

TRADE AND INDUSTRIAL EDUCATION
 Content Outline for 7622 **Furniture/Cabinetmaking II**
 [Recommended hours of instruction: 270-360]

FURNITURE/CABINMAKING II CONTENT OUTLINE

REFERENCES

A. LEADERSHIP

T&I Leadership Teacher
Guide

F201. Demonstrate communication, problem solving, and team building skills.

F201.01	Demonstrate communication skills.	
A.	Terms and definitions	30
	1. Outline	
	2. Gesture	
	3. Demonstration	
	4. Introduction to presentation	
	5. Body of presentation	
	6. Conclusion of presentation	
	B. Purposes for using presentations	30
	C. Guidelines for preparing successful presentations	30
	D. Step-by-step method for preparing a presentation	30
F201.02	Demonstrate problem solving and team building skills.	
A.	Terms and definitions	37-38
	1. Bench marking	
	2. Customer	
	3. Customer requirements	
	4. Supplier	
	5. Brainstorming	
	6. Check sheets	
	7. Surveying	
	8. Interviewing	
	9. Cost-benefit analysis	
	10. Flowcharts	
	B. Steps in problem-solving process	38-39
	1. Identify problem	
	2. Describe the causes	
	3. Search of possible solutions	
	4. Choose a solution	
	5. Carry out the solution	
	6. Check the solution	
	C. Steps in the quality improvement process	39
	1. Identify the end product	
	2. Identify the customer	
	3. Identify the customer's requirements	
	4. Use customer requirements to identify your specifications	
	5. Outline steps to follow in product production	
	6. Identify and choose evaluation techniques to make sure you are on track.	
	7. Determine if current process is adaptable enough to work when necessary changes are made.	
	8. Evaluate process and results	

9. Go back to step one

**Modern Cabinetmaking by:
William D. Umstattd and
Charles W. Davis**

**T - Textbook
W - Workbook
I - Instr. Guide
CC - Constr. Core**

B. ORIENTATION

F202. Identify terms, skill requirements and employment opportunities.

F202.01	Describe work performed in the trade, recognizing basic skills and physical requirements. a. Educational requirements. b. Job skill requirements. c. Employment opportunities.	T – P841-842 T – P841-847 T – P270, 841-846
F202.02	Describe materials, processes, and categories of products produced. a. Materials used.	T – P17, 171-184, 829
F202.03	Identify student requirements for successful participation in the cabinetmaking program. a. Skills required.	T – P13, 79, 289, 893
F202.04	Discuss the current and historical significance of the cabinetmaking trade. a. Furniture styles. 1. Traditional. 2. Provincial. 3. Contemporary.	T – P23-34

C. PERSONAL AND JOB SAFETY

F203. Define, discuss and interpret basic safety associated in a school shop and workplace after review of the prerequisite safety courses.

F203.01	Explain terms associated with work safety. a. Proper ventilation. b. OSHA, MSDS sheets. c. Hearing protection. d. Proper dress and equipment. e. Fire prevention.	T - P269-279 CC - 2.3.0 CC - 5.2.6 T - P276-278 T - 275, CC – 9.2.0
F203.02	Discuss common hazards in the workplace. a. Common workplace hazards. b. Proper dress and equipment.	T – P267-276, P306-309 T – P270-278
F203.03	Demonstrate use of safety gear, protective garments, and safety equipment. a. Protective gear-equipment. b. Hearing protection. c. Eye protection.	T – P270-278 T – P277 T – P276

F203.04	Discuss personal and general safety rules. a. Proper dress. b. Attitude. c. General safety.	T - P275-278, CC-5.2.0 T - P267 T - P271-278
F203.05	Demonstrate how to properly use fire extinguishers. a. Multi-purpose (ABC) fire extinguishers. b. Proper use of a fire extinguisher.	T - P274-276 T - P274-276
F203.06 tools.	Discuss safety requirements before using hand or power tools. a. General shop safety. b. General tool safety.	T - P267-280 T - P267-280
F203.07	Explain a safety checklist. a. Safety checklist for machines. b. Electrical considerations.	T - P267-280 T - P271-274
F203.08	Discuss OSHA, MSDS, and right to know regulations. a. Purpose of MSDS information. b. Making MSDS information available.	CC - 8.0.0 CC - 8.1.0

D. MEASUREMENT AND LAYOUT TOOLS

F204. Demonstrate the various units of measurement and layout tools used in the trade.

F204.01	Apply basic units of measurement including standard. a. Use rulers for basic measurements. b. Converting decimals to fractions.	T - P290 Basic math
F204.02	Perform basic mathematical calculations. a. Adding and subtracting fractions. b. Calculating square feet.	Basic math Knowledge
F204.03	Describe the proper use of measurement and layout tools. a. Identify basic layout tools.	T - P290-303
F204.04	Use selected measurement and layout tools. a. Identify and use measurement and layout tools. 1. Marking gauge. 2. Levels. 3. Compass. 4. Calipers. 5. Squares. 6. Measuring tapes. 7. Zig-zag rules.	T - P284 T - P289 T - P297 T - P296 T - P291-294 T - P295 T - P291

E. CABINETMAKING MATERIALS

F205. Describe the basic types of materials.

F205.01	Discuss characteristics of softwoods and hardwoods. a. Hardwoods and softwoods.	T - P139-163
F205.02	Explain the physical characteristics of plywood products. a. Veneers. b. Grades of plywood.	T - P165-175 T - P172
F205.03	Describe characteristics of solid and panel stock.	

	a.	Particle board.	T – P173
	b.	Wafer board.	T – P171
	c.	OSB board.	T – P173
	d.	Sheet goods.	
F205.04		Discuss factors that affect the appearance and stability of wood.	
	a.	Recognizing waro and twist.	T – P123
F205.05		Recognize lumber and plywood grading and marketing terminology.	
	a.	Lumber grades.	T – P127
	b.	Dimensioned lumber.	T – P131
	c.	Plywood grades.	T – P171-176
F205.06		Discuss cabinetmaking materials and laminates.	
	a.	Laminates.	T – P190-191
	b.	Attaching laminates.	T – P190

F. POWER TOOLS

F206. Demonstrate the safe and proper use of stationary power equipment.

F206.01		Operate the following power saws: table saw, radial arm saw, and band saw safely.	
	a.	Carbide tools.	T – P333
	b.	Basic table saw operations	T – P309-312
	1.	Ripping.	T – P310-311
	2.	Dadoing.	T – P308-312
	3.	Changing blades.	T – P308
	c.	Crosscutting on the radial arm saw.	T – P308
	d.	Basic bandsaw operations.	T – P321-323
	1.	Relief cuts.	T – P321
F206.02		Operate the following surfacing equipment: planer, jointer and stationary power sander safely.	
	a.	Basic jointer operations.	T – P359-360
	1.	Removing warp.	T – P360
	b.	Basic planer operations.	T – P359-362
	c.	Belt sanders.	T – P526
	d.	Disc sanders.	T – P528
	e.	Abrasive planers.	T – P530
F206.03		Operate the shaper safely.	
	a.	Basic shaper operations.	T – P415-423
	1.	Safety considerations.	
F206.04		Operate the drill press safely.	
	a.	Basic drill press operations.	T – P390-404
	1.	Speed selection.	

F207. Demonstrate the safe and proper use of portable power tools.

F207.01		Operate the portable circular saw safely.	
	a.	Basic portable circular saw operations.	T – P347-351
	1.	Adjusting the saw.	
	2.	Blades used.	
	3.	Safety considerations.	

F207.02	Operate the router safely. a. Adjustments to set-up. b. Types of bits. c. Safety considerations.	T – P433-436 T – P424 T – P276
F207.03	Operate the saber saw safely. a. Basic set-up and operations. b. Changing blades.	T – P352-354 T – P353
F207.04	Operate the power drill safely. a. Changing bits. b. Safety considerations.	T – P400-403
F207.05	Operate the power sander safely. a. Portable belt sanders. b. Finish sanders.	T – P533 T – P534
F207.06	Operate the plate/biscuit joiner safely. a. Basic operations. b. Selecting biscuit sizes.	T – P502-505
F207.07	Operate the pneumatic nailer safely. a. Basic use and operations. b. Safety considerations. c. Nail sizes, gauges.	Modern Carpentry Textbook – P89

G. FASTENERS AND HARDWARE

F208. Identify basic wood fasteners and hardware.

F208.01	Identify nail styles and sizes. a. Penny system for nails. b. Types of nails.	T – P233-236 T – P233-236
F208.02	Identify basic wood screw styles and sizes. a. Advantages of screws. b. Types of screws.	T – P230-234 T – P230-234
F208.03	Select appropriate decorative and assembly hardware. a. Drawer slides. b. Butt hinges. c. Pulls and knobs.	T – P257-259 T – P247-249 T – P245-247

H. ADHESIVES AND GLUING

F209. Identify basic adhesives, gluing equipment, and clamping fixtures.

F209.01	Demonstrate the properties of basic adhesives used for joining wood. a. Contact cement. b. Types of clamps.	T – P545-546 T – P563-567
F209.02	Demonstrate correct use of selected clamping fixtures. a. Types of clamps. b. Clamping techniques.	T – P564-567 T – P563-567

I. PLANNING AND DESIGN

F210. Develop a basic project plan.

F210.01	Develop and interpret basic plan drawings. a. Plans of procedure.	T – P67-69
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	b. Bill of materials.	T – P82
	c. Reading shop sketches.	T – P81-87
F210.02	Develop a bill of materials.	
	a. Reading of bill of material.	T – P82
F210.03	Develop a set of specification sheets.	
	a. Interpreting specification sheets.	T – P79-87
F210.04	Determine appropriate dimensions, shapes and sizes for project components using trade mathematics.	
	a. Using percentages.	General knowledge
	b. Proper measurement.	T – P130
	c. Calculate board feet.	T – P130
	d. Calculate expenses and time.	General knowledge

J. PRE-FINISHING

F211. Demonstrate the materials and processes required for pre-finishing.

F211.01	Demonstrate basic techniques for preparing surfaces for finishing.	
	a. Finishing techniques.	T – P701-704
F211.02	Identify abrasives.	
	a. Use of abrasives.	T – P514-524
F211.03	Demonstrate proper use of abrasives.	
	a. Sanding techniques.	T – P514-524

K. PRODUCT CONSTRUCTION AND ASSEMBLY

F212. Design and construct a cabinetmaking product.

F212.01	Design and estimate a project including flow chart procedures.	
	a. Face frame construction.	T – P629-631
	b. Plan of procedure.	T – P103
	c. Design.	T – P59-70
	d. Bill of materials.	T – P130
F212.02	Identify, select, use appropriate joinery and perform basic assembly techniques.	
	a. Common types of woodworking joints.	T – P481-512
	1. Mortise and tenon.	
	2. Butt joint.	
	3. Miter.	
	4. Dovetail.	
	5. Dado.	
	6. Rabbet.	
	7. Blind or stop dados.	
	8. Lap.	
	b. Reinforcing wood joints.	
	1. Biscuits.	
	2. Splines.	
	3. Glue blocks.	
	c. Application of joints.	
	d. Gluing and clamping techniques.	T – P564-567
F212.03	Construct project components .	

- a. Drawers.
 - 1. Design. T – P667
 - 2. Engineering. T – P668
 - 3. Components. T – P668-670
 - 4. Assemblies. T – P670-674
 - 5. Installation. T – P674-680
- b. Production decisions. T – P67-77
 - 1. Cutting.
 - 2. Surfacing.
 - 3. Forming.
 - 4. Assembling.
 - 5. Finishing.
- c. Plan of procedure. T – P67-77
 - 1. Identify tools.
 - 2. Materials and supplies.
 - 3. Layout/rough cut.
 - 4. Squaring.
 - 5. Preparing joints.
 - 6. Holes/openings.
 - 7. Glazing.
 - 8. Smoothing.
 - 9. Assembly.
 - 10. Finish.

- F212.04 Assemble project components.
- a. Gluing and clamping.
 - 1. Clamps. T – P555-564
 - 2. Clamping procedures. T – P564-567
 - b. Doors. T – P655-666
 - 1. Hinged.
 - 2. Sliding.
 - 3. Tambour.
 - 4. Pulls, knobs, catches, and latches.

- F212.05 Identify inlay and banding.
- a. Edge banding. T – P681-691
 - b. Inlay. T – P586, 683
 - c. Veneering. T – P589-592
- T – P583-586

L. FINISHING

F213. Demonstrate the materials and processes required for basic finishing.

- F213.01 Discuss different types of stains.
- a. Oil base. T – P732
 - b. Water base. T – P732
- F213.02 Demonstrate proper staining techniques.
- a. Applying stain. T – P736-745
 - b. Water and oil based stains. T – P732-737
- F213.03 Prepare and apply final finish. T – P731-759
- a. Preparing the surfaces.
 - b. Use of stains.
 - c. Natural oil finishes.
 - d. Lacquers and varnishes.