Task Title: Trends in Carpentry

OALCF Cover Sheet – Practitioner Copy

Learner Name: _____

Date Started: _____

Date Completed: _____

Successful Completion: Yes ☐ No ☐

Goal Path: Employment ☒ Apprenticeship ☒

Secondary School ☐ Post Secondary ☐ Independence ☐

Task Description: The learner will read an article about trends in carpentry and reflect on the impact of these trends.

Main Competency/Task Group/Level Indicator:

- Find and Use Information/Read continuous text/A1.3
- Communicate Ideas and Information/Write continuous text/B2.2

Materials Required:

- Pen/pencil and paper and/or digital device

Learner Information

Understanding how trades change over time can be important when choosing a career path. Changes to the type of work and the tools available to do the work can significantly alter day-to-day work in skilled trades.

Read “Trends in the Carpenter Trade” to learn about changes in carpentry.

Trends in the Carpenter Trade

Technology

The carpenter trade is constantly evolving with advanced innovations and technology for increased accuracy and efficiency. There is an increase in the use of digital technologies, 3D modeling, mobile devices, drones, GPS total station, robotic survey systems and software related to project management. Carpenters must be competent in digital technology to work with drawings and construction documents, and to do online research for materials and specialty products.

Health and Safety

Many companies in the construction industry are providing leadership in safety awareness and in the enforcement of safety policies on the project site. Safety training and the development of safety policies and procedures are being done by many companies in excess of regulations. Carpenters must be familiar with safety systems, such as confined space retrievals, awareness and fall arresting systems.

Tools and Equipment

There is an increase in the use of specialized power tools that are taking the place of some hand tools. Such tools as computer numerical control (CNC) routers, detail sanders, layout instruments (total stations), digital and robotic survey systems and laser levels are making the carpenters' work more efficient. Oscillating tools are becoming popular because they make accurate cuts and are extremely versatile. Compressed gas-powered fastening tools are increasing in use due to their portability and efficiency. Mobile elevated work platforms and material handling equipment are replacing scaffolding and ladders on many project sites. Cordless tools are now commonplace and are improving in longevity, durability and torque.

Products and Materials

Products and materials used in construction continue to be improved to achieve higher efficiency and a longer life expectancy. Use of innovative mass timber materials such as cross-laminated timber (CLT), dowel-laminated timber (DLT), nail laminated timber (NLT) and glulam are an emerging trend in prefabricated building construction components such as posts and beams for on-site erection.

Building science is evolving, and with the vast array and complexity of building materials increasing, carpenters need to remain current on how to

put them together in a unit that works and does not decrease their efficacy. Carpenters may be involved in the manufacturing or installation processes of mass timber material.

Some concrete forming systems are now made of plastics, composites and aluminium, making concrete forming more versatile and efficient. There continues to be an increase in the use of engineered forming systems such as insulated concrete forms (ICF).

Soundproofing systems are evolving with the introduction of sound transmission class (STC) assemblies including insulation products such as mineral wool insulation. These systems include soundproofing for many elements of construction including floors, walls and ceilings.

Countertop materials continue to diversify using materials such as stone, composite stone and concrete.

Environmental

There are a number of certification systems such as Leadership in Energy and Environmental Design (LEED) that are becoming commonplace. Use of these environmentally friendly systems can influence the selection of building materials and products, and can include building techniques aimed at achieving increased energy-efficiency. These techniques include: net–zero energy (NZE), passive housing construction, building envelope technology and seismic considerations. These areas are advancing environmentally responsible construction. Low volatile organic compound (VOC) building products are increasingly being demanded by the public. Many of these changes are motivated by cost-benefit analysis that demonstrate long-term payback for these investments.

Legislative and Regulatory

The National Building Code of Canada (NBCC) and the National Energy Code for Buildings (NECB) are updated every five years. The most recent update will address climate change through an NZE model building code by 2030.

Other

Modular construction and prefabrication of construction components are increasingly popular in both residential and commercial construction. Carpenters are becoming more specialized in specific fields of carpentry. The mentoring of all levels of workers is becoming pronounced in the worksite and during apprenticeship technical training.

Sourced from: https://www.red-seal.ca/eng/trades/carpenters/trends.shtml

Work Sheet

Task 1: List four innovations and technologies seeing increased usage in the Carpenter Trade.

Answer:

Task 2: List three reasons why energy-efficiency has become a focus for the construction industry.

Answer:

Task 3: Why might a carpenter wish to learn the specialized skillset required for modular home and prefabrication construction? Provide at least two reasons why this might be helpful for career success.

Answer:

Answers

Task 1: List four innovations and technologies seeing increased usage in the Carpenter Trade.

Answer: Any four of the following: digital technologies, 3D modeling, mobile devices, drones, GPS total station, robotic survey systems and software related to project management

Task 2: List three reasons why energy-efficiency has become a focus for the construction industry.

Answers will vary. Examples may include:

- Additional legislative requirements requiring net-zero energy standards (NZE) for new builds as of 2030
- Focus on environmentally-friendly construction
- Cost-saving and investment opportunities with energy-efficient buildings
- Desire for environmental certifications (LEED) that have become more common and desirable

Task 3: Why might a carpenter wish to learn the specialized skillset required for modular home and prefabrication construction? Provide at least two reasons why this might be helpful for career success.

Answers will vary. Examples may include:

- With this type of housing becoming more popular, it is likely that there will be an increase in demand. An increase in demand for specific homes will lead to an increase in demand for tradespeople with the skillset required to build these homes.
- Not every carpenter will seek to build new skills. Particularly for those early in their careers, staying on the cutting edge of new skills will help carpenters stay competitive for jobs that are available.
- Broadening one's skillset demonstrates a willingness to learn and adapt. These are important traits that employers look for when hiring new staff.

Performance Descriptors

Levels	Performance Descriptors	Needs Work	Completes task with support from practitioner	Completes task independently
A1.3	Integrates several pieces of information from texts			
	Identifies the purpose and relevance of texts			
	Skims to get the gist of longer texts			
	Infers meaning which is not explicit in texts			
	Uses organizational features, such as headings, to locate information			
	Obtains information from detailed reading			
B2.2	Writes texts to explain and describe			
	Conveys simple ideas and factual information			
	Uses sentence structure, upper and lower case and basic punctuation			
	Uses highly familiar vocabulary			

This task: Was successfully completed ☐ Needs to be tried again ☐

Learner Comments:

Instructor (print): _____

Learner (print): _____