

Course: *Woodworking 1*
Unit #4: *Assembly and Finishing*

Year of Implementation: 2023-2024

Curriculum Team Members: Jason Pitner jpitner@lrhsd.org, Mike Conductor mconductor@lrhsd.org, Mike Johnston mjohnston1@lrhsd.org, Dan DiNatale ddinatale@lrhsd.org

Stage One - Desired Results

Link(s) to New Jersey Student Learning Standards for this course:

<https://www.state.nj.us/education/cccs/2020/>

https://www.nj.gov/education/standards/clicks/Docs/2014_9.3_21LifeAndCareers.pdf

https://www.nj.gov/education/standards/ela/Docs/2016NJSLS-ELA_Companion9-10.pdf

https://www.nj.gov/education/standards/ela/Docs/2016NJSLS-ELA_Companion11-12.pdf

- **Unit Standards:**

- **21st Century Life & Career Standards**

- 9.3.12.AC-CST.4 Apply scheduling practices to ensure the successful completion of a construction project.
- 9.3.12.AC-CST.9 Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.
- 9.3.12.AC-DES.8 Apply standards, applications and restrictions pertaining to the selection and use of construction materials, components and assemblies in the project design.
- 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving
- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

- **English Companion Standards**

- Grade 9-10 Companion Standards:
 - RI.9-10.7. Analyze various perspectives as presented in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
 - NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content
- Grade 11-12 Companion Standards:

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
 - NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience
- ***NJ Statutes:*** NJ State law mandates the inclusion of the following topics in lesson design and instruction as aligned to elementary and secondary curriculum.

Amistad Law: N.J.S.A. 18A 52:16A-88 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.

Holocaust Law: N.J.S.A. 18A:35-28 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.

LGBT and Disabilities Law: N.J.S.A. 18A:35-4.35 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.

Diversity and Inclusion (N.J.S.A. 18A:35-4.36a) A board of education shall incorporate instruction on diversity and inclusion in an appropriate place in the curriculum of students in grades kindergarten through 12 as part of the district's implementation of the New Jersey Student Learning Standards.

Asian American and Pacific Islanders (AAPI) P.L.2021, c.410 Ensures that the contributions, history, and heritage

of Asian Americans and Pacific Islanders (AAPI) are included in the New Jersey Student Learning Standards (NJSLS) for Social Studies in kindergarten through Grade 12 (P.L.2021, c.416)

For additional information, see

NJ Amistad Curriculum: <http://www.njamistadcurriculum.net/>

Diversity and Inclusion: <https://www.nj.gov/education/standards/dei/index.shtml>

- (Sample Activities/ Lessons): <https://www.nj.gov/education/standards/dei/samples/index.shtml>

Asian American and Pacific Islanders:

- [Asian American and Pacific Islander Heritage and History in the U.S.](#)

A Teacher's Guide from EDSITEment offering a collection of lessons and resources for K-12 social studies, literature and arts classrooms that center around the experiences, achievements and perspectives of Asian Americans and Pacific Islanders across U.S. history.

Transfer Goal: Students will be able to independently use their learning to select and apply stain and/or finish to a given type of lumber and application.

As aligned with LRHSD Long Term Learning Goal(s):

- communicate and collaborate using appropriate technical terms to describe, analyze, interpret, and judge their work and the work of others
- acquire, integrate, and apply design processes and essential technical skills to solve problems, create products, and improve the quality of life for our local and global community

Enduring Understandings

Students will understand that. . .

EU 1

proper assembly techniques influence the structural integrity of a project

Essential Questions

EU 1

- How do different assembly techniques affect the structural integrity of a project?
- What role do fasteners and adhesives play in the assembly of a project?

EU 2

surface preparation and finish selection affects the aesthetics, durability and textural characteristics of the project.

- Are there pros and cons to using different methods of fastening in different situations?

EU 2

- What defines “good” surface preparation?
- What variables determine the best way to prepare a surface for finishing?
- How does one go about selecting the appropriate finish for a project?

Knowledge

Students will know . . .

EU 1

- the characteristics of a dry run assembly. (9.4.2.CT.3, 9.3.12.AC-CST.4, 9.3.12.AC-DES.8, 9.4.12.CT.2)
- nailing techniques. (9.3.12.AC-CST.9)
- screwing techniques.(9.3.12.AC-CST.9)
- plugging techniques.(9.3.12.AC-CST.9)
- gluing techniques.(9.3.12.AC-CST.9)
- wood joints.(9.3.12.AC-CST.9)

EU 2

- filing techniques.(9.3.12.AC-CST.9)
- planing techniques.(9.3.12.AC-CST.9, 9.3.12.AC-DES.8)

Skills

Students will be able to. . .

