



# **CATALOG OF ASSESSMENTS**

## **Job Ready**

**2009 - 2010**

*Building a Competent  
Workforce through Creative  
Learning Solutions*



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(The number following the test title is for ordering purposes.)

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# Job Ready Assessments

## ***21<sup>st</sup> CENTURY SKILLS FOR WORKPLACE SUCCESS - 1037***

**Written (ONLY)** – Reading skills, math skills, writing skills, speaking and listening skills, computer literacy, reasoning, problem solving, and decision-making, understanding the “big picture”, work ethics, positive attitude, independence and initiative, self presentation, attendance, and team member. (Administration Time: 2 hours; Number of test items: 100)

## ***ACCOUNTING (BASIC) - 3000***

**Written** – Journalizing, posting, payroll preparation, banking and banking procedures, merchandise inventory, completion of accounting cycle, locating source data, and mechanical and electronic accounting devices. (Administration Time: 3 hours; Number of test items: 169)

**Performance** – Identification of account balances, journal entries, posting verification, banking, payroll, worksheet, financial statements and locating information in source documents. (Administration time: 3 hours and 15 minutes; Number of jobs: 8)

## ***ACCOUNTING (ADVANCED) – 3900***

**Written** – Journalizing, posting, payroll preparation, banking and banking procedures, merchandise inventory, completion of accounting cycle, locating source data, mechanical and electronics accounting devices, and advanced accounting practices. (Administration Time: 3 hours; Number of test items: 222)

**Performance** – Identification of account balances, journal entries, payroll, worksheet, financial statements and locating information in source documents, financial statement comparison, and advanced journal entries. (Administration time: 3 hours and 10 minutes; Number of jobs: 8)

## ***ADMINISTRATIVE ASSISTING - 4001***

**Written** – Computer applications, working in an office environment, records management, office procedures, and accounting and computational skills. (Administration Time: 3 hours; Number of test items: 194)

**Performance** - Business writing, document processing, preparing a spreadsheet, creating a chart, and create a flyer. (Administration time: 3 hours; Number of jobs: 5)

## ***ADMINISTRATIVE SERVICES - 1105***

**Written (ONLY)** – General business technical skills, administration and information support technical skills, academic foundations, systems, ethics and legal responsibilities, communication, information technology applications, problem solving, critical thinking and decision making, leadership and teamwork, safety, health, and environmental, employability and career development. (Administration Time: 2 hours; Number of test items: 112)

### **ADVERTISING DESIGN - 4019**

**Written** – Computer literacy, typography, design theory and application, color theory and application, drawing and digital illustration, photography, production and printing, communication and career skills, work environment, multimedia, digital image manipulation. (Administration Time: 3 hours; Number of test items: 195)

**Performance** – Final computer comprehensive and comprehensive redesign. (Administration time: 4 hours; Number of jobs: 2)

### **AGRICULTURE MECHANICS - 2102**

**Written** - Safety, welding and mechanics, power and machinery, electrical power and process, agricultural structures, agribusiness, environmental and natural resource systems, careers in agriculture mechanics. (Administration Time: 3 hours; Number of test items: 183)

**Performance** – Horizontal square groove butt weld-SMAW, oxyacetylene cutting, troubleshoot and diagnose a gas engine, install a switch to control a light, mark a common rafter, and set up and instrument leveling of the farm level. (Administration time: 3 hours; Number of jobs: 6)

### **ARCHITECTURAL DRAFTING - 3004**

**Written** – Preparing to draw – basic drawing and dimensioning skills; geometric construction, applied mathematics, drawing techniques – supplementary views, planning, architectural drawing types, site plans, structural drawings, mechanical and electrical systems, supplemental drafting activities, and specifications. (Administration Time: 3 hours; Number of test items: 185)

**Performance** - Architectural symbols and abbreviations, elevation, kitchen and bathroom floor plan, and light framing of sill wall. (Administration time: 3 hours; Number of jobs: 4)

### **AUDIO-VISUAL COMMUNICATIONS TECHNOLOGY - 2005**

**Written** – Photography, computer based technology, film/video production, audio production, presentation technology, creative development, visual design, project management, equipment maintenance and troubleshooting, network technology, related information. (Administration Time: 3 hours; Number of test items: 196)

**Performance** – Still photography (Jobs 1, 2 & 3 – 35 mm or digital camera), audio production, presentation equipment usage and maintenance, monitor set-up and operation, general troubleshooting, hardware and software upgrades, video shooting and editing, operate computer graphics equipment. (Administration time: 6 hours; Number of jobs: 10)

### **AUTOMOTIVE TECHNICIAN ADVANCED - 4008**

**Written** – Customer relations and shop procedures, engine repair, automatic transmission/transaxle, manual drive train and axles, suspension and steering, brakes, electrical/electronic systems, heating and air conditioning, and engine performance. (Administration Time: 3 hours; Number of test items: 203)

**Performance** – Identification of parts, disc brake assembly service, tire service and balance, cylinder head service, perform fuel system pressure test, windshield washer circuit inoperative, test and diagnose battery, starting and charging system, and test electronic engine control component. (Administration time: 3 hours and 10 minutes; Number of jobs: 8)

### ***AUTOMOTIVE TECHNICIAN CORE - 4109***

**Written** – Customer relations and shop procedures, engine repair, electrical/electronic systems, engine performance, suspension and steering, and brakes. (Administration Time: 3 hours; Number of test items: 141)

**Performance** – Identification of parts, disc brake assembly service, tire service and balance, cylinder head service. (Administration time: 1 hour and 35 minutes; Number of jobs: 4)

### ***AUTOMOTIVE TECHNICIAN STANDARD - 4009***

**Written** – Customer relations and shop procedures, engine repair, automatic transmission/transaxle, manual drive train and axles, suspension and steering, and brakes. (Administration Time: 3 hours; Number of test items: 120)

**Performance** – Identification of parts, disc brake assembly service, tire service and balance, cylinder head service. (Administration time: 1 hour and 35 minutes; Number of jobs: 4)

### ***BANKING AND RELATED SERVICES – 1096***

**Written (ONLY)** General finance technical skills; banking and related services technical skills; academic foundations; systems; ethics and legal responsibilities; communication; information technology applications; problem solving, critical thinking, and decision making; leadership and teamwork; safety, health, and environmental; and employability and career development. (Administration time: 2 hours; Number of test items: 104)

### ***BROADCASTING AND JOURNALISM - 1106***

**Written (ONLY)** General arts and communication technical skills, broadcasting and journalism technical skills, academic foundations, systems, ethics and legal responsibilities, communication, information technology applications, problem solving, critical thinking and decision making, leadership and teamwork, safety, health, and environmental, employability and career development. (Administration Time: 2 hours; Number of test items: 104)

### ***BUILDING CONSTRUCTION OCCUPATIONS - 2011***

**Written** – Safety and general knowledge, carpentry, masonry, electrical, plumbing, energy efficiency, and blueprints and construction math. (Administration Time: 3 hours; Number of test items: 121)

**Performance** – Soldering and threading pipe, rafter layout, stair layout, rough and finish electrical, and block wall construction. (Administration time: 2 hours, 15 minutes; Number of jobs: 5)

### ***BUILDING TRADES MAINTENANCE - 3012***

**Written** – Safety, tools and materials, carpentry, painting and wall covering, masonry, electrical, plumbing, welding, general maintenance, ground & equipment maintenance, and HVAC. (Administration Time: 3 hours; Number of test items: 179)

**Performance** – Carpentry-construct frame, plumbing-sweat piping, electricity-rough wiring, drywall, electricity-finish wiring, and carpentry-mortise hinge. (Administration time: 3 hours; Number of jobs: 6)

### ***BUSINESS FINANCIAL MANAGEMENT - 1095***

**Written (ONLY)** – General finance technical skills; business financial management technical skills; academic foundations; systems; ethics and legal responsibilities; communication; information technology applications; problem solving, critical thinking, and decision making; leadership and teamwork; safety, health, and environmental; and employability and career development. (Administration Time: 2 hours; Number of test items: 106)

### ***BUSINESS INFORMATION PROCESSING - 3013***

**Written** – General computer concepts, Internet operations, personal computer operations, accounting related computer functions, information technology software applications, business math, communication, and office environment and safety. (Administration Time: 3 hours; Number of test items: 142)

**Performance** - File management, spreadsheet, word processing - create and format, word processing - table creation, database design and reports, and presentations. (Administration time: 4 hours and 5 minutes; Number of jobs: 6)

### ***CAD - 3973***

**Written** - Identifying hardware and operating systems, using hardware and operating systems, interpreting and reading blueprints, creating and manipulating mechanical drawing information, drawing and designing assemblies, and using 3-D modeling. (Administration Time: 3 hours; Number of test items: 101)

**Performance** - Create a 2-D orthographic drawing on CAD with a section view, create a 3-D solid model, and create 2 parts to be mated and mate the parts. (Total administration time: 1 hour and 45 minutes; Number of jobs: 3)

### ***CAD/CAM - 3073***

**Written** - Identifying hardware and operating systems, using hardware and operating systems, interpreting and reading blueprints, creating and manipulating mechanical drawing information, drawing and designing assemblies, using 3-D modeling, machining fundamentals, CNC operation, CNC programming preparation, CNC programming using a CAM system. (Administration Time: 3 hours; Number of test items: 190)

**Performance** - Create a 2-D orthographic drawing on CAD with a section view, create a 3-D solid model, and create 2 parts to be mated and mate the parts, and manufacture a part from an existing drawing. (Total administration time: 3 hours; Number of jobs: 4)

### ***CABINETMAKING - 2014***

**Written** - Safety, hand and power tools, stationary saws, boring machines, design and layout, estimating and measuring, milling, joinery, assembly, finishing, and installation. (Administration Time: 3 hours; Number of test items: 153)

**Performance** – Layout, cut and assemble front frame and layout one drawer. (Administration time: 3 hours and 30 minutes; Number of jobs: 2)

### **CARPENTRY - 4015**

**Written** – Safety, tools and accessories, blueprint reading and estimation, foundations, forms, and concrete, rough framing, exterior finish, interior systems installation, interior finish, and carpentry related mathematics. (Administration time: 3 hours; Number of test items: 150)

**Performance** – Tool and material identification, square layout, builder's level, blueprint reading/sole plate layout, rafter layout, stairway stringer, and interior frame. (Administration time: 2 hours and 40 minutes; Number of jobs: 7)

### **CLOTHING AND TEXTILES MANAGEMENT AND PRODUCTION - 2018**

**Written** – Garment construction, finished garment alterations, textiles, applied mathematics, patternmaking, manufacturing and industrial sewing, and career opportunities. (Administration time: 3 hours; Number of test items: 119)

**Performance** - Seam samples, zipper insertion, layout and cutting, bodice construction, pants construction, and alterations – hem, waist, side seam. (Administration time: 3 hours and 50 minutes; Number of jobs: 6)

### **COLLISION REPAIR TECHNOLOGY - 3006**

**Written** – Structural, non-structural, mechanical and electrical systems, and safety and environmental issues. (Administration Time: 3 hours; Number of test items: 123)

**Performance** – Component identification, door striker repair, welding, sheet metal repair, and vehicle measurement. (Administration time: 2 hours, 45 minutes; Number of jobs: 5)

### **COLLISION REPAIR & REFINISHING TECHNOLOGY - 2083**

**Written** – Structural, non-structural, painting and refinishing, mechanical and electrical systems, and safety and environmental issues. (Administration Time: 3 hours; Number of test items: 150)

**Performance** – Component identification, door striker repair, welding, sheet metal repair, refinishing, masking and vehicle measurement. (Administration time: 4 hours, 30 minutes; Number of jobs: 7)

### **COMMERCIAL FOODS - 3020**

**Written** – Culinary career overview, safety and sanitation, culinary techniques, recipes and culinary math, purchasing and management skills, menu design and nutrition, customer and table service, and culinary equipment. (Administration time: 3 hours; Number of test items: 138)

**Performance** – Hand tools and small equipment identification, herb, spice, and flavoring identification, knife skills, and cooking skills. (Administration time: 4 hours; Number of jobs: 4)

### **COMPUTER NETWORKING FUNDAMENTALS - 3414**

**Written** – PC principles, network connections, physical connection types, network standards and devices, network terminology, network architecture, network addressing, network security, and network design. (Administration time: 3 hours; Number of test items: 162)

**Performance** – Select and connect equipment, set up simple LAN with two workstations; set up a workgroup, create users and shares, install a printer (Administration time: 2 hours; Number of jobs: 2)

