

**NEOSHO COUNTY COMMUNITY COLLEGE
MASTER COURSE SYLLABUS**

COURSE IDENTIFICATION

Course Code/Number: ETEC 112

Course Title: Cabinet Construction I

Division: Applied Science (AS) Liberal Arts (LA) Workforce Development (WD)
 Health Care (HC) Lifetime Learning (LL) Nursing Developmental

Credit Hour(s): Three (3)

Effective Date: Fall 2013

Assessment Goal Per Outcome: 70%

COURSE DESCRIPTION

This course deals with tool and machine safety in the step-by-step methods and procedures used in the construction of cabinets. The class will study many types of cabinet construction and joints, fasteners and adhesives used.

MINIMUM REQUIREMENTS/PREREQUISITES AND/OR COREQUISITES

None

TEXTS

The official list of textbooks and materials for this course is found on *myNeosho*.

<http://www.neosho.edu/ProspectiveStudents/Registration/CourseSyllabi.aspx>

GENERAL EDUCATION OUTCOMES

1. Practice Responsible Citizenship through:

- identifying rights and responsibilities of citizenship,
 - identifying how human values and perceptions affect and are affected by social diversity,
 - identifying and interpreting artistic expression.
2. Live a healthy lifestyle (physical, intellectual, social) through:
 - listing factors associated with a healthy lifestyle and lifetime fitness,
 - identifying the importance of lifetime learning,
 - demonstrating self-discipline, respect for others, and the ability to work collaboratively as a team.
 3. Communicate effectively through:
 - developing effective written communication skills,
 - developing effective oral communication and listening skills.
 4. Think analytically through:
 - utilizing quantitative information in problem solving,
 - utilizing the principles of systematic inquiry,
 - utilizing various information resources including technology for research and data collection.

COURSE OUTCOMES/COMPETENCIES (as Required)

Upon completion of this course, students should be able to:

I. Apply Safety Rules and Procedures

1. Apply shop safety rules and procedures.
2. Apply personal safety rules and procedures.
3. Apply both hand tool and machine safety rules and procedures.
4. Apply Hazardous waste, fire and electrical safety rules and procedures.

II. Effectively Use Hand Tools

1. Layout 45 and 90 degree angles with squares.
2. Gauge lines parallel to an edge with finger, rule, and square.
3. Crosscut and rip to a layout line.
4. File crosscut and rip saws.
5. Cope molding.
6. Use a miter box.
7. Cut metal with a hacksaw.
8. Divide a distance into equal spaces using a divider.
9. Scribe and fit edges of stock to an irregular surface.
10. Sharpen bits and bore holes.
11. Drill, countersink, counter bore, and plug for screws.
12. Drive screws.
13. Drive and set nails.
14. Sharpen and use chisels.
15. Sharpen, adjust and use planes.
16. Sharpen, and use cabinet scrapers.

III. Effectively Operate a Circular Saw

1. Remove and replace blades and make adjustments.
2. Make straight cuts and layout lines.
3. Make bevel and compound angle cuts.

4. Make pocket cuts.

IV. Operate a Saber Saw

1. Remove and replace blade and make adjustments.
2. Make cuts to curved layout lines.
3. Make bevel, plunge and pocket cuts.

V. Operate a Drill

1. Remove and replace drills and bits.
2. Drill and bore holes through stock and at specified depths.

VI. Operate a Router

1. Remove, select and replace bits and make adjustments.
2. Shape edges.
3. Cut grooves, dadoes, and rabbets.
4. Make and use templates for routing.
5. Route freehand.

VII. Operate a Sander

1. Remove, select and replace abrasive and make adjustments.
2. Sand a surface with a finishing sander.
3. Sand a surface with a belt sander.

VIII. Operate Staplers and Nailers

1. Fasten materials with hand stapler
2. Fasten materials with pneumatic stapler and/or nailer
3. Fasten butt joint with pneumatic corrugated fastener tool.

IX. Operate a Table Saw

1. Inspect and clean a table saw.
2. Remove and replace table saw blades.
3. Layout and make a crosscut.
4. Layout and make a rip cut.
5. Layout and cut a miter
6. Install dado head to predetermined size.
7. Layout and cut a dado
8. Layout and cut a groove

X. Operate a Radial Arm Saw

1. Inspect and clean a radial arm saw.
2. Remove and replace radial arm saw blades.
3. Layout and make a crosscut.
4. Crosscut duplicate lengths.
5. Layout and make a rip cut.
6. Layout and cut a miter and compound miter.
7. Install dado head to predetermined size.
8. Layout and cut a dado.
9. Layout and cut a groove.

XI. Operate a Drill and Drill press

1. Inspect and clean a drill and drill press.
2. Remove and replace cutting tool and adjust table and stops.
3. Drill and bore holes in stock.
4. Counterbore and Countersink holes in stock.

5. Bore holes at an angle.
6. Bore spaced holes.
7. Drill holes in round stock.
8. Drill dowel holes in miters.
9. Make Plugs.

XII. Operate a Jointer and Planer

1. Inspect and clean a jointer.
2. Remove, replace and adjust blades or knives
3. Face rough stock.
4. Square edge faced stock to specification.
5. Bevel or chamfer stock to specification.
6. Plane stock to specified thickness.

XIII. Operate a Band Saw

1. Inspect and clean a band saw.
2. Remove and replace a band saw blade and adjust guides.
3. Fold band saw blade for storage.
4. Layout and make a straight cut.
5. Layout and make a freehand cut.
6. Layout and cut a rectangular opening.
7. Make beveled cuts.
8. Cut circles.

XIV. Operate a Router and Shaper

1. Inspect and clean a router.
2. Inspect and clean a shaper.
3. Remove and install cutting bits and adjust.
4. Route stock without a template.
5. Route Stock with a template.
6. Mold stock with a fence
7. Mold stock with a miter gauge.
8. Shape stock with collars.

XV. Operate a Sanding Machine

1. Setup and use a belt sander to sand surface.
2. Setup and use a disc sander to sand surface.
3. Setup and use spindle sander to sand surface.

XVI. Working With Plastic Laminate

1. Cut Laminate.
2. Use contact cement to fasten laminate.
3. Route laminate using straight and beveled cutters.

XVII. Plan, Design, and Layout Casework

1. Interpret blueprints and explain common abbreviations used on drawings.
2. Sketch orthographic drawing and elevations.
3. Use arch scale rule.
4. Make layout rod for a job.
5. Make a cutting list for a job.
6. Develop a plan of procedure for a job.
7. Make out work orders and billings.

8. Layout a hexagon, octagon, and ellipse.
9. Layout angles of various degrees.
10. Select and match Woodstock for compatibility of grain and color.

XVIII. Construct Joints

1. Construct a butt joint.
2. Construct a doweled butt joint.
3. Construct a dado joint.
4. Construct a rabbeted joint.
5. Construct a lap joint.
6. Construct a miter joint.
7. Install dowels in common wood joints.
8. Construct a tongue-and-groove joint.
9. Construct a splined edge joint
10. Construct a mortise-and-tenon joint.
11. Construct a dovetail joint.
12. Construct an end lap joint.
13. Construct a middle lap joint.
14. Construct a cross lap joint.
15. Construct a dovetail lap joint.

XIX. Fasten Stock and Joints

1. Fasten stock with wood glue and parallel clamps.
2. Fasten stock and joints with nails.
3. Fasten stock and joints with staples.
4. Fasten stock and joints with screws.
5. Fasten stock and joints with bolts.
6. Fill and finish nail and screw holes.
7. Install wood plugs in prepared holes.
8. Conceal screw holes by counterboring and plugging.
9. Apply corner blocks with glue.
10. Glue and clamp stock edge-to-edge using bar and C clamps.
11. Band an edge by gluing using edge bander.
12. Using spring clamps to clamp stock.
13. Glue and clamp a miter with miter clamps.
14. Fasten stock to walls using hollow wall anchors.

XX. Construct Drawers

1. Make an overlay drawer.
2. Make a lipped drawer.
3. Make a flush drawer.
4. Install wood and metal drawer guides.
5. Install drawer hardware.

XXI. Construct Cabinet Doors

1. Make a solid door.
2. Make a frame and panel door.
3. Cut and set glass in a frame.
4. Band edges of solid doors.
5. Hang overlay doors.

6. Hang lipped doors.
7. Fit and hang flush doors.
8. Install sliding doors.
9. Install door catches and pulls.

XXII. Finish Surfaces

1. Prepare a surface for finishing.
2. Bleach a surface.
3. Stain a surface.
4. Fill a surface.
5. Seal a surface.
6. Brush on a clean top coat.
7. Spray on a clear top coat.
8. Apply a pigmented finish.

MINIMUM COURSE CONTENT

I. INTRODUCTORY BASICS

- A. Using the workbook with the text.
- B. Outside reading's.
- C. Lab times.

II. SAFETY RULES AND PROCEDURES

- A. General shop safety.
- B. Safety rules using hand tools.
- C. Safety rules using machines.
- D. Safety rules using hazardous materials.

III. CABINET CONSTRUCTION

- A. Terminology used in cabinet construction.
- B. Types and parts of a cabinet.
- C. Layout using Standard cabinet sizes.
- D. Different types of joints used.
- E. Types of fasteners.
- E. Design and styles of cabinets.
- F. Installation.

IV. CABINET TOPS

- A. Requirements of coverings.
- B. Types of counter tops.
- D. Working with plastic laminates.
- E. Installation.

V. DOORS AND DRAWERS

- A. Working with solid wood.
- B. Different types of hinges.

- C. Different types of drawer guides.
- D. Installation.