EU 1

- perform a dry run assembly. (9.4.2.CT.3, 9.3.12.AC-CST.4, 9.3.12.AC-DES.8, 9.4.12.CT.2)
- insert and remove nails.(9.3.12.AC-CST.9)
- insert and remove screws.(9.3.12.AC-CST.9)
- plug a hole.(9.3.12.AC-CST.9)
- glue lumber together.(9.3.12.AC-CST.9)
- assemble wood joints.(9.4.2.CT.3, 9.3.12.AC-CST.4, 9.3.12.AC-CST.9)

EU 2

- file a board or project.(9.3.12.AC-CST.9)
- plane a board. (9.3.12.AC-CST.9, 9.3.12.AC-DES.8)
- sand a board or project.(9.3.12.AC-CST.4, 9.3.12.AC-CST.9, 9.3.12.AC-DES.8)

- hand and power sanding techniques. (9.3.12.AC-CST.4, 9.3.12.AC-DES.8, 9.3.12.AC-DES.8)
- staining techniques.(9.3.12.AC-CST.9, 9.3.12.AC-DES.8)
- clear coating techniques.(9.3.12.AC-CST.9, 9.3.12.AC-DES.8)

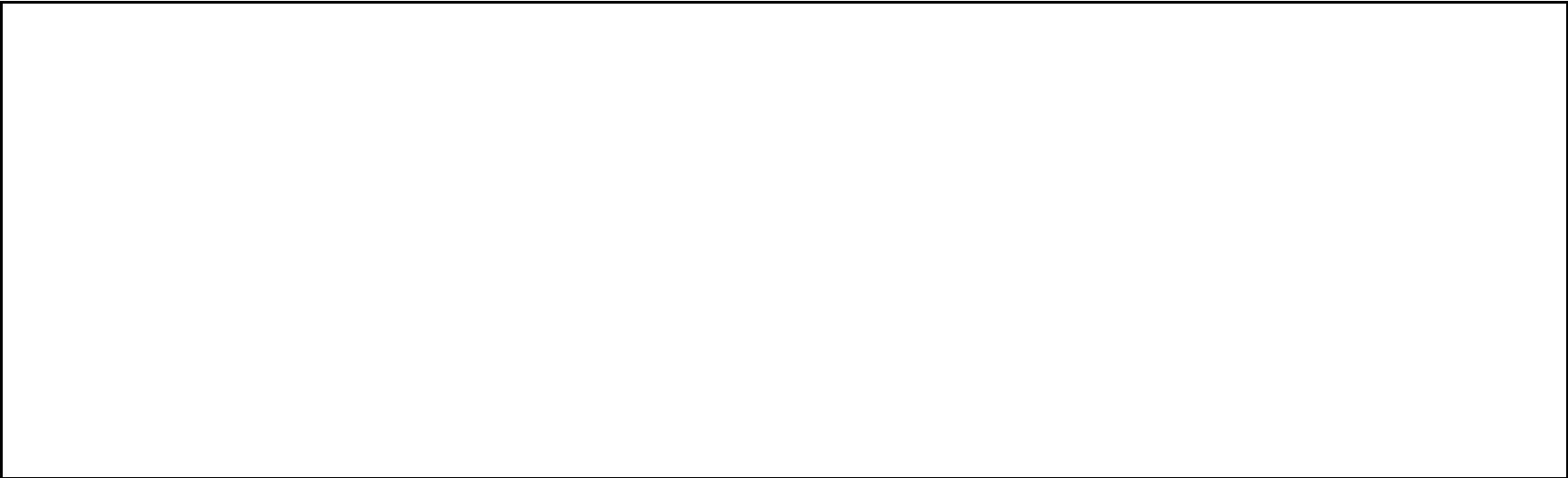
- stain a project.(9.3.12.AC-CST.9, 9.3.12.AC-DES.8)
- clear coat a project.(9.3.12.AC-CST.9, 9.3.12.AC-DES.8)

Stage Two - Assessment

Stage Three - Instruction

Learning Plan: Suggested Learning Activities to Include Differentiated Instruction and Interdisciplinary Connections: Each learning activity listed must be accompanied by a learning goal of A= Acquiring basic knowledge and skills, M= Making meaning and/or a T= Transfer. The following color codes are used to notate activities that correspond with interdisciplinary connections and 21st Century Life & Career Connections (which involves Technology Literacy): Red = Interdisciplinary Connection; Purple = 21st Century Life & Career Connection

- Teacher demonstrations on assembly techniques including but not limited to dry run assembly, nailing, screwing, plugging, kreg jig, gluing, clamping (A, EU1)
- Student practice activities on various assembly techniques: dry run, nailing, screwing, plugging, etc. (M,T, EU1)
- Student collaboration on project assembly (M,T, EU1)
- Teacher will model steps to finishing including but not limited to filing, rasping, sanding, shaping, wood conditioning, staining, clear coating, painting, finish removal (A, EU2)
- Student practice activities of various finishing techniques: filing, sanding, staining, clear coating, etc. (M,T, EU2)
- Student collaboration on project finishing (M,T,EU2)
- Student journaling (M,T, EU1, EU2)
- Peer critiques as a form of critical assessment and reflection. (M,T, EU1, EU2)



Pacing Guide

<i>Unit #</i>	<i>Title of Unit</i>	<i>Approximate # of teaching days</i>
1	Safety	30
2	Hand Tool Use	50
3	Power Tool Use	70
4	Assembly and Finishing	30

Instructional Materials

Subscription

- Woodsmith Library Annual subscription <https://www.woodsmithlibrary.com/unlimited/>
Fully Equipped woodworking shop

Accommodations

Special Education: The curriculum will be modified as per the Individualized Education Plan (IEP). Students will be accommodated based on specific accommodations listed in the IEP.

Students with 504 Plans: Students will be accommodated based on specific accommodations listed in the 504 Plan.

English Language Learners: Students will be accommodated based on individual need and in consultation with the ELL teacher.

Students at Risk of School Failure: Students will be accommodated based on individual need and provided various structural supports through their school.

Gifted and Talented Students: Students will be challenged to enhance their knowledge and skills through acceleration and additional independent research on the subject matter.