

Course: *Advanced Construction and Carpentry*
Unit #3: Construction Specializations

Year of Implementation: 2024-2025

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Stage One - Desired Results

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

{provide all applicable links to standards here}

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

- **Unit Standards:** *(keep each of the following headings in place)*
 - **21st Century Life & Career Standards**
 - (9.3.12.AC-CST.1) Describe contractual relationships between all parties involved in the building process.
 - (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.
 - (9.3.MN.4) Describe career opportunities and means to achieve those opportunities in each of the Manufacturing Career Pathways.
 - (9.3.12.AC-DES.2) Use effective communication skills and strategies (listening, speaking, reading, writing and graphic communications) to work with clients and colleagues.
 - **English Companion Standards**
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 - Grade 9-10 Companion Standards:
 - RST.9-10.5. Analyze the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).
 - 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**
 - 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
- **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: <https://www.nj.gov/education/amistad/about/>

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 the appropriate tools and/or machines to complete various tasks involved in specialized trades.

As aligned with LRHSD Long Term Learning Goal(s): <https://www.lrhdsd.org/Page/6163>

- evaluate careers using critical thinking and problem-solving skills to respond to changing societal and economic conditions
- 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 {use Arial 11 font}

Students will understand that. . .

EU 1

career specializations exist within construction.

Essential Questions {use Arial 11 font}

EU 2

there are overlapping skills but specific tools for each trade.

EU 3

the building trades are self contained but rely heavily on each other throughout the construction process.

- How are the responsibilities of a rough carpenter different from those of an electrician, plumber, finishing carpenter, etc?
- Why does specialization exist within the trades?

Knowledge

Students will know . . .

EU 1

- the different trade specializations including but not limited to, framing, rough carpentry, finish carpentry, plumbing, electrical, drywalling, roofing, window and door installation, tiling. (9.3.12.AC-CST.1, 9.3.MN.4)
- what training is involved in different specializations. (9.3.12.AC-CST.9)
- the career paths that stem from different specializations. (9.3.MN.4)

EU 2

Skills

Students will be able to . . .

EU 1

- describe job responsibilities of the various trade specialties. (9.3.12.AC-CST.1)
- explain different specializations and the pro's and con's of following that career path. (9.3.MN.4)

EU2

- demonstrate the proper use of the various tools needed for specific trades. (9.3.12.AC-CST.9)

- the kind of tools needed to complete different tasks. (9.3.12.AC-CST.9)
- the role of different tradesmen. (9.3.12.AC-CST.1)
- there are some differences but many similarities between trades.(9.3.12.AC-CST.1)

EU3

- that communication is key when working on multipart projects. (9.3.12.AC-DES.2, 9.3.12.AC-CST.8)
- that being able to work with a team is essential to success. (9.3.12.AC-DES.2)
- that the various trades build off of and rely on each other (9.3.12.AC-CST.1)

- explain how different trades are different, but relate to each other. (9.3.12.AC-CST.1)
- transfer skills from one specialization to another. (9.3.12.AC-CST.1)

EU3

- explain why poor communication will result in mistakes. (9.3.12.AC-DES.2, 9.3.12.AC-CST.1)
- cooperate to achieve a common goal. (9.3.12.AC-DES.2, 9.3.12.AC-CST.8)
- explain and understand the relationship between order of operations on a job site (9.3.12.AC-DES.2, 9.3.12.AC-CST.1)

Stage Two - Assessment

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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. {place A, M and/or T along with the applicable EU number in parentheses after each statement} All knowledge and skills must be addressed in this section with a corresponding lesson/activity which teaches each concept. 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**

For example:

- Teacher led discussions on career opportunities. (A EU1, 2, 3)
- Demonstrations with job specific tools and tasks. (A,M, EU1, 2)
- Student note taking to describe the different job tasks and skills.(A, EU1, 2, 3)
- Practice new skill sets including but not limited to electrical, plumbing, masonry (M, EU1,2)
- Demonstrate proper usage of job specific tools. (M,T EU1,2)
- Student presentations describing different job descriptions and tasks.(M,T, EU1,2,3)
- Student journaling (M,T EU1,2,3)
- Demonstrate setting up a mobile work site for specific specialized jobs .(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 switches, outlets, and any other electrical components. (M,T, EU1,2,3)
- Install flooring and tile, (M,T, EU1,2,3)
- Install pipes, spigots, sinks, and other plumbing components (M,T, EU1,2,3)

Pacing Guide

{This chart will be identical in all of the units for this course.}

Unit #	Title of Unit	Approximate # of teaching days
1	Jobsite Safety	20
2	Framing	55
3	Construction Specializations	45
4	Material Selection & Interactions	15

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)

PPE (Hardhats, Fall Protection, Safety Glasses, Respirators, Gloves, Knee Pads, Coveralls, Face Shields)

Equipment (Ladders, Scaffolding, Fall Arrest Points, Moving Equipment)

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.