



JUBAIL TECHNICAL INSTITUTE
Department of Carpentry Skills

COOP TRAINING PROGRAM
STUDENT REPORT

Carpentry and Woodworking Skills

Prepared by:

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Submitted to:

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Date: 5/12/2024

Submitted by:

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5 / 12 / 2024

Trainee

Signature

Date

Checked by:

Yahya Al-Salem



8 / 12 / 2024

Company Supervisor

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Date

Accepted by:

Mohammed Al-Ghamdi



12 / 12 / 2024

Advisor

Signature

Date

Acknowledgements

I would like to extend my sincere gratitude to Advanced Carpentry for providing me with the opportunity to complete my cooperative training program in their facility. I would like to specifically thank Mr. Mohammed Al-Ghamdi for his guidance, mentorship, and support throughout my training period. His expertise and patience helped me to develop my skills and confidence in carpentry, and I am grateful for the time he took to answer my questions and provide feedback on my work.

Additionally, I would like to thank my instructors at the Jubail Technical Institute for providing me with the opportunity to participate in the cooperative training program, which has given me the chance to gain practical experience in my field of study.

Finally, I would like to thank my family and friends for their ongoing support and encouragement throughout my academic and professional journey.

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Section 1: INTRODUCTION

This report is a culmination of my cooperative training experience at Advanced Carpentry, a leading carpentry company specializing in custom woodworking and cabinetry.

The purpose of this report is to provide a comprehensive overview of my cooperative training experience, highlighting the skills and knowledge I acquired, the challenges I faced, and the accomplishments I achieved during my time at the company. This report will also discuss the theoretical concepts and principles that I applied in practice, and reflect on the lessons I learned and the insights I gained from this experience.

The report is divided into several sections, each focusing on a specific aspect of my cooperative training experience. The sections include an overview of the company, a description of my job duties and responsibilities, and an analysis of the skills and knowledge I acquired.

Section 2: COMPANY PROFILE

Advanced Carpentry Co. is a family-owned and operated carpentry company that has been serving the Dammam area for over 25 years. The company specializes in custom woodworking, cabinetry, and furniture making, and takes pride in their attention to detail and commitment to quality.

The company was founded in 1995 by John Smith, a skilled carpenter with a passion for woodworking. Over the years, the company has grown and evolved, but our commitment to quality and customer satisfaction has remained the same. Today, Advanced Carpentry Co. is a leading provider of custom carpentry services in the Eastern province, and continues to innovate and improve our craft with every project. Figure 2-1 shows the location I was working in.

Services:

- Custom woodworking
- Cabinetry
- Furniture making
- Wood finishing
- Carpentry repairs and restoration
- Custom trim work



Figure 2-1: Advanced Carpentry building

Team:

The team of skilled carpenters and woodworkers has a combined 100+ years of experience in the trade. They are committed to ongoing education and training, and staying up-to-date on the latest techniques and technologies in the industry.

Facilities:

The workshop is equipped with the latest tools and equipment, and has a large showroom featuring examples of the company's work.

Section 3: DETAILS OF TRAINING EXPERIENCE AND SKILLS ACQUIRED

3.1. Nature of Work:

As a coop student at Advanced Carpentry Co., I worked as a carpentry assistant, supporting the company's team of skilled carpenters and woodworkers on various projects. My main responsibilities included:

- Assisting in the construction of custom cabinets, furniture, and woodwork projects
- Preparing and finishing wood surfaces for staining and painting
- Assembling and installing trim work, molding, and doors
- Assisting in the operation and maintenance of various woodworking machines and tools
- Participating in project planning and layout, including measuring and marking materials



Figure 3-1: Advanced Carpentry workshop

3.2. Safety Procedures:

Below are some safety guidelines when dealing with carpentry and woodworking at Advanced Carpentry Co.:

General Safety Guidelines:

1. Wear PPE, including safety glasses, earplugs, and a dust mask, when working with power tools or performing tasks that may generate dust or debris.
2. Avoid wearing loose clothing or jewelry that may get caught in tools or machinery.
3. Keep long hair tied back and away from power tools and machinery.
4. Wear steel-toed shoes or boots when working in the workshop.

Power Tool Safety:

1. Read the manual before using a power tool for the first time.
2. Use the proper blade or bit for the task at hand.
3. Keep fingers away from the cutting edge or blade of a power tool.
4. Unplug power tools when not in use.
5. Avoid overloading outlets or extension cords.

Chemical Safety:

1. Read labels and follow instructions when using chemicals or adhesives.
2. Wear protective gear, including gloves and safety glasses, when handling chemicals or adhesives.
3. Use chemicals or adhesives in well-ventilated areas to avoid inhaling fumes.
4. Dispose of chemicals and adhesives properly and according to regulations.