### **COMPUTER PROGRAMMING - 3023**

**Written** - Analyze programming problems and flowchart solutions, design program solutions, code programs, test programs, convert and maintain programs, complete user documentation and technical writing, and general information and concepts. (Administration Time: 3 hours; Number of test items: 129)

**Performance** – Write a program and design solution logic. (Administration time: 3 hours; Number of jobs: 2)

### **COMPUTER REPAIR TECHNOLOGY - 3415**

**Written** – Installing, configuring, upgrading, diagnosing and troubleshooting, preventative maintenance, system boards, processors, and memory, I/O devices, printing, basic networking, security, and customer support and ethics. (Administration time: 3 hours; Number of test items: 155)

**Performance** – Device identification, network connectivity, and installing new hardware/troubleshooting. (Administration time: 2 hours and 15 minutes; Number of jobs: 3)

### **COMPUTER TECHNOLOGY - 4022**

**Written** – Professional standards, ethics and business practices, general computer knowledge/concepts, PC hardware knowledge, PC software knowledge, networking and data communications, and security. (Administration time: 3 hours; Number of test items: 159)

**Performance** – File management using windows GUI, word processing applications, spreadsheet applications, and network connectivity. (Administration time: 3 hours; Number of jobs: 4)

### **CONSTRUCTION MASONRY-BLOCK - 3025**

**Written** – Hand and power tools, scaffolds and ladders, materials, blueprints and specifications, project layout, masonry structure maintenance, flashing, weeps, insulation, professionalism, craft knowledge, installation of lintels, door and window frames, control joints and anchor bolts, fireplaces and chimneys, math and measurements, safety, and specialty area - block . (Administration time: 3 hours; Number of test items: 176)

**Performance** – Job layout, build a block stretcher bond wall, and project jointing. (Administration time: 2 hours and 50 minutes, allow an extra 10 minutes for pre-test preparation; Number of jobs: 3)

### ***CONSTRUCTION MASONRY-BRICK - 3125***

**Written** – Hand and power tools, scaffolds and ladders, materials, blueprints and specifications, project layout, masonry structure maintenance, flashing, weeps, insulation, professionalism, craft knowledge, installation of lintels, door and window frames, control joints and anchor belts, fireplaces and chimneys, math and measurements, safety, and specialty area - brick. (Administration time: 3 hours; Number of test items: 166)

**Performance** – Job layout, construct a brick wall/pier in stretcher bond, and project joining. (Administration time: 2 hours and 50 minutes, allow an extra 10 minutes for pre-test preparation; Number of jobs: 3)

### ***CONSTRUCTION MASONRY-STONE - 3225***

**Written** – Hand and power tools, scaffolds and ladders, materials, blueprints and specifications, project layout, masonry structure maintenance, flashing, weeps, insulation, professionalism, craft knowledge, installation of lintels, door and window frames, control joints and anchor belts, fireplaces and chimneys, math and measurements, safety, and specialty area - stone. (Administration time: 3 hours; Number of test items: 165)

**Performance** – Job layout, build a random rubble stone wall, and rake joints. (Administration time: 3 hours and 50 minutes, allow an extra 10 minutes for pre-test preparation; Number of jobs: 3)

### ***COSMETOLOGY - 2082***

**Written** – Scientific concepts, professionalism and employability skills, physical services, manicuring and pedicuring skills, chemical services, and hair designing. (Administration time: 3 hours; Number of test items: 134)

**Performance** – Chemical applications, haircutting, blow dry and curl/press hair, manicure, and job interview. (Administration time: 2 hours and 55 minutes; Number of jobs: 5)

### ***CRIMINAL JUSTICE - 3081***

**Written** – Crime scene handling, use of force continuum, criminal law and procedures, health issues, police concepts and skills, corrections concepts and skills, court system, communication, security: national, international and private, and understanding and working with special populations. (Administration Time: 3 hours; Number of test items: 188)

**Performance** – Crime scene investigation, arrest, and perform CPR on an adult. (Administration time: 2 hours and 10 minutes; Number of jobs: 3)

### ***CULINARY ARTS LEVEL I-PREP COOK - 4036***

**Written** – Recipes, knife skills, large and small equipment, sanitation and safety, cold food preparation, fruits, vegetables, and starches, bakery products, stocks, sauces and hot soups, meats, poultry, and seafood, breakfast foods, receiving and storage, nutritional values, and management and employment skills. (Administration Time: 