with diverse audiences about the use and effects of computing prepares New Jersey students for college and careers.”
4. **2020 Career Readiness, Life Literacies, and Key Skills Standards (9.2 and 9.4):**
  - “Rapid advancements in technology and subsequent changes in the economy have created opportunities for individuals to compete and connect on a global scale. In this increasingly diverse and complex world, the successful entrepreneur or employee must not only possess the requisite education for specific industry pathways but also employability skills necessary to collaborate with others and manage resources effectively in order to establish and maintain stability and independence. This document outlines concepts and skills necessary for New Jersey’s students to thrive in an ever-changing world. Intended for integration throughout all K–12 academic and technical content areas, the New Jersey Student Learning Standards- Career Readiness, Life Literacies, and Key Skills (NJSL-CLKS) provides the framework for students to learn the concepts, skills, and practices essential to the successful navigation of career exploration and preparation, personal finances and digital literacy.”
  - **Climate Change:** The state of New Jersey has mandated instruction in, “Climate Change across all content areas, leveraging the passion students have shown for this critical issue and providing them opportunities to develop a deep understanding of the science behind the changes and to explore the solutions our world desperately needs.”
5. **\*Amistad Law: N.J.S.A. 18A 52:16A-88:**
  - The inclusion of lessons and resources/texts dealing with the African slave trade, slavery in America, the vestiges of slavery in this country and the contributions of African-Americans to our society will be implemented in English and Social Studies courses in accordance with state law: “Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.”
6. **\*Holocaust Law: N.J.S.A. 18A 35-28:**
  - The inclusion of lessons and resources/texts that enable pupils to identify and analyze applicable theories concerning human nature and behavior; to understand that genocide is a consequence of prejudice and discrimination; and to understand that issues of moral dilemma and conscience have a profound impact on life

will be implemented in English and Social Studies courses in accordance with state law: “Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.”

7. **[\\*LGBT and Disabilities Law: N.J.S.A. 18A:35-4.35:](#)**
  - A transformative approach to the inclusion of lessons and resources/texts on the contributions and issues concerning the LGBTQ+ population and people with disabilities will be implemented across all core subjects in accordance with state law: “A board of education shall include instruction on the political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people, in an appropriate place in the curriculum of middle school and high school students as part of the district’s implementation of the New Jersey Student Learning Standards (N.J.S.A.18A:35-4.36). A board of education shall have policies and procedures in place pertaining to the selection of instructional materials to implement the requirements of N.J.S.A. 18A:35-4.35.”
8. **[\\*Asian American and Pacific Islanders Legislation: N.J.S.A 4021/A6100:](#)**
  - The inclusion of lessons and resources/texts on the history and contributions of Asian Americans and Pacific Islanders, will enable New Jersey’s schools to provide a curriculum that reflects the diversity of our state. In accordance with state law: “A board of education shall include instruction on the history and contributions of Asian Americans and Pacific Islanders in an appropriate place in the curriculum of students in grades kindergarten through as part of the school district’s implementation of the New Jersey Student Learning Standards in Social Studies.”
9. Acquisition/development/refinement of the higher-order critical thinking skills aligned with the *Revised Bloom’s Taxonomy of Cognitive Objectives*

### **Section III: Curriculum Modifications**

The *Woods Technology* curriculum is subject to case-by-case modifications to support/advance the needs of all students, including special education students, English language learners, gifted students and those at risk of school failure. These modifications are based on Individualized Learning Programs (IEPs), recommendations made by the district’s English Language Learners (ELL) coordinator, feedback from members of the Intervention & Referral Services Team (*I&RS*) for at-risk students, and 504 Plans.

Coursework and assessments will be modified on an individual basis for students when necessary. Modifications may include but are not limited to those outlined in the [Modifications/Accommodations for Technology and Design Courses](#) chart.

### **Section IV: Preparation for Standardized Testing**

Instruction in *Woods Technology* is aligned with the requirements of state and national standardized assessments, including the *NJSLA*, the *ACT*, the *PSAT* and the *SAT*.

### **Section V: Curriculum Pacing Guide**

Curriculum Pacing Guide	
Course Title: <i>Woods Technology</i>	Grade Level: 9th-12th
Unit I: Lab & Tool Overview/General Safety	Week 1
Unit II: European Bookshelf	Weeks 2-6
Unit III: Bulldawg Footstool	Weeks 7-13
Unit IV: Shaker Table/ Shelf	Weeks 14-20

## Section VI: Primary Texts and Year Long Instructional Resources

The following texts and instructional resources are employed in *Woods Technology*:

- [Common Sense Education](#)
- Google Classroom

## Section VII: Grading Formula and Assessment Modes

Marking period grades in *Woods Technology* are determined via a percentage weighting model. The specific grading categories and weightings of each will be determined before the start of each academic year and will be published in the posted/distributed course syllabi.

Assessments in *Woods Technology* vary greatly in format, and scope/content/skills assessed and alternative assessments, differentiation in assessments, and choice will be incorporated as appropriate. Preliminary assessments of each format will be used as benchmarks and summative assessments will be created/revised collaboratively each year and planned by members of the *Woods Technology* instructional team to inform future learning and to measure student growth.

## Section VIII: Unit Templates

The following unit templates have been established for the *Woods Technology* curriculum by the *Woods Technology* instructional team:

Unit I: Lab & Tool Overview/General Safety		
Unit Summary		
Students will complete general safety lectures and tests for credit. Students will demonstrate an understanding of all safety procedures in the lab. Students will receive an overview of the lab and the tools available.		
Standards/Core Ideas/Performance Expectations		
The state standards outlined below, and established by the New Jersey Department of Education, will guide instruction throughout this unit in <i>Woods Technology I</i> :		
<ul style="list-style-type: none"><li>• 2020 New Jersey Student Learning Standards: Science<ul style="list-style-type: none"><li>○ HS-ETS1-1-4</li></ul></li><li>• 2016 New Jersey Student Learning Standards: English Language Arts Companions for Grades 9-10<ul style="list-style-type: none"><li>○ Reading:<ul style="list-style-type: none"><li>■ NJLSA.R7, RST.9-10.3-10.4</li></ul></li><li>○ Writing:<ul style="list-style-type: none"><li>■ NJLSA.W4, NJLSA.W7, WHST.9-10.6-10.7, WHST.9-10.10</li></ul></li></ul></li><li>• 2020 New Jersey Student Learning Standards: Computer Science and Design Thinking<ul style="list-style-type: none"><li>○ 8.2.12.ED.1,2,4-5, 8.2.12.NT.1-2</li></ul></li><li>• 2020 New Jersey Student Learning Standards: Career Readiness, Life Literacies and Key Skills<ul style="list-style-type: none"><li>○ 9.2.12.CAP.6, 8, 9.4.12.CI.1-3, 9.4.12.CT.1-2, 9.4.12.DC.7, 9.4.12.TL.1,3-4</li></ul></li></ul>		
Unit Essential Questions	Unit Enduring Understandings	
<ul style="list-style-type: none"><li>• Is the student prepared to work safely?</li><li>• Do the students understand basic tool usage and how to use lab equipment?</li><li>• Do the students know all safety procedures for the lab?</li></ul>	<ul style="list-style-type: none"><li>• One of the first steps in project planning/completion is understanding the necessary procedures to successfully bring a project to completion, including rough sketches, plans, and using templates.</li><li>• Tools such as a hand saw, coping saw, and drill press all have different, important safety procedures and rules.</li><li>• Safety items such as fire extinguishers, washing stations, and emergency power shut-offs will be identified.</li></ul>	
Evidence of Learning		
Formative & Alternative Assessments: <ul style="list-style-type: none"><li>• Daily performance</li><li>• Safety performance practicals</li><li>• Individual student check-ins with teacher</li></ul>	Benchmark & Summative Assessments: <ul style="list-style-type: none"><li>• General Safety Test (Benchmark)</li><li>• Rough Cutting</li><li>• Coping Saw</li><li>• Drill Press</li></ul>	Resources Needed: <ul style="list-style-type: none"><li>• Woods Tech Lab</li></ul>

## Unit II: European Bookshelf

### Unit Summary

Students will successfully complete the European Bookshelf. Students will explore the layout and material selection process by learning about plan reading and understanding. Students will begin to understand hand saw types, techniques and the process of rough cutting, finish cutting, measuring, stock selection, and wood species. Students will be introduced to various power tools and machine operations. Students will be introduced to woodworking joints and their applications. Students will explore the introductory techniques involved in wood project finishing.

### Standards/Core Ideas/Performance Expectations

The state standards outlined below, and established by the New Jersey Department of Education, will guide instruction throughout this unit in *Woods Technology I*:

- *2020 New Jersey Student Learning Standards: Science*
  - HS-ETS1-1-4
- *2016 New Jersey Student Learning Standards: English Language Arts Companions for Grades 9-10*
  - Reading:
    - NJLSA.R7, RST.9-10.3-10.4
  - Writing:
    - NJLSA.W4, NJLSA.W7, WHST.9-10.6-10.7, WHST.9-10.10
- *2020 New Jersey Student Learning Standards: Computer Science and Design Thinking*
  - 8.2.12.ED.1,2,4-5, 8.2.12.NT.1-2
- *2020 New Jersey Student Learning Standards: Career Readiness, Life Literacies and Key Skills*
  - 9.2.12.CAP.6, 8, 9.4.12.CI.1-3, 9.4.12.CT.1-2, 9.4.12.DC.7, 9.4.12.TL.1,3-4

### Unit Essential Questions

- How do we successfully complete a woodworking project?
- What are the three keys to good design?
- Which tools can be used to create this project?
- How does this project begin?
- How do we understand plan reading and measuring?

### Unit Enduring Understandings

- One of the first steps in project planning/completion is understanding the necessary procedures to successfully bring a project to completion, including rough sketches, plans, and using templates.
- Function, appearance, and sound construction are keys to good design.
- Hand saws, band saws, sandpaper, and finishing materials can be used on this project.
- A rough sketch and plan with rough cuts will begin any woodworking project.
- Measuring tools should all be using proper units.

### Evidence of Learning

#### Formative & Alternative Assessments:

- Classwork
- Bookshelf plans
- Rough cut
- Pre-assembly
- Individual student check-ins with teacher

#### Benchmark & Summative Assessments:

- Band saw safety test
- Circular saw safety test
- European bookshelf final project (Benchmark)

#### Resources Needed:

- Woods Tech lab

## Unit III: Bulldawg Footstool

### Unit Summary

Students will successfully complete the “Bulldawg Footstool.” Students will build on the skills learned in creating the European Bookshelf and incorporate a more advanced set of skills to complete this one. This project includes a different style of plans; more advanced cutting techniques and the introduction of fasteners and drilling procedures. The project also includes laminating and duplicating techniques.

### Standards/Core Ideas/Performance Expectations

The state standards outlined below, and established by the New Jersey Department of Education, will guide instruction throughout this unit in *Woods Technology I*:

- *2020 New Jersey Student Learning Standards: Science*
  - HS-ETS1-1-4
- *2016 New Jersey Student Learning Standards: English Language Arts Companions for Grades 9-10*
  - Reading:
    - NJLSA.R7, RST.9-10.3-10.4
  - Writing:
    - NJLSA.W4, NJLSA.W7, WHST.9-10.6-10.7, WHST.9-10.10
- *2020 New Jersey Student Learning Standards: Computer Science and Design Thinking*
  - 8.2.12.ED.1,2,4-5, 8.2.12.NT.1-2
- *2020 New Jersey Student Learning Standards: Career Readiness, Life Literacies and Key Skills*

- 9.2.12.CAP.6, 8, 9.4.12.CI.1-3, 9.4.12.CT.1-2, 9.4.12.DC.7, 9.4.12.TL.1,3-4

Unit Essential Questions		Unit Enduring Understandings	
<ul style="list-style-type: none"> <li>● How do we successfully complete a woodworking project?</li> <li>● What type of plans correlate to a more elaborate project?</li> <li>● How do fasteners work?</li> <li>● What are the proper drilling and countersinking techniques?</li> <li>● What techniques should be used when applying a finish or laminate?</li> </ul>		<ul style="list-style-type: none"> <li>● One of the first steps in project planning/completion is understanding the necessary procedures to successfully bring a project to completion, including rough sketches, plans, and using templates.</li> <li>● 2D sketches in every direction of a 3D object are necessary for these projects.</li> <li>● Fasteners mechanically hold objects together which can create a joint that can be removed later on without suffering damage.</li> <li>● A pilot hole should be used to prepare for the drilling of the actual hole while countersinking prevents tear-out and reduces the chances of splitting the wood.</li> <li>● Finishing oils, varnishes, waxes or shellacs should be handled with safety glasses, and gloves, and done in an open space.</li> </ul>	
Evidence of Learning			
<b>Formative &amp; Alternative Assessments:</b> <ul style="list-style-type: none"> <li>● Classwork</li> <li>● Footstool plans</li> <li>● Drill quiz</li> <li>● Individual student check-ins with teacher</li> </ul>	<b>Benchmark &amp; Summative Assessments:</b> <ul style="list-style-type: none"> <li>● Footstool final project</li> <li>● Finishing safety test</li> <li>● Radial arm saw safety test</li> </ul>	<b>Resources Needed:</b> <ul style="list-style-type: none"> <li>● Wood Tech Lab</li> </ul>	