Fire Safety:

1. No Smoking: No smoking is allowed in the workshop.
2. Fire Extinguishers: Know the location and operation of fire extinguishers in the workshop.
3. Flammable Materials: Store flammable materials, such as paint and solvents, in designated areas.
4. Regularly Inspect: Regularly inspect the workshop for potential fire hazards.

Emergency Procedures:

1. Know the location of the first aid kit in the workshop.
2. Know emergency phone numbers, including the fire department and ambulance.
3. Know evacuation procedures in case of an emergency.



Figure 3-2: Electric saw safety precautions

3.3. Skills Learned:

Skill no. 1: Using Rotary Electric Saws

There are two types of rotary electric saws at the company: the circular power saw and the jigsaw. The circular saw is a powerful tool that uses a rotating blade to make straight cuts in wood. The jigsaw, on the other hand, is a versatile saw that uses a reciprocating blade to make curved cuts in wood.

Rotary saws are used for:

- Cutting lumber for framing and finishing projects
- Making curved cuts in plywood and MDF for custom trim work
- Cutting metal pipes and conduit for plumbing and electrical projects

One of the challenges faced when working with rotary electric saws was maintaining control of the saw during operation. The saws were powerful and could easily kickback if not handled properly. To overcome this challenge, I practiced using the saws on scrap lumber and developed a comfortable grip and stance.

Rotary saws can be rotated on the surface of the wood to cut at 45 degrees or other angles as shown in Figure 3-3.



Figure 3-3: Using a rotary saw at an angle

Skill no. 2: Power-Sanding Techniques

Power sanders are electric or pneumatic tools that use a rotating drum or belt to sand wood surfaces. They are available in various types, but I worked mostly with orbital sanders. These use a round pad to sand wood surfaces in an orbital motion.

I learned various techniques when dealing with orbital sanders, including:

- Start with a coarse grit: Begin with a coarse grit sandpaper (about 80-100) to remove old finishes, sand down rough wood, and create a smooth finish.
- Work progressively: Progress to finer grits (120-150, 220-240, etc.) to smooth out the wood surface and remove any imperfections.
- Use light pressure: Apply light pressure to the sander, allowing the sandpaper to do the work.
- Keep the sander moving: Keep the sander moving in a consistent motion to avoid creating scratches and swirl marks.
- Use a dust collector: Use a dust collector or vacuum to remove dust and debris as you sand.



Figure 3-4: The proper way to hold an orbital sander

Skill no. 3: Glue-Up Techniques

When joining planks of wood, glue is often used to create a strong and durable bond. The type of glue used depends on the type of wood, the desired strength of the bond, and the intended use of the finished product. Common types of glue used for woodworking include:

- White glue: A water-based adhesive that is suitable for most woodworking applications. It dries clear and is easy to clean up.
- Yellow glue: A water-based adhesive that is similar to white glue but has a higher bonding strength. It is often used for applications where high strength is required.
- Epoxy: A two-part adhesive that consists of a resin and a hardener. It is highly strong and resistant to heat, moisture, and chemicals.

When applying glue to join planks of wood, it is essential to follow proper techniques to ensure a strong and even bond. Here are some techniques:

- Use a brush or applicator to apply glue evenly to both surfaces of the wood. Make sure to cover the entire surface, but avoid applying too much glue.
- Use the right amount of glue for the job. Too little glue can result in a weak bond, while too much glue causes the wood to become wet and difficult to work with.
- Use clamps (Figure 3-5) to hold the wood in place while the glue dries. This will help to ensure a strong and even bond.



Figure 3-5: Holding pieces of wood with clamps

Section 4: CONCLUSION

In conclusion, my coop experience at Advanced Carpentry Co. has been a valuable and enriching experience that has provided me with hands-on training and industry knowledge in the field of carpentry and woodworking. Throughout my three-month term, I had the opportunity to work on various projects, learn from experienced carpenters and woodworkers, and develop skills and knowledge that will be essential for my future career.

I am grateful for the support and guidance provided by the company's management team and my supervisor, who helped me to navigate the workshop and provided feedback and evaluations throughout my term.



Recommendations:

Based on my coop experience, I would recommend that future coop students be provided with a comprehensive orientation program that includes safety protocols, workshop procedures, and an overview of the company's policies and expectations. Additionally, I would suggest that coop students be given the opportunity to work on a variety of projects and tasks to gain a broader understanding of the industry and develop a range of skills.

Future Plans:

Upon completing my coop term, I plan to continue my studies in the carpentry and woodworking program and pursue a career in the industry. I am excited about the opportunities and challenges that lie ahead and am confident that my coop experience has provided me with the skills and knowledge necessary to succeed in this field.

