Connecticut CTE

Wood Technology (Grades 9-12)

Wood Technology

A Wood Technology WM

1 Identify and appraise the impacts wood manufacturing has on their future aspirations; both career based and/or as an educated consumer. WM.01

- a Develop career goals and objectives as part of a plan for future career direction. WM.01.01
- b Develop strategies to reach career objectives. WM.01.02

2 Describe and demonstrate the procedures related to workplace and job site safety including personal protective equipment, machine safety, and material handling practices. WM.02

- a Demonstrate safe material handling practices. WM.02.01
- b Demonstrate and explain knowledge of workplace safety procedures.* (A2) WM.02.02
- c Demonstrate and explain knowledge of personal safety practices pertaining to eye wear, footwear, clothing, and personal protective equipment (PPE) used in wood technology.*(A3) WM.02.03
- d Describe safety practices for specific machines. WM.02.04
- e Demonstrate knowledge of proper use, storage, and disposal of hazardous materials following OSHA's proper safety practices for a woodworking facility.* (A1) WM.02.05
- f Obtain, read and follow SDS (Safety Data Sheets) information. WM.02.06
- g Follow safe practices relating to environmental hazards. WM.02.07
- h Explain safe proper use, disposal, and storage of chemicals following OSHA standards.*(A7) WM.02.08
- i Describe safety practices for the following machines: table saw, drill press, stationary sander, router table, and miter saw.*(A4) WM.02.09

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3 Identify and describe the safe and appropriate use of various types of hand and power tools and machinery used for building. WM.03

- a Identify, use, and maintain the following measuring, layout, and marking tools: steel rule, tape measure, combination square, sliding “T” bevel, and compass.* (B8) WM.03.01
- b Identify proper use and function of the following portable power tools: circular saw, drill, jig/saber saw, finishing sanders, and routers.*(B9) WM.03.02
- c Identify proper use and function of the following fastening tools: hammer, Phillip head screw driver, and slotted/flat head screw driver.*(B10) WM.03.03
- d Demonstrate and explain knowledge of proper use and storage of portable power tools.*(A6) WM.03.04
- e Demonstrate and explain knowledge of proper use and storage of basic hand tools.*(A5) WM.03.05
- f Identify proper use and function of the following hand tools: cross cut saw, rip saw, level, coping saw, nail set, hand plane, chisel, and file.*(B11) WM.03.06
- g Identify proper use and function of stationary saws. WM.03.07
- h Identify the proper use and function specialty machinery (e.g. drill presses. jointers. surface planers. table saws. power miter saws. band saws. scroll saws. and stationary sanders.* WM.03.08
- i Identify proper use and function of the table and miter saws.*(B12) WM.03.09
- j Explain and demonstrate correct use of planers. WM.03.10
- k Explain and demonstrate use of molders. WM.03.11
- l Identify functions and demonstrate us of wood lathes. WM.03.112
- m Identify and demonstrate use and function of sanders. WM.03.13
- n Select appropriate tools, procedures, and/or equipment. WM.03.14
- o Follow laboratory safety rules and procedures. WM.03.15
- p Demonstrate good housekeeping at a workstation within total laboratory. WM.03.16
- q Identify color coding safety standards. WM.03.17
- r Explain fire prevention and safety precautions and practices for extinguishing fires. WM.03.18
- s Identify harmful effects/potential dangers of familiar hazardous substances/devices to people and the environment. WM.03.19

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4 Explain and be able to demonstrate the methods involved in turning raw materials into useable products. WM.04

- a Describe and interpret technical drawings. WM.04.01
- b Describe and prepare rough drawings and sketches.*(C14) WM.04.02
- c Explain and prepare a cut list or bill of material from a basic plan and assembly drawing.(C15) WM.04.03
- d Interpret a design to facilitate replication. WM.04.04
- e Describe and identify fractional measurements from a basic plan and assembly drawings.*(C13) WM.04.05
- f Identify the difference between both nominal and actual dimensions.*(C17) WM.04.06
- g Extrapolate information from a set of plans. WM.04.07
- h Measure accurately to a sixteenth of an inch.*(C16) WM.04.08
- i Estimate materials quantities in both board feet and linear feet.*(C18) WM.04.09
- j Interpret a design to facilitate replication. WM.04.10
- k Consider the natural characteristics of grain, knots, and checks when laying out a board.*(C19) WM.04.11
- l Identify and assemble the following types of joints: butt, miter, dado, rabbet, and lap.*(G27) WM.04.12
- m Identify and select the proper cutting process based on grain direction.*(E23) WM.04.13
- n Identify how grain direction affects a material's strength.*(E24) WM.04.14
- o Understanding kerf and its application to cutting and layout operations.*(E25) WM.04.15
- p Identify characteristics and applications of the following coniferous softwoods: pine, cedar, and fir.*(D20) WM.04.16
- q Identify characteristics and applications of the following deciduous hardwoods: oak, maple, and poplar.*(D21) WM.04.17
- r Identify characteristics and applications of the following engineered lumber: plywood and medium density fiberboard.(D22) WM.04.18
- s Identify and describe the purpose and use of the following woodworking fasteners: common nails, round head screws, flat head screws, and oval head screws.*(H29) WM.04.19
- t Identify, describe purpose of and use woodworking adhesives.* WM.04.20
- u Identify and describe the purpose of the following clamping devices: bar clamp, c-clamp, parallel/hand screw clamp, and spring clamps.*(H30) WM.04.21
- v Identify and apply various wood finishes for interior and exterior, with brush or wipe on, for the following: paint, stain, and clear coat.*(I31) WM.04.22
- w Describe the abrasive grit numbering grading system.*(F26) WM.04.23

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x Differentiate among various abrasive materials. WM.04.24

5 Describe and demonstrate the attributes of wood design. WM.05

a Utilize the design process; including defining a problem, brainstorming, researching and generating ideas, identifying criteria and specifying constraints, exploring possibilities, selecting an approach, developing a design proposal, making a model or prototype, testing and evaluating the design using specifications, refining the design, creating or making it, and communicating processes and results. WM.05.01

b Check and critique a design continually, and improve and revise the idea of the design as needed. WM.05.02

c Design and create cabinet and wood products WM.05.03

d Develop a production plan, including the layout, bill of materials, and cost analysis, for the production of cabinets or wood products. WM.05.04

6 Read blueprints and specifications WM.06

a Explain the purpose and components of contract documents and specifications. WM.06.01

b Identify and explain the following elements: Dimensions; Construction views; Section views; Site plans; Foundation plans; Floor plans and elevations; Details; Wiring details. WM.06.02

c Identify building symbols. WM.06.03

d Identify lists of materials and specifications. WM.06.04

e Use architectural and engineering scales. WM.06.05

f Demonstrate a basic understanding of computer-aided design. WM.06.06