

844090

# Mill and Cabinet 120

**New  Brunswick**

Department of Education  
Educational Programs & Services Branch  
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## Introduction

Mill and Cabinet 120 will introduce students to the skills and knowledge pertinent to the diverse field of mill work and cabinet making. Students enrolled in this course will be exposed to both custom and mass production principles. Industry standards concerning quality, quantity and safety expectations/practices are incorporated within the course outcomes. Teachers are encouraged to profile current management practices used in the manufacturing industry to prepare students for entry level employment and post-secondary learning.

This is an excellent course for students interested in pursuing a career in furniture making, carpentry or related trade areas.

## Learning Activities

To enhance the relevance of learning outcomes, industry/trades representatives should be invited to present to students when available. Industry representatives provide realistic applications of skills learned.

## Prerequisite

None

## General Curriculum Outcomes

Upon completion of Mill and Cabinet 120, students will have achieved the following outcomes:

- **GCO 1** Demonstrate the skills and knowledge required to prevent accidents.
- **GCO 2** Demonstrate an understanding and applications of Workplace Hazardous Materials Information System (WHMIS) symbols.
- **GCO 3** Demonstrate an understanding of ethical and legal responsibilities.
- **GCO 4** Identify, select and use tools and equipment required in the mill and cabinet industry.
- **GCO 5** Demonstrate proficiency in measurement and the application of mathematical estimation skills (metric & imperial).
- **GCO 6** Identify and interpret various types of working drawings.
- **GCO 7** Identify wood, wood products and other materials to be used when building mill and cabinet products.
- **GCO 8** Demonstrate knowledge of fasteners and adhesives commonly used to join mill and cabinet materials.
- **GCO 9** Demonstrate the ability to prepare a surface and apply finish on a wood surface.
- **GCO 10** Identify various careers available in the mill and cabinet industry.

## Course Code

844090



## MILL AND CABINET 120

### GCO 1 Demonstrate the skills and knowledge required to prevent accidents

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Identify safety procedures and common potential hazards in the lab/shop and workplace.
- Describe the rationale for first-aid kits and an emergency action plan in the working environment.
- Demonstrate personal responsibility in the prevention of accidents and describe how accidents can be prevented.
- Take appropriate action if hazards occur.
- Use and store lab materials and tools in a safe manner.
- Demonstrate safe body mechanics (e.g. back safety, lifting, RSI).

#### Suggestions for Teaching/Learning:

The teacher leads a class discussion about personal injury, causes and prevention strategies (including examples of personal injury).

The students work in small groups to analyze workplace accident statistics and list how to prevent them. Lists are shared through class presentations.

The teacher invites a guest speaker from WHSCC or Training and Employment Development to discuss with students why accidents happen, demonstrating preventative steps students/workers should follow to minimize the risk of accidents and possible injury.

The students tour mill and cabinet labs to observe safety guards and other measures used in the lab to prevent injury (activity should include appropriate clothing, footwear and eye & ear protection).

The teacher demonstrates safety procedures and machine operations to students. Students should complete operational tasks under the supervision of the teacher prior to independent operation.

The teacher arranges a visit to a local mill and cabinet related business or actual work site. With the host's permission, visit(s) may be recorded with a digital camera for the purpose of analysis. Students should focus on application of safety procedures used in the cabinet making business.

The students identify potential accidents associated with selected tools/equipment located in the lab. Students match specific first aid applications/procedures used with each of the identified potential accidents.

## MILL AND CABINET 120

### GCO 1 Demonstrate the skills and knowledge required to prevent accidents

#### Suggestions for Learning/Assessment:

Through ongoing teacher, peer and self-evaluation, students demonstrate an understanding of outcomes.

The teacher observes and records student conduct in the lab to determine their proficiency in preventing accidents.

Through class presentations, students outline safety precautions followed to prevent injury. Students prepare a written or PowerPoint presentation.

The students demonstrate safe practices and equipment operations while performing simple tasks on the machines.

The students analyze workplace situations to determine possible hazards within the lab.

The students prepare five multiple-choice questions pertaining to the power tools used in the lab.

The teacher uses the text and other resources to prepare tests.

The teacher uses daily progress cards to record students' progress with reference to safe work attitudes and safe procedures followed when using power tools. This progress recording activity provides the student and teacher with an ongoing profile of learning.

#### Resources:

Umstatted, William D. & Davis, Charles W.  
*Modern Cabinetmaking*. Tinley Park:  
The Goodheart-Willcox Company Inc,  
2000.

- ISBN 1-56637-503-7

<http://portal.nbed.nb.ca>

- Cabinet making reference materials

WHSCC "Choices For Life/Health & Safety"  
(K-12) Binder

- Sections C6 to C18, D, E, F, G and H1 to H4
- Includes illustrations applying to all subject areas

WHSCC "Stay Alive on the Job"

- Informative brochure on important facts to take to work

WHSCC "Hazard Alert"

- Focused information on accidents
- These one page alerts describe real accidents and recommended preventive action.
- Available from NB Workplace Health and Safety Compensation Commission
  - Phone: (800) 442-9776
  - <http://www.whscc.nb.ca/>

## MILL AND CABINET 120

### GCO 2 Demonstrate an understanding and applications of Workplace Hazardous Materials Information System (WHMIS) symbols

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Apply knowledge of WHMIS symbols to identify hazardous products.
- Demonstrate an understanding of how to reduce risk of injury or ill health when using hazardous products.
- Describe the rationale and role of the three parts of WHMIS (labels and symbols, Material Safety Data Sheet (MSDS) and worker education and training).
- Describe the responsibilities of the supplier, the employer and the employee as they relate to WHMIS.
- Apply knowledge of personal protective equipment (PPE).

#### Suggestions for Teaching/Learning:

The students use WHSCC statistics to identify body parts most likely to be injured in an accident.

The students generate a list of power hand tools and machines used in the mill and cabinet shop.

The students evaluate statistics on common accidents in the cabinet making industry by matching body parts most likely to be injured with machines and operations associated with causing the injuries.

The teacher leads an information session about WHMIS symbols and discusses their relevance. Students construct a chart to remain on the wall of the lab, illustrating products on which WHMIS symbols are found.

The students generate a list of household and construction related materials/products displaying WHMIS symbols. Working in groups, students present their list and explain the relevance of the symbols to the class.

The teacher demonstrates correct methods used when wearing personal protective equipment.

The teacher invites guest speakers from WHSCC to provide WHMIS training to students.

The students conduct informal research to identify and list all value added/fabricated sheet material used in the cabinet making industry. Students work in teams of three or four to build PowerPoint presentations describing potential health hazards.

## MILL AND CABINET 120

### GCO 2 Demonstrate an understanding and applications of Workplace Hazardous Materials Information System (WHMIS) symbols

#### Suggestions for Learning/Assessment:

The teacher selects portions of the WHSCC materials to develop specific tests relating to items covered in the WHSCC binder. (The information found in the binder is generic and appropriate for grades K-12.)

The teacher develops an assessment tool for WHMIS training. Evaluation material provided by WHSCC staff should be included.

The students use self assessment and portfolio development to demonstrate what they have learned about safety. Certificates of merit, photographs and other descriptive methods may be included.

Using multi-media presentations, students profile an understanding of WHMIS safety procedures.

The teacher develops a test on WHSCC symbols matching potential safety hazards with the symbols.

#### Resources:

Umstattd, William D. & Davis, Charles W.  
*Modern Cabinetmaking*. Tinley Park:  
The Goodheart-Willcox Company Inc,  
2000.

- ISBN 1-56637-503-7

WHSCC "Choices For Life/Health & Safety"  
(K-12) Binder

- Safety procedures for all grades; includes illustrations applying to all subject areas
- Available from NB Workplace Health and Safety Compensation Commission
  - Phone: (800) 442-9776
  - <http://www.whscc.nb.ca/>

## MILL AND CABINET 120

### GCO 3 Demonstrate an understanding of ethical and legal responsibilities

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Demonstrate an understanding of applicable concepts including bonds, ethics and liability.
  - Identify and demonstrate appropriate legal and ethical behaviour when engaged in off-site activities.
  - Describe an employee's responsibility to an employer.

#### Suggestions for Teaching/Learning:

The teacher invites an experienced cabinet maker into the classroom to discuss the concept of liability, stressing ethical protocol while on or using personal property.

The students analyze several contractual agreements to differentiate between an estimate and a contract.

The students analyze real contractual agreements, identify responsibilities of self-employed entrepreneurs to the client and outline ethical protocol of cabinet makers while on a client's property.

