

LCB File No. R055-06

**PROPOSED REGULATION OF THE
STATE BOARD OF EDUCATION**

Explanation: Matter in *italics* or underlined is new; matter in brackets ~~{} or stricken~~ is material to be omitted.

AUTHORITY: NRS 385.080 & (if necessary, provide other statutory authority)

Section 1. NAC~~389~~ is hereby amended as follows:

Section 2. NAC 389.614 ~~{Cabinetmaking.}~~ *Furniture and Cabinetmaking* (NRS 385.080, 385.110) ~~{A course of study in cabinetmaking must include instruction designed to teach the pupil to do the following:~~

- ~~1. Read blueprints.~~
- ~~2. Estimate the need for materials.~~
- ~~3. Use portable electric tools and stationary equipment such as a shaper, planer, radial saw, jointer, sander and machines for dowling.~~
- ~~4. Design, layout, build, finish and install cabinets.~~
- ~~5. Apply a finish to a cabinet.}~~

A course of study in furniture and cabinetmaking must be designed so that students meet the following performance standards by the completion of an advanced program of instruction:

1. For the area of safety, the student will demonstrate safe work practices and tool/equipment usage while performing operations in the work environment:

(a) Adhere to general shop and site safety rules as they apply to personal protective wear; the safe handling, storage and disposal of hazardous materials; awareness of potential hazards to oneself and others; adherence to construction-related safety practices, and administration of basic first aid treatments.

(b) Adhere to safe work practices in the maintenance and use of hand and power tools, to include the safe use and care of hand tools; the safe operation of stationary power tools; basic maintenance of hand and power tools; proper operation of pneumatic tools; the proper inspection of power tools to ensure guards, shields, insulation and other protective devices are intact.

2. For the area of mathematics, the student will apply mathematics for practical use in furniture and cabinetmaking, as demonstrated by the student's ability to estimate material needs and costs using board-, square-, and linear-foot measurements, and properly square corners and measure accurately to 1/32 inch and to the nearest millimeter.

3. For the area of project planning, the student will demonstrate competence in planning, design and blueprint reading in furniture and cabinetmaking.

- (a) Demonstrate an understanding of the elements and principles of design.*
 - (b) Identify the various kitchen, furniture and cabinet styles used in the furniture and cabinet industry.*
 - (c) Demonstrate competence in various drafting techniques and blueprint reading used in industry.*
 - (d) Interpret and apply information to develop or evaluate a bill of materials.*
 - (e) Estimate the quantity and cost of materials.*
 - (f) Develop a plan of procedures necessary to complete a project.*
- 4. For the area of tool selection and usage, the student shall demonstrate proper tool selection and usage in the work environment.*
 - (a) Demonstrate the proper use of measuring and layout tools.*
 - (b) Demonstrate the proper use of cutting tools.*
 - (c) Demonstrate the proper use of striking tools.*
 - (d) Demonstrate the proper use of hand boring tools.*
 - (e) Demonstrate the proper use of hand shaping tools.*
 - (f) Demonstrate the proper use of clamping tools.*
- 5. For the area of power tools usage, the student shall demonstrate competence in the selection and safe use of power tools:*
 - (a) Demonstrate the proper and safe use of portable power tools.*
 - (b) Demonstrate the proper and safe use of stationary power tools.*
- 6. For the area of joinery, students shall demonstrate competence in the use joinery techniques, fasteners and adhesives.*
 - (a) Demonstrate a working knowledge of the various metallic fasteners and their uses in the furniture and cabinetmaking industry.*
 - (b) Identify and use various dowels and biscuits in the furniture and cabinetmaking industry.*
 - (c) Identify the various adhesives and their uses in the furniture and cabinetmaking industry.*
 - (d) Identify and construct various wood joints used in the furniture and cabinetmaking industry.*
- 7. For the area of wood products and materials, students shall demonstrate knowledge in the identification, characteristics and uses of commonly used wood products and materials.*
 - (a) Identify hardwoods and softwoods.*
 - (b) Identify various sheet goods and describe their characteristics and uses.*
 - (c) Identify various solid surface and laminate materials and describe their characteristics and uses.*
 - (d) Identify various veneers and describe their characteristics and uses.*
- 8. For the area of construction processes, the student shall demonstrate an understanding of various construction processes used in the furniture and cabinetmaking industry.*
 - (a) Demonstrate furniture construction techniques, to include case, frame and panel, and leg and rail construction.*

(b) Demonstrate cabinet construction techniques, to include face frame case, frameless case, cabinet drawer, and cabinet door construction.

(c) Demonstrate manufacturing and mass production techniques.

(d) Select and install various hardware used in the furniture and cabinetmaking industry.

(e) Demonstrate various plastic laminating techniques.

9. For the area of finishing, the student shall prepare a project and apply finishes to industry standards.

(a) Properly use various abrasives to prepare a project for a finish.

(b) Select and apply various stains used in the furniture and cabinetmaking industry.

(c) Identify and apply various sealers and finish coats used in the furniture and cabinetmaking industries.

(d) Identify and apply various fillers used in the furniture and cabinetmaking industries.

10. For the area of installation, the student will transport and install furniture and cabinets according to industry standards.

(a) Demonstrate proper techniques for packaging and transporting furniture and cabinets.

(b) Demonstrate the proper layout an installation of cabinets.

(c) Demonstrate the proper layout, fabrication, and installation of countertops.

(d) Demonstrate the proper layout and installation of molding and trim.

11. For the area of employability skills, achieve workplace readiness, career development, and lifelong learning as demonstrated by the student's ability to:

(a) Demonstrate problem-solving skills.

(b) Demonstrate critical-thinking skills.

(c) Demonstrate the ability to speak, write, and listen effectively.

(d) Demonstrate the ability to select, apply, and maintain appropriate technology.

(e) Demonstrate leadership and teamwork skills.

(f) Demonstrate sound workplace ethics.

(g) Demonstrate the ability to effectively manage resources in high-performance workplaces.

(h) Demonstrate career planning and development skills.

(i) Demonstrate job retention and lifelong-learning skills.