

Course: *Construction, Building, Contracting*
Unit #4: Framing and Rough Carpentry

Year of Implementation: 2023-2024

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Stage One - Desired Results

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

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

- **Unit Standards:**

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

- 9.3.MN.2 Analyze and summarize how manufacturing businesses improve performance.
- 9.3.MN.6 Demonstrate workplace knowledge and skills common to manufacturing.
- 9.3.MN-HSE.1 Demonstrate the safe use of manufacturing equipment.
- 9.3.12.AC.2 Use architecture and construction skills to create and manage a project.
- 9.3.12.AC-CST.5 Apply practices and procedures required to maintain jobsite safety.
- 9.3.12.AC-CST.8 Demonstrate the construction crafts required for each phase 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.

- **English Companion Standards**

- Grade 9-10 Companion Standards:

- RST.9-10.4. Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

- Grade 11-12 Companion Standards:

- RST.11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.

- **Interdisciplinary Content 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.
- NJSLA.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

- **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.

1

Enduring Understandings

Students will understand that. . .

EU 1

there are common practices and standards that dictate how a structure is framed and built.

EU 2

Essential Questions

EU 1

- Why are there common practices put in place for rough carpenters and framers?
- How does the region of the country or world affect building standards?
- Why are there differences in standards between residential and commercial construction?

the role of a rough carpenter is essential to any large building project.

EU 3

the tools used for rough carpentry, cabinet making, and finish carpentry are significantly different.

EU 2

- Why are rough carpenters essential to building projects?
- What is a rough carpenter's primary task?
- Where does a rough carpenter fit into the overall process of construction?

EU 3

- Can rough carpenters and cabinet makers be successful using the same set of tools?
- How do the differences between mobile and stationary tools affect their safety and function?
- Is there only ONE correct tool for every situation?

Knowledge

Students will know . . .

EU 1

- that common practices exist to promote safety and efficiency 9.3.MN.6
- a framed wall consists of many different parts that all serve a specific role 9.3.MN.6
- that building codes exist and how to find them. 9.3.MN.6

Skills

Students will be able to . . .

EU 1

- build a structure using common practice 9.3.MN.6
- assemble and frame a wall that includes all the essential components of the wall. 9.3.MN.6
- explain where building codes can be found and why they are important. 9.3.MN.6

EU 2

- the specific job responsibilities of a rough carpenter 9.3.12.AC-CST.8
- how a rough carpenter collaborates with other tradespersons to complete a project 9.3.12.AC-CST.8
- that rough carpentry is the framework around which other trades are centered 9.3.12.AC-CST.8

EU 3

- the difference between woodworking tools and carpentry tools 9.3.12.AC-CST.9
- the difference between rough carpentry and finish carpentry tools 9.3.12.AC-CST.9
- that rough carpentry tools are designed to be mobile 9.3.12.AC-CST.9

EU 2

- name and describe the skills a rough carpenter needs to be successful 9.3.12.AC-CST.8
- collaborate and work together to complete a complex project 9.3.12.AC-CST.8
- explain why all other trades are dependant on the job of a rough carpenter 9.3.12.AC-CST.8

EU 3

- choose the correct tool for the job 9.3.12.AC-CST.9
- safely demonstrate proper form and function of rough and finish carpentry tools 9.3.12.AC-CST.9
- demonstrate how to properly set up a mobile job site with machines. 9.3.12.AC-CST.9

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 led discussions on rough carpentry specializations (A EU1,2)
- Demonstrations with job specific tools and tasks. (A,M, EU3)
- Student note taking to describe the framing process and procedure(A, EU1,2)
- Practice new skill sets in specific rough carpentry categories including but not limited to framing, roofing, flooring (M, EU1,2)
- Practice new skill sets in specific finish carpentry categories including but not limited to trimwork, scrollwork, cabinetmaking (M, EU1,3)
- Demonstrate proper usage of job specific tools. (M,T EU1,2,3)
- Student presentations describing framing and rough carpentry skills and techniques(M,T, EU1,2)
- Student journaling (M,T EU1,2)
- Demonstrate setting up a mobile work site for framing.(M,T, EU1,2,3)
- Design and construct a flooring system with all necessary components(M,T, EU1,2,3)
- Design and construct a wall system with all necessary components(M,T, EU1,2,3)
- Design and construct a roofing system with all necessary components(M,T, EU1,2,3)
- Student reflection,(improving the design, improving workflow, improving site set up, dividing tasks for workers.)(MT, EU1,2,3)
- Install and trim out a window in a wall system (M,T, EU1,2,3)
- Install and trim out a door in a wall system (M,T, EU1,2,3)
- Install crown and chair rail molding on a wall/ceiling (M,T, EU1,2,3)
- Construct and hang a complete cabinet assembly (M,T, EU1,2,3)
- Construct and install stairs. (M,T,EU1,2,3)
- Demonstrate knowledge of local building codes(M,T,EU1,2,3)

Pacing Guide

Unit #	Title of Unit	Approximate # of teaching days
1	Safety	20
2	Reading, Sketching, and Design	30
3	Sub Contracting	50
4	Framing and Rough Carpentry	80

Instructional Materials

A fully equipped shop including but not limited to:

Hand Tools (Hammers, Pliers, Screwdrivers, Nutdrivers, Wrenches, Squares, Tin Snips, Chisels, Cross Cut Saws, Mallets, Putty Knives, Measuring Tapes, Utility Knives, Wire Strippers, Rulers, Caulk Guns, Paint Brushes, Chalk Line)

Power Tools (Cordless Drills, Impact Drivers, Cordless Circular Saws, Cordless Jig Saws, Cordless Reciprocating Saws, Cordless Routers, Cordless Framing Nailers, Cordless Finishing Nailers, Cordless Stapler)

Materials (Framing Supplies, Roofing Supplies, Mechanical Fasteners, Electrical Supplies, Plumbing Supplies, Paint, Masonry Supplies, Sealing & Insulation Materials)

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.