The teacher explains the responsibilities and rights an employee has while working for a cabinet making company and the responsibility an entrepreneur (employer) has to his/her workers.

The students outline activities, attitudes and methods required to communicate effectively when working with members of the community.

## MILL AND CABINET 120

### GCO 3 Demonstrate an understanding of ethical and legal responsibilities

#### Suggestions for Learning/Assessment:

The students conduct research to determine the education and work experience required prior to starting a business in the cabinet making industry (including money management, basic accounting and a generic understanding of market conditions).

The students interview local contractors to collect data with specific reference to the cabinet making industry and define the responsibilities of a contractor.

The teacher develops a test generated from the textbook, WHSCC materials, information from local business people and other sources.

The students develop comparison charts describing the differences between an estimate and a contract.

The students present information about ethics and liability as they relate to the cabinet making industry based on resources from WHSCC (one page "Hazard Alerts" and other related information from the newspaper and other sources. This presentation should include case-related questions to be answered by classmates.

The students create a two-page critique outlining liability issues associated with real situations concerning the cabinet making industry, including legal and ethical issues.

#### Resources:

##### WHSCC "Stay Alive on the Job"

- Information brochure on important facts to take to work

##### WHSCC "Hazard Alert"

- Focused information on accidents
- These one page alerts describe real accidents and recommended preventive action.
- Available from NB Workplace Health and Safety Compensation Commission
  - Phone: (800) 442-9776
  - <http://www.whscc.nb.ca/>

##### Workplace Statistics

- Concerning employee and employer responsibilities in the workplace
- Available from Training and Employment Development NB
- Phone: (506) 453-2725

##### Sample Contracts

- Instructor should contact the Home Builder Association and Construction Association for N.B. stipulated contracts, architectural drawings and specifications.

## MILL AND CABINET 120

### GCO 4 Identify, select and use tools and equipment required in the mill and cabinet industry

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Identify and demonstrate safe use of hand tools/power tools and equipment.
- Practice and use proper tag and lock-out procedures.
- Maintain, clean and safely store power tools and equipment.

#### Suggestions for Teaching/Learning:

The teacher creates an identification exercise/assignment including:

- Name(s) of each tool
- Possible safe applications for each tool
- Mechanical safe guards and other features with which the tool is equipped to prevent accidents
- Description of unsafe body positions and applications when using each tool
- Labels and numbers of all safety stations and equipment/power tools in the lab

The students identify equipment and list at least two safety precautions when using the equipment (e.g. eye wash solution, fire exit, etc.).

The students demonstrate the safe use of guards on moving parts of equipment.

The teacher invites an individual from WHSCC into the classroom to inform students about potential hazardous situations in the lab/shop.

The teacher permits students to complete one of three possible simple projects. This activity provides a hands-on application for students to develop the necessary knowledge and skills required to operate mill and cabinet power equipment (activity should be completed in 4-6 hours).

## MILL AND CABINET 120

### GCO 4 Identify, select and use tools and equipment required in the mill and cabinet industry

#### Suggestions for Learning/Assessment:

The teacher presents students with a floor plan of the lab (void of machines and work stations) and asks them to locate and draw related safety areas, identifying stationary equipment and power hand tools.

The teacher creates a format to record and evaluate ongoing progress of students. A student portfolio may be used to track ongoing progress, test scores and skill attainment. The teacher will assess students' performance of power tool procedures include measuring, drilling, sanding and cutting.

The teacher evaluates students' knowledge by preparing tests to identify selection and use of tools and equipment required to design, draw and build a product/project.

The teacher observes students' using tools to identify their level of competence. Students demonstrate skill level through bench work assignments. Assigned skills include cutting, measuring, sanding, drilling and use of fasteners. Evaluation should be completed in an amount of time specified by the teacher. Proficiency of skills, appearance and functionality of projects should be considered when evaluating projects.

The students should repeat tool/machine operations until mastered.

#### Resources:

*National Building Code of Canada*

- Binder format
- Latest edition (550580)
- Canadian Housing Information Centre

Umstatt, William D. & Davis, Charles W. *Modern Cabinetmaking*. Tinley Park: The Goodheart-Willcox Company Inc., 2000.

