

Program Vocational Learning Outcomes

Manufacturing technician- wood products (Ontario College Diploma) (MTCU Code 54300)

The successful completion of this program will enable the graduate to:

1. Understand how the structure of wood and its mechanical and physical properties relate to the quality and performance of wood products. Know the variety, grades and uses of materials commonly used in the trade, including lumber, veneer, particleboard, fibreboard, plastic laminates, adhesives, abrasives and preservatives.
2. Set up and operate a wide range of machinery and equipment used in wood products manufacturing. Perform the skills of basic sharpening and maintenance of saws and cutters. Design, construct and use jigs and patterns for machining, sanding and assembly operations. Finish a variety of woodworking projects using state-of-the-art finishing procedures and production techniques. Use basic hand tools.
3. Construct and finish a variety of furniture and cabinetry projects applying production techniques. Prepare and use drawings and specifications for furniture, cabinets and architectural millwork. Develop complete working drawings using AutoCAD.
4. Understand basic principles of work measurements, methods analysis, quality control, production control and supervision. Understand the product development process and the role of the product engineer. Prepare cost estimates for furniture, cabinetry and architectural millwork projects. Carry out time studies and develop standard data applying the principles of work measurement. Apply the principles of methods analysis, work station efficiency, and productive work flow for typical manufacturing processes. Understand and assist in layout and materials handling analysis, equipment selection, and plant support system planning. Perform operations planning and scheduling as well as inventory and materials requirement analysis.
5. Appreciate the design and construction fundamentals of kitchen cabinetry. Appreciate how architectural millwork products differ from furniture in design, construction and installation.
6. Understand the programming and operation of computer-controlled machines, and create, dimension and plot part drawings using AutoCAD computer program. Understand the concepts of computer-integrated manufacturing and apply the principles of computer control in the woodworking manufacturing environment. Transfer the data generated by software programs through to CNC machinery for part manufacturing.
7. Develop a quality assurance program for wood manufacturing operation applying the principles of statistical process control. Apply testing techniques including simple computer analysis on a variety of raw materials and assembled products.

8. Appreciate the history of furniture styles.
9. Practice teamwork in accomplishing objectives.
10. Apply simple business procedures.
11. Restore antique furniture based on the evaluation and estimation of repair costs.
12. Apply the fundamentals of effective supervision and personnel management.
13. Understand the responsibility and methods of maintaining a safe working environment.
14. .Communicate effectively in speech and writing as well as graphically.