Unit IV: Shaker Table/Wall Shelf		
Unit Overview		
<p>Students will be able to successfully complete the shaker table or wall shelf. These projects are the introduction to furniture history and style. This project will take the foundation of the skill sets of the students and challenge them to recreate an elegant, functional, and historic piece of furniture.</p>		
Standards/Core Ideas/Performance Expectations		
<p>The state standards outlined below, and established by the New Jersey Department of Education, will guide instruction throughout this unit in <i>Woods Technology I</i>:</p> <ul style="list-style-type: none"> <li>● 2020 New Jersey Student Learning Standards: Science <ul style="list-style-type: none"> <li>○ HS-ETS1-1-4</li> </ul> </li> <li>● 2016 New Jersey Student Learning Standards: English Language Arts Companions for Grades 9-10 <ul style="list-style-type: none"> <li>○ Reading: <ul style="list-style-type: none"> <li>■ NJLSA.R7, RST.9-10.3-10.4</li> </ul> </li> <li>○ Writing: <ul style="list-style-type: none"> <li>■ NJLSA.W4, NJLSA.W7, WHST.9-10.6-10.7, WHST.9-10.10</li> </ul> </li> </ul> </li> <li>● 2020 New Jersey Student Learning Standards: Computer Science and Design Thinking <ul style="list-style-type: none"> <li>○ 8.2.12.ED.1,2,4-5, 8.2.12.NT.1-2</li> </ul> </li> <li>● 2020 New Jersey Student Learning Standards: Career Readiness, Life Literacies and Key Skills <ul style="list-style-type: none"> <li>○ 9.2.12.CAP.6, 8, 9.4.12.CI.1-3, 9.4.12.CT.1-2, 9.4.12.DC.7, 9.4.12.TL.1,3-4</li> </ul> </li> </ul>		
Unit Essential Questions		Unit Enduring Understandings
<ul style="list-style-type: none"> <li>● How do we successfully complete a woodworking project?</li> <li>● How do we laminate table tops?</li> <li>● How do we create smooth surfaces?</li> <li>● What is a biscuit jointer?</li> <li>● What is a planer?</li> <li>● What is polyurethane and how does it work?</li> </ul>		<ul style="list-style-type: none"> <li>● One of the first steps in project planning/completion is understanding the necessary procedures to successfully bring a project to completion, including rough sketches, plans, and templates.</li> <li>● To laminate furniture, start with cleaning the surface, sand the surface, paint with a foam roller, and then seal with your choice of appropriate sealer.</li> <li>● Sanding, scraping, planing, and finishing wood can all create smooth surfaces.</li> <li>● Biscuit jointers use a small circular saw blade to cut a hole into opposite edges of two pieces of wood so that a 'biscuit' can be glued to join them together.</li> <li>● A planer is a tool that produces boards of an even thickness.</li> <li>● Polyurethane is a super-tough varnish used for resin molecules to bond tightly with one another as it dries. It is used as a finish to resist water and abrasives.</li> </ul>
Evidence of Learning		
<b>Formative &amp; Alternative Assessments:</b> <ul style="list-style-type: none"> <li>● Classwork</li> <li>● Shaker table/wall shelf plans</li> </ul>	<b>Benchmark &amp; Summative Assessments:</b> <ul style="list-style-type: none"> <li>● Shaker table/wall shelf final project</li> </ul>	<b>Resources Needed:</b> <ul style="list-style-type: none"> <li>● Woods Tech lab</li> </ul>

<ul style="list-style-type: none"> <li>• Demonstrate an understanding of advanced lamination techniques</li> <li>• Individual student check-ins with teacher</li> </ul>	<ul style="list-style-type: none"> <li>• Radial arm saw safety test</li> <li>• Biscuit jointer and planer safety</li> <li>• Planer safety test</li> </ul>	
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**Section IX: Unit Reflection**

The *Woods Technology* instructional team must confer upon the completion of each instructional unit in the *Woods Technology* curriculum and rate the degrees to which the instructional units meet performance criteria established by the New Jersey Department of Education using the Unit Reflection Form. Completed unit reflection forms must be submitted to the Department Supervisor for approval upon completion of curriculum implementation with a complementing list of suggested modifications to the *Woods Technology* curriculum.