- ISBN 1-56637-503-7

WHSCC "Choices For Life/Health & Safety" (K-12) Binder

- Sections E17 to E19
- Safety procedures for all grades
- Includes illustrations applying to all subject areas

## MILL AND CABINET 120

### GCO 5 Demonstrate proficiency in measurement and the application of mathematical estimation skills (metric & imperial)

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Demonstrate an understanding of the standards of measurement (metric and imperial).
  - Apply metric and imperial measurement when reading plans and selecting materials.
  - Use a measuring tape, framing square, combination square and other tools specific to cabinetry.
- Demonstrate proficiency when using math to estimate materials and costs.
  - Calculate quantities of materials required and cost of a project using board feet, linear feet and square feet.

#### Suggestions for Teaching/Learning:

The teacher asks students to sort, label and draw small, medium and large objects from within the classroom to illustrate a spatial appreciation.

The teacher provides half of the class with metric tapes and the other half with imperial tapes and asks them to measure various items. Students then exchange metric tapes for imperial tapes and repeat the exercise.

The teacher asks students to compare and contrast metric and imperial dimensions.

The students determine metric and imperial equivalent measurement by drawing a chart and plotting results.

The students contact local cabinet makers to determine the measurement standards for the construction of kitchen/bathroom cabinets.

The students complete suggested exercises from the textbook, *Modern Cabinetmaking*, to experience the function and use of a measuring tape, framing square, combination square and callipers.

The teacher assigns students a project to build. Students estimate the materials to be used. (Direction of grain, selection of wood type, thickness, etc. will be considered to reinforce the importance of maximizing efficiency of material being used.)

## MILL AND CABINET 120

### GCO 5 Demonstrate proficiency in measurement and the application of mathematical estimation skills (metric & imperial)

#### Suggestions for Learning/Assessment:

The teacher tests the knowledge and understanding of students using the following materials:

- Imperial measuring tape
- 8½" x 11" paper
- Imperial 12" ruler
- Supply list, including costs of materials

The teacher provides students with pre-determined dimensions of upper and lower kitchen cabinets; students scale the actual dimensions to fit onto the paper provided (all dimensions are to be included and the drawing is to be centered on the paper).

The teacher provides an actual/full-size completed project, students estimate materials required to build the project.

#### Resources:

Umstattd, William D. & Davis, Charles W.  
*Modern Cabinetmaking*. Tinley Park:  
The Goodheart-Willcox Company  
Inc., 2000.

- ISBN 1-56637-503-7

*Canadian Home Builders Association  
Manual*

- Available in text format or CD
- Phone: (800) 387 2422

## TECHNOLOGY EDUCATION MILL AND CABINET 120

### GCO 6 Identify and interpret various types of working drawings

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Demonstrate the ability to effectively use different types of working drawings.
  - Retrieve necessary information from working drawings.
  - Develop a bill of materials and costs.
  - Demonstrate an understanding of the relation among board feet, volume, square feet, linear feet and measurement.

#### Suggestions for Teaching/Learning:

The students use an imperial tape measure, framing square and layout tools to plan and build a kitchen cabinet.

The teacher explains how mathematical concepts are applied when learning mill and cabinet procedures.

The students create thumb nail sketch to assist in design and communication process.

The students use layout tools to draw a kitchen cabinet.

- Scale project to:  $\frac{1}{4}'' = 1.0'$ .
- Apply standard cabinet depth and height.
- Upon completion of planning, students calculate amount of materials to be used.

The students design a project (include rough sketches and working drawings and bill of materials).

The students initiate a contract to build a project for a potential client (e.g. parent, community member, etc.).

## MILL AND CABINET 120

### GCO 6 Identify and interpret various types of working drawings

#### Suggestions for Learning/Assessment:

Using the following criteria, the teacher observes students to evaluate their knowledge of the appropriate use of a pencil, tri-square and 12" ruler to design a cabinet project:

- 24" top unit cabinet
- Height is 30"
- Depth is 12"
- Side, top and front view
- Scale drawing to fit on paper 8½" x 11"

The students develop a bill of materials, estimating the work hours required and the safety procedures/precautions involved when building a single cabinet (e.g. above toilet small bathroom vanity.)

Using the text and resources from contractors, the teacher prepares a test to assess the students' abilities to interpret mill and cabinet drawings.

The teacher provides a basic mill and cabinet project to be drawn by each student. Students complete rough sketches, working drawings and bill of materials.

The teacher assigns a design problem to the students. Students are presented with a fixed budget and design parameters. Explanation provides the students with specific uses of this project. Students select appropriate materials, joints and fasteners, creating necessary working drawings.

#### Resources:

Umstatted, William D. & Davis, Charles W. *Modern Cabinetmaking*. Tinley Park: The Goodheart-Willcox Company Inc., 2000.

- ISBN 1-56637-503-7

Schuttner, Scott. *Basic Stairbuilding*. Newtown: Taunton Press, Inc., 1990.

- ISBN 0-942391-44-6

[www.minwax.com](http://www.minwax.com)

## MILL AND CABINET 120

### GCO 7 Identify wood, wood products and other materials to be used when building mill and cabinet products

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Demonstrate an understanding of the advantages and limitations of each material:
  - Natural wood
  - Sheet material
  - Plastics
- Differentiate between hardwood and softwood species and their varied applications.
- Demonstrate an awareness of the products used in the mill and cabinet industry.
- Identify value added products and processes made and used in the mill and cabinet industry.

#### Suggestions for Teaching/Learning:

The teacher invites a contractor into the classroom to explain to students why some materials are frequently used in the mill and cabinet industry and to demonstrate procedures that are followed when using specific materials. Students discuss and research activities assigned by the teacher.

The teacher leads a class discussion describing the most appropriate materials to be used for specific types of cabinets.

The teacher creates an assignment challenging students to choose the most appropriate methods/materials.

- The teacher explains and demonstrates safe use and storage of natural wood, sheet materials and other mill and cabinet materials.
- The teacher demonstrates how waste products become value added products.
- The students research a variety of value added processes/products used in the construction of products found in school and at home.
- The students weigh the green wood (wet) documenting data after each one minute drying phase. Teacher demonstrates the formula:

$$mc = \frac{(W_g - W_o)}{W_o} \cdot 100\%$$

- The teacher provides groups of students with samples of wood and wood products (each group saturates samples in water for a 24 hour period and records the change in substances).

## MILL AND CABINET 120

### GCO 7 Identify wood, wood products and other materials to be used when building mill and cabinet products

#### Suggestions for Learning/Assessment:

The teacher observes students constructing various mill and cabinet projects.

The students complete related textbook activities.

The students prepare a reaction paper, reflecting on the procedures and information they have learned concerning applications of mill and cabinet building techniques.

The teacher challenges students to independently choose appropriate materials for a variety of cabinet projects. Students identify and match the best material for the mill and cabinet application.

#### Resources:

<http://www.ces.purdue.edu/extmedia/FNR/FNR-156.html>

- Contains information for drying wood

## MILL AND CABINET 120

### GCO 8 Demonstrate knowledge of fasteners and adhesives commonly used to join mill and cabinet materials

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Identify the following different methods of joinery used to build mill and cabinet materials:
  - Butt
  - Rabbet
  - Mitre
  - Dado
  - Half lap
  - Edge joint
  - Mortise and tenon
  - Dowel
  - Biscuit
  - Concrete fasteners
  - Pocket hole fasteners
  - Compound mitre
  
- Identify, select and apply fasteners and adhesives used in mill and cabinet industry.

#### Suggestions for Teaching/Learning:

The teacher provides a variety of common joints used in cabinetry. Students match the actual joint with the name, explaining the strengths of each joint and when it should be used in the construction of a project.

The students examine furniture at home and in school to identify the types of joinery and fasteners used.

The teacher invites a representative from industry to demonstrate air nailers.

The teacher uses textbook diagrams/exercises to illustrate each joint. Students complete written exercises to understand when each joint should be applied.

## MILL AND CABINET 120

### GCO 8 Demonstrate knowledge of fasteners and adhesives commonly used to join mill and cabinet materials

#### Suggestions for Learning/Assessment:

The teacher evaluates students' mill and cabinet skills by providing them with the drawings of three cabinet/furniture projects. Students must select appropriate joints and fasteners to be applied.

The teacher prepares a test, combining the unit exercises and tests from the textbook.

The students work in teams of two to construct specific joints assigned by the teacher. The teacher tests the joints under controlled conditions (destructive materials testing).

The teacher observes students' installing nails, screws, bolts and adhesives. Students are evaluated on their tactile abilities.

The teacher creates a matching exercise to determine if students can identify most commonly used wood working joints.

The teacher assesses students' ability to integrate appropriate joinery and fasteners into their projects.

#### Resources:

Umstattd, William D. & Davis, Charles W.  
*Modern Cabinetmaking*. Tinley Park:  
The Goodheart-Willcox Company  
Inc., 2000.  
• ISBN 1-56637-503-7

## MILL AND CABINET 120

### GCO 9 Demonstrate the ability to prepare a surface and apply finish on a wood surface

#### Specific Curriculum Outcomes:

*Students will be expected to:*

- Identify and use various sanding equipment and materials
- Demonstrate the use of various finish products and the procedures required to apply the following finish methods:
  - Spray
    - high pressure
    - low pressure
  - Brush
  - Roll
  - Foam
  - Texture
  - Wax
  - Rub on
- Recognize potential hazards when using and storing finishes

#### Suggestions for Teaching/Learning:

Using scraps of hardwood and softwood, students experiment sanding across the grain and with the grain to determine properties of sandpaper and wood. Students discover the lower the grit the more abrasive the sandpaper. Students also discover soft wood sands much faster than hard wood.

The students compare and contrast the result of sanding using the correct process/progression (using an assortment of sandpaper grits (50, 80, 100, 120, 150, 180, and 220) with using only 120 grit. Students apply stain to both pieces to reinforce the correct method of sanding. The teacher demonstrates the use of a cabinet scraper to prepare a surface that is ready to accept a finish.

The teacher provides students with scrap samples of woods to experiment with stains, paint, waxes, lacquer, etc. Students record the different drying times and finished textures.

The teacher asks students to prepare a wood surface to accept a finish using fillers and putty sticks.

The teacher demonstrates the technique used to perform the following applications: wet sanding and sanding sponges.

## MILL AND CABINET 120

### GCO 9 Demonstrate the ability to prepare a surface and apply finish on a wood surface

#### Suggestions for Learning/Assessment:

The teacher provides samples of softwood and hardwood.  
Each sample is finished using a different method and product.

#### Resources:

Umstatted, William D. & Davis, Charles W. *Modern Cabinetmaking*. Tinley Park: The Goodheart-Willcox Company Inc., 2000.

- ISBN 1-56637-503-7

## MILL AND CABINET 120

### GCO 10 Identify various careers available in the mill and cabinet industry

#### Specific Curriculum Outcomes:

*Students will be expected to:*

1. Understand the need for team work, effective communication and essential skills required for all jobs.
2. Gain insight into the required skills needed to achieve a successful career in the mill and cabinet industry.
3. Realize the importance of math and communication skills within the mill and cabinet industry.
4. Become familiar with the variety of career opportunities in the mill and cabinet industry.
5. Understand the academic and work experience requirements needed to enter the mill and cabinet industry.

#### Suggestions for Teaching/Learning:

The students contact a human resources representative from a local cabinet maker to gain insight into what types of learning experiences and high school courses would be most beneficial when choosing a career in the cabinet making industry.

The students conduct informal research to determine conventional and new/emerging career clusters in the cabinet making industry (e.g. CNC, smart house designs). Students determine the environmental impact of new technologies used in the industry.

The students use the Internet, newspapers and other sources to gain insight into job and career opportunities in the mill and cabinet industry.

The teacher explains the importance of an “employability skills profile” as presented by the Conference Board of Canada.

## MILL AND CABINET 120

### GCO 10 Identify various careers available in the mill and cabinet industry

#### Suggestions for Learning/Assessment:

The teacher discusses with students various career options in the mill and cabinet industry, including the integration of post-secondary programs.

The students list five different jobs found in the mill and cabinet industry, including possible post-secondary degrees/diplomas required to prepare them for the specific career paths they have listed.

Using the Internet, electronic data and/or interviews with industry persons, students conduct research in a particular career area of interest. Students build a multi-media presentation demonstrating the opportunities, educational challenges and economic benefits when choosing a career path in the mill and cabinet industry.

The students complete a self-directed assessment recording activities on daily progress cards and focused portfolio development.

Using selected sections of the textbook, the student identifies the required skills and knowledge to work in the mill and cabinet industry.

#### Resources:

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*Modern Cabinetmaking*. Tinley Park:  
The Goodheart-Willcox Company Inc.,  
2000.

- ISBN 1-56637-503-7

WHSCC "Choices For Life/Health & Safety"  
(K-12) Binder

- Sections B2, B7, C13 and E4
- Safety procedures for all grades;  
includes illustrations applying to all  
subject areas
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Commission
  - Phone: (800) 442-9776
  - <http://www.whscc.nb.ca/>