Section 5: WEEKLY REPORTS

 معهد الجبيل التقني	WEEKLY REPORT WEEK No. (3)					
Date From: <u>22 / 9 / 2024</u> To: <u>26 / 9 / 2024</u>						
STUDENT NAME: <u>Rami Samir Al-Ahmed</u> ID. NO: <u>441822345</u> NAME OF THE COMPANY FOR OJT: <u>Advanced Carpentry Company</u>						
<p>The Work Performed This Week:</p> <p>This week, I learned and practiced how to use an orbital sander. More specifically, I learned:</p> <ul style="list-style-type: none">The different types of orbital sanders and their uses.How to properly hold and maneuver the sander to achieve a smooth finish.The different grits of sandpaper and how to choose the right one for the job.The importance of dust collection and how to use a dust collector with the sander. <p>I had several practice sessions with the orbital sander this week. During these sessions, I practiced sanding different types of wood, including pine, oak, and maple. I also practiced sanding different surfaces, including flat surfaces, edges, and corners.</p> <p>Keeping the sander in place despite the vibrations was challenging, but I was able to successfully sand various wood pieces that were used in cabinets assembled by the workshop.</p>						
<p>Training supervisor's Assessment of the Student's performance this Week:</p> <table style="width: 100%; text-align: center;"><tr><td>Excellent <input checked="" type="checkbox"/> [90-100%]</td><td>Very Good <input type="checkbox"/> [80-89%]</td><td>Good <input type="checkbox"/> [70-79%]</td><td>Satisfactory <input type="checkbox"/> [60-69%]</td><td>Not Satisfactory <input type="checkbox"/> [Less than 60%]</td></tr></table>		Excellent <input checked="" type="checkbox"/> [90-100%]	Very Good <input type="checkbox"/> [80-89%]	Good <input type="checkbox"/> [70-79%]	Satisfactory <input type="checkbox"/> [60-69%]	Not Satisfactory <input type="checkbox"/> [Less than 60%]
Excellent <input checked="" type="checkbox"/> [90-100%]	Very Good <input type="checkbox"/> [80-89%]	Good <input type="checkbox"/> [70-79%]	Satisfactory <input type="checkbox"/> [60-69%]	Not Satisfactory <input type="checkbox"/> [Less than 60%]		
Any other comments: <div style="border: 1px solid black; padding: 5px; margin-top: 5px;"><u>Rami did a great job sanding several pieces that arrived in the workshop this week.</u></div>						
Supervisor's Name: <u>Yahya Al-Salem</u> Signature: <u></u> Date: <u>26/9/2024</u>						

WEEKLY REPORT

WEEK No. (4)

Date From: 29 / 9 / 2024 To: 3 / 10 / 2024

STUDENT NAME: Rami Samir Al-Ahmed ID. NO: 441822345

NAME OF THE COMPANY FOR OJT: Advanced Carpentry Company

The Work Performed This Week:

This week, I continued my work on sanding various cabinets and also learned how to glue wood planks together. Gluing might seem simple, but there are many types of glues and gluing techniques that I learned and practice in the workshop. These types include:

- White glue: suitable for most woodworking applications. It dries clear and is easy to clean up.
- Yellow glue: similar to white glue but has a higher bonding strength.
- Epoxy: highly strong and resistant to heat, moisture, and chemicals.
- Polyurethane: highly flexible and resistant to moisture. Often used for or high humidity environments.

We had to join several pieces of wood to build a shed for a customer. After applying the glue, clamps were used to hold the pieces together until the glue dries up. This takes from several hours to a day.

We also did housekeeping work for the whole workshop at the end of the week.

Training supervisor's Assessment of the Student's performance this Week:

Excellent

☐

[90-100%]

Very Good

☒

[80-89%]

Good

☐

[70-79%]

Satisfactory

☐

[60-69%]

Not Satisfactory

☐

[Less than 60%]

Any other comments:

Supervisor's Name: Yahya Al-Salem

Signature: 

Date: 3/10/2024

Section 6: REFERENCES:

Books:

- "Carpentry and Woodworking" by McGraw-Hill Education (2019)
- "Wood Finishing: A Guide to Techniques and Materials" by The Guild of Master Craftsmen (2016)
- "Safety in the Woodworking Industry" by the Occupational Safety and Health Administration (OSHA) (2020)

Online Resources:

- Woodworking Magazine (www.woodworkingmagazine.com)
- The Spruce Crafts (www.thesprucecrafts.com)
- Fine Woodworking (www.finewoodworking.com)
- OSHA Guidelines for Woodworking (www.osha.gov)

Company Resources:

- Oakwood Carpentry Co. Safety Manual (2022)
- Oakwood Carpentry Co. Employee Handbook (2022)
- Oakwood Carpentry Co. Training Manual (2022)