<b>Unit Reflection Form: <i>Woods Technology I</i></b>			
<b>Lesson Activities:</b>	<b>Strongly</b>	<b>Moderately</b>	<b>Weakly</b>
Foster student use of technology as a tool to develop critical thinking, creativity and innovation skills;			
Are challenging and require higher order thinking and problem-solving skills;			
Allow for student choice;			
Provide scaffolding for acquiring targeted knowledge/skills;			
Integrate modern, global perspectives, especially those regarding diversity, genocide, global issues, and historical ones regarding racial relations;			
Integrate 21 <sup>st</sup> century skills;			
Provide opportunities for interdisciplinary connection and transfer of knowledge and skills;			
Are varied to address different student learning styles and preferences;			
Are differentiated based on student needs;			
Are student-centered with teacher acting as a facilitator and co-learner during the teaching and learning process;			
Provide means for students to demonstrate knowledge and skills and progress in meeting learning goals and objectives;			
Provide opportunities for student reflection and self-assessment;			
Provide data to inform and adjust instruction to better meet the varying needs of learners.			

**Appendix**  
***Writing Instruction and the RFH Community***

Writing instruction should happen across the RFH Community. Writing across the curriculum is a philosophy that advances the belief that writing is a method of learning. Since all departments are committed to helping students learn, writing must be used as a methodology to advance student learning.

Each academic discipline has its own unique conventions, formats and structures. It is the responsibility of each department to agree upon domain-specific writing praxes, model them for students, and require them to utilize them on a consistent basis. Students must understand that acceptable writing in one domain may not be acceptable writing in another area. The development of domain-specific writing skills supports the overall development of the student writer because all writing is grounded in the writing situation: audience, context, purpose, subject, and writer. Representatives from the academic disciplines must share their domain-specific writing praxes with each other, identify intersections, and determine how to address perceived gaps that limit student learning.

Students must experience writing situations that help them learn how to think creatively and critically and communicate effectively in the academic disciplines. Writing instruction, regardless of the academic discipline, must always reinforce student understanding of the writing situation. When students experience writing situations, they must study examples of domain-specific writing in order to understand how writers communicate in discipline-related contexts. This does not mean information embedded in textbooks. Domain-specific writing is writing that is used to inform and influence readers as it draws them into an established circle of discourse. Students must use these non-fiction texts to develop the close reading skills that will shape their own writing. Focused engagement with domain-specific writing should not be limited to basic reading comprehension and topical understanding. It must also include the analysis of the writing situation that is represented in the text: audience, context, purpose, subject, and writer. The close reading of well-written texts—regardless of the domain—will show students the importance of writing mechanics, diction, and syntax. The development of close reading skills will also help the students grow in terms of their ability to construct and advance independent and original claims that are well-supported by evidence. Domain-specific writing is grounded in positioning of claims and the effective use of evidence.

The final written product is important; nevertheless, the learning that results in this production must not be devalued. The writing process is not limited to the basic steps of planning, drafting, revising, and editing/proofreading. It is a complex sequence of critical and creative thinking and writing that leads to the production of a text that provides evidence of learning and understanding. Students must ultimately develop the ability to self-assess the effectiveness of their writing as a representation of the writing situation. Without the use of models that evidence learning and understanding, students will not develop the ability to self-assess their own work—the true outcome of the writing process.

### **What types of writing situations should RFH students engage in?**

RFH students should engage in writing situations across the curriculum that require them to:

- write to improve mechanical proficiency, diction usage, and syntactical sophistication
- write to narrate, describe, and reflect
- write to summarize and report
- write to classify and define
- write to explain how process leads to an outcome
- write to compare, contrast and evaluate
- write to speculate on cause and effect
- write to propose solutions and solve problems
- write to analyze

These writing situations should be positioned in a coordinated, developmental sequence that extends across the academic disciplines.

Upon Completion of Grade 12, RFH students must be ready to transition to the following writing situations:

- write to analyze
- write to persuade (argument)

The core foci of first-year college writing courses are analysis and argument. These courses orient the students to the demands and expectations of writing for the academic culture of college. At colleges/universities with carefully coordinated writing programs, students must demonstrate proficiency in analysis and argument before they transition to upper level courses that require them to engage in the following writing situation:

- write to investigate (research)