

## **CABINETMAKING BLUEPRINT**

This Blueprint contains the subject matter content of this Skill Connect Assessment. This Blueprint does **NOT** contain the information one would need to fully prepare for a SkillsUSA Championships contest. Please refer to the *SkillsUSA Championships Technical Standards* CD-ROM for the current year or purchase and download the relevant "Contest Singles." Both are available through [www.skillsusa.org](http://www.skillsusa.org) > Shop > Educational Materials Catalog.

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### **Standards and Competencies**

#### **Apply wood veneers and plastic laminates**

- Apply adhesives, edge banding and wood edges
- Apply laminate to core
- Cut plastic to size
- Fit plastic laminate joints
- Trim edges

#### **Assemble, fasten and install components**

- Apply clamping devices
- Assemble drawers, panel door and joint
- Assemble ends, back, bracing and face frame
- Attach molding/trim
- Fasten parts with nails, screws and staples
- Fasten top to casework
- Glue boards edge to edge
- Install catches, doors, drawer rail and guides, hinges, pulls and knobs, shelves and track and slide for sliding doors as per plans
- Reinforce joints with block/dowel

#### **Cut and shape components**

- Cut butt joint, counter top, dado/rabbit joint, doors, doweled joint, and drawer guides and runners (rails)
- Cut drawer front, sides, back and bottom
- Cut ends, back and interior bracing
- Cut face frame, miter joints, molding trim, mortise and tenon joints, frames and panels, shelving, spline joints and tongue and groove joints
- Cut out for sink
- Edge (shape) counter top
- Plane stock
- Square solid stock

#### **Design and lay out**

- Determine materials from a blueprint
- Draw detailed plans
- Estimate labor and material cost
- Sketch shop plans

#### **Finish surfaces**

- Apply lacquers, paints, stains, varnishes/polyurethanes and wood filler to nail or screw holes
- Clean surfaces
- Remove excess glue

- Sand surfaces
- Swell dents

#### **Transport and install cabinets**

- Fasten cabinet to wall
- Trim cabinets
- Prepare cabinets for transporting
  
- **Demonstrate employability skills**
- Follow instructions provided by supervisor
- Demonstrate customer service skills
- Use effective verbal and written communication skills
- Prepare a typewritten resume'

#### **Practice power tool and electrical safety**

- Inspect and properly use power tools
- Inspect and properly use equipment
- Recognize proper OSHA related safety standards

#### **Use measurement skills**

- Use ruler, tape measure, and framing square to measure components
- Calculate amount of needed materials given a materials list and/or sketch

#### **Identify commonly used tools, materials, and methods**

- Identify commonly used tools and their accessories
- Describe the system for fastener sizing
- Compare relative strength of joining methods
- Identify joining methods

#### **Committee Identified Academic Skills**

The SkillsUSA national technical committee has identified that the following academic skills are embedded in the cabinetmaking training program and assessment:

##### **Math Skills**

- Use fractions to solve practical problems
- Use proportions and ratios to solve practical problems
- Simplify numerical expressions
- Solve practical problems involving percentages
- Measure angles
- Find surface area and perimeter of two-dimensional objects
- Apply transformations (rotate or turn, reflect or flip, translate or slide, and dilate or scale) to geometric figures
- Construct three-dimensional models
- Apply Pythagorean Theorem
- Solve practical problems involving complementary, supplementary and congruent angles
- Use measures of interior and exterior angles of polygons to solve problems
- Find arc length and the area of a sector

##### **Science Skills**

None Identified

##### **Language Arts Skills**

- Provide information in conversations and in group discussions

- Provide information in oral presentations
- Demonstrate use of nonverbal communication skills, such as eye contact, posture and gestures using interviewing techniques to gain information

### **Connections to National Standards**

State-level academic curriculum specialists identified the following connections to national academic standards.

#### **Math Standards**

- Numbers and operations
- Algebra
- Geometry
- Measurement
- Data analysis and probability
- Problem solving
- Communication
- Connections
- Representation

**Source:** NCTM Principles and Standards for School Mathematics. To view high school standards, visit: [standards.nctm.org/document/chapter7/index.htm](http://standards.nctm.org/document/chapter7/index.htm). Select “Standards” from menu.

#### **Science Standards**

None Identified

**Source:** McREL compendium of national science standards. To view and search the compendium, visit: [www.mcrel.org/standards-benchmarks/](http://www.mcrel.org/standards-benchmarks/).

#### **Language Arts Standards**

- Students adjust their use of spoken, written and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes
- Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes
- Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language and genre to create, critique and discuss print and non-print texts
- Students use a variety of technological and information resources (e.g., libraries, databases, computer networks, video) to gather and synthesize information and to create and communicate knowledge
- Students use spoken, written and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion and the exchange of information)

**Source:** IRA/NCTE Standards for the English Language Arts. To view the standards, visit: [www.readwritethink.org/standards/index.html](http://www.readwritethink.org/standards/index.html).