VI. ESTIMATING SIZES

- A. Upper and lower Cabinets.
- B. Cabinet partitions.
- C. Bottom frame, kickboard and shelves.
- D. Sides and back.
- E. Face frames.
- F. Doors and draws.
- G. Raised Panels.
- G. Stiles and Rails.

STUDENT REQUIREMENTS AND METHOD OF EVALUATION

INSTRUCTIONAL METHODS

1. Lecture and discussion will be used in presentation of concepts, information, and assignment requirements.
2. Demonstrations of assignments will be presented on the woodworking machines and hand tools.
3. Lab time will be provided for assignments using woodworking machines and tools.
4. Outside assignments will consist of reading and completion of worksheets.
5. Illustrations will be presented on the chalk board, overhead projector, audio-visuals and computer network. Handouts, mock-ups, models or charts will be used to clarify problems.

STUDENT REQUIREMENTS

1. Concepts will be evaluated through the use of workbook, periodic tests, and cabinet projects.
2. Points will be assigned and accumulated for each worksheet, test, and shop application.

GRADING SCALE

Grades will be determined according to the following scale:

90% to 100% = A; 80% to 89% = B; 70% to 79% = C; 60% to 69% = D; 0% to 59% = F

ASSESSMENT OF STUDENT GAIN

The purpose of assessing student learning at Neosho County Community College is to ensure the educational purposes of the institution are met and appropriate changes are made in program development and classroom instruction to allow for student success.

In addition to pre and post testing, students will be evaluated by observation using safe practices with hand and power tools. Each student will be observed and/or interviewed and initial papers produced

will be examined to determine needed competency development throughout the course. Post-assessment to determine gain in competency will be measured at the end of each unit of study.

Attendance Policy

1. NCCC values interactive learning which promotes student engagement in the learning process. To be actively engaged, the student must be present in the learning environment.
2. Unless students are participating in a school activity or are excused by the instructor, they are expected to attend class. If a student's absences exceed one-eighth of the total course duration, (which equates to one hundred (100) minutes per credit hour in a face-to-face class) the instructor has the right, but is not required, to withdraw a student from the course. Once the student has been dropped for excessive absences, the registrar's office will send a letter to the student, stating that he or she has been dropped. A student may petition the chief academic officer for reinstatement by submitting a letter stating valid reasons for the absences within one week of the registrar's notification. If the student is reinstated into the class, the instructor and the registrar will be notified. Please refer to the Student Handbook/Academic Policies for more information
3. Absences that occur due to students participating in official college activities are excused except in those cases where outside bodies, such as the State Board of Nursing, have requirements for minimum class minutes for each student. Students who are excused will be given reasonable opportunity to make up any missed work or receive substitute assignments from the instructor and should not be penalized for the absence. Proper procedure should be followed in notifying faculty in advance of the student's planned participation in the event. Ultimately it is the student's responsibility to notify the instructor in advance of the planned absence.

ACADEMIC INTEGRITY

NCCC expects every student to demonstrate ethical behavior with regard to academic pursuits. Academic integrity in coursework is a specific requirement. Definitions, examples, and possible consequences for violations of Academic Integrity, as well as the appeals process, can be found in the College Catalog, Student Handbook, and/or Code of Student Conduct and Discipline.

ELECTRONIC DEVICE POLICY

Student cell phones and other personal electronic devices not being used for class activities must not be accessed during class times unless the instructor chooses to waive this policy.

NOTE

Information and statements in this document are subject to change at the discretion of NCCC. Students will be notified of changes and where to find the most current approved documents.

ACCOMMODATIONS

If you are a student with a disability who may need accommodation(s), in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990, please notify the Dean of Student Services in the Student Services Office, Sanders Hall, 620-432-0304, on the Chanute Campus, or the Dean for the Ottawa and Online Campuses, 785-248-2798, on the Ottawa Campus as soon as possible. You will need to bring your documentation for review in order to determine reasonable accommodations, and then we can assist you in arranging any necessary accommodations.

NON-DISCRIMINATION POLICY

The following link provides information related to the non-discrimination policy of NCCC, including persons with disabilities. Students are urged to review this policy.

<http://www.neosho.edu/Departments/NonDiscrimination.aspx>

SEXUAL MISCONDUCT POLICY (TITLE IX)

At NCCC, it is the responsibility of an instructor to help create a safe learning environment in the classroom, including both physical and virtual classrooms. All instructors are considered mandatory reporters at NCCC, therefore any information regarding sexual misconduct that is shared by a student in one-on-one meetings with the instructor must be reported to appropriate personnel at the College. Instructors will keep the information private to the greatest extent possible, but it is not confidential. Generally, climate surveys, classroom writing assignments or discussions, human subjects research, or events such as Take Back the Night events do not provide notice that must be reported to the Coordinator by employees, unless the reporting party clearly indicates that they wish a report to be made.

The following link provides information related to the sexual misconduct policy of NCCC, including resources, reporting options, and student rights. Students are urged to review this policy.

<http://www.neosho.edu/TitleIX.aspx>

COURSE NOTES