Advanced Cabinetry

Career Cluster	Architecture and Construction
Course Code	17005
Prerequisite(s)	Cabinetry
Credit	.5-1
Program of Study and Sequence	Foundation Courses, Introduction to Architecture & Construction, Cabinetry, Advanced Cabinetry, Capstone Experience
Student Organization	SkillsUSA
Coordinating Work-Based Learning	Service Learning; Work Place Tours; Job Shadowing
Industry Certifications	None
Dual Credit or Dual Enrollment	TBD
Teacher Certification	Architecture & Construction Cluster Endorsement; Construction Pathway Endorsement; Design & Pre-Construction Pathway Endorsement
Resources	

Course Description:

This course prepares individuals to apply technical knowledge and skills to set up and operate industrial woodworking machinery. Students will use industrial machinery to design and fabricate custom cabinets and architectural millwork. This course will cover safe use of hand and power tools and machinery used in the production of cabinets and millwork. A variety of cabinets will be designed and constructed. Students will apply proper finishing and explore proper installation techniques as part of this program.

Program of Study Application

Foundation courses
Intro to architecture and construction (Recommended not required)
Cabinetry (prerequisite)
Advanced Cabinetry
Capstone Experience

Course Standards

Indicator # AC 1 Demonstrate proper rules and regulations to comply with personal and shop safety.

Webb Level	*Sub-indicator*	*Integrated Content*
One Apply	AC 1.1 Apply hand/power/industrial tool and lab safety practices. Example: • Determine cause and effect for common shop safety related situations • Recall basic hand and power tool safety from previous courses • Use proper industrial tool safety e.g. computer numeric control (CNC) and other industrial shop tools	
Two Determine	AC 1.2 Determine and wear appropriate personal protective equipment (PPE) Examples: • Eye protection • Ear protection • Impact hat	
One Comply	AC 1.3 Comply with government regulations regarding health and safety in the shop. Examples: • Handle, use and store chemicals according to MSDS/SDS sheets • Apply fire safety rules and procedures	Occupational Safety Health Administration (OSHA), Environmental Protection Agency (EPA), Department of Environment and Natural Resources (DENR)

Notes:

Indicator # AC 2 Evaluate the career market that surrounds the cabinetry industry.

Webb Level	*Sub-indicator*	*Integrated Content*
Three Acquire	2.1 Acquire career information and demonstrate knowledge of the career-planning process Examples: • Apply decision-making skills to career planning, course selection and career transitions in cabinetry • Describe traditional and nontraditional career choices and how they relate to cabinetmaking	ASCA National standards for career development Standard B1 SD MyLife
Three Identify	2.2 Identify individual career goals in the cabinetry industry. Examples: • Demonstrate awareness of the education and training needed to achieve career goals • Use employability and job readiness skills in internship, mentoring, shadowing and/or other work experience	ASCA National standards for career development Standard B2 SD MyLife
Three Develop	2.3 Enhance the development of employment readiness skills Examples: • Attendance, punctuality • Dependability, integrity and effort in the workplace • Social skills, team work and problem-solving and organizational skills • Communication skills	ASCA National standards for career development Standard B2 SD MyLife

Notes:

Indicator # AC 3 Utilize advanced math skills, formulas, and principles used in cabinetry.

Webb Level	*Sub-indicator*	*Integrated Content*
Two Apply	AC 3.1 Apply geometric formulas to determine areas of various structures Examples: • Calculate areas and volumes of structures • Estimate materials and supplies	Architecture and Construction Career Cluster Knowledge and Skill Statement ACC01.01.02
Two Apply	AC 3.2 Apply appropriate formulas to determine percentages/decimals Examples: • Calculate percentages and decimals • Use percentage/decimals to perform measurement tasks	Architecture and Construction Career Cluster Knowledge and Skill Statement ACC01.01.03
Two Apply	AC 3.3 Apply appropriate formulas to determine ratios, fractions, and proportion measures Examples: • Calculate linear feet, square feet, and board feet • Calculate ratio, fraction, and proportion measures • Use ratios, fractions, and proportion measures to perform measure tasks	Architecture and Construction Career Cluster Knowledge and Skill Statement ACC01.01.04
Three Apply	AC 3.4 Apply appropriate formulas to determine measurement of dimensions, spaces, and structures Examples: • Measure dimensions, spaces, and materials using US Standard units • Measure dimensions, spaces, and materials using metric units • Use dimension and space calculations to estimate materials and supplies needed	Architecture and Construction Career Cluster Knowledge and Skill Statement ACC01.01.05

Four Develop Conceptualize	AC 3.5 Develop a model that shows the conceptual understanding of a three-dimensional form from a two-dimensional drawing Example: • Build or create three-dimensional form models	Architecture and Construction Career Cluster Knowledge and Skill Statement ACC01.01.06
One Define	AC 3.6 Define the X,Y,Z coordinates involved in common Computer numeric control (CNC) applications Examples: • Utilize G-code operations in CNC • Design and create models in three dimensions	Option: visit CNC cabinetry operation

Notes:

Indicator # AC 4 Identify various materials and evaluate the proper application in project planning.

Webb Level	*Sub-indicator*	*Integrated Content*
Three Differentiate	AC 4.1 Differentiate various cabinetry materials and their appropriate applications Examples: • Distinguish between hardwoods, softwoods and engineered materials • Identify different species of hardwoods and softwoods • Identify grain patterns and color compatibility	
Two Identify	AC 4.2 Identify the common grades of lumber and sheet goods Examples: • Selects, #1, AC, etc. • FAS, rough cut lumber, S1S, S2S, etc.	
Two Describe	AC 4.3 Describe and identify natural defects in woods Examples: • Warp, twist, cup, bow, knots, cracks, and checks	
One Utilize	AC 4.4 Utilize proper storage and handling techniques Examples: • Proper moisture maintenance • Stacking	

Notes:

Indicator # AC 5 Demonstrate advanced skills and techniques used in industry.

Webb Level	*Sub-indicator*	*Integrated Content*
Two Determine	AC 5.1 Determine plumb, level, and square	
Two Determine	AC 5.2 Demonstrate proper techniques used in various sawing, shaping, carving, molding, and routing applications.	
Three Apply Fabricate	AC 5.3 Apply fabricating techniques of various cabinet parts Examples: • Face frames • Drawers • Doors • Carcass	
Three Differentiate	AC 5.4 Differentiate between different styles in cabinets, doors, and drawers Examples: • Euro • Traditional • Raised panel • Mission stile • Flat panel	

One Identify	AC 5.5 Identify and create the basic wood and mechanical joints used in cabinetry. Examples: • Butt • Miter • Rabbet • Dado • Spline • Mortise and tenon • Dovetail • Groove (plough) • Lap • Pocket • Blind dado	

Notes:

Indicator # AC 6 Demonstrate the use of cabinet fasteners and hardware.

Webb Level	*Sub-indicator*	*Integrated Content*
Two Determine	AC 6.1 Determine proper application and use of mechanical fasteners and adhesives Examples: • Screws, nails, plugs, RTA connectors, etc. • Glue types (yellow, polyurethane, epoxy, etc.)	
Two Analyze	AC 6.2 Analyze different hinge systems and their applications Examples: • European, piano, butt, etc.	
Two Analyze	AC 6.3 Analyze various drawer glides and their appropriate applications	

Notes:

Indicator # AC 7 Demonstrate proper assembly and finish preparation techniques.

Webb Level	*Sub-indicator*	*Integrated Content*
Two Develop	AC 7.1 Develop logical assembly process/procedure Example: • Clamping • Squaring • Fastening	
Two Demonstrate	AC 7.2 Demonstrate various ways to remove excess adhesive Example: • Sanding, chiseling, taping, etc.	
Two Apply	AC 7.3 Apply surface preparation skills before finishing Examples: • Select proper abrasives and sanding equipment • Fillers	

Notes:

Indicator # AC 8 Demonstrate the use of finishing materials and processes.

Webb Level	*Sub-indicator*	*Integrated Content*
One Explain	AC 8.1 Explain the purpose and applications of various types of finishes and finishing processes Examples: • Wood fillers • Stains, varnishes, pigments, and paints	
Three Develop	AC 8.2 Develop and follow a finishing schedule	
Two Apply	AC 8.3 Utilize safe and approved methods for cleanup and disposal (OSHA, EPA, DENR)	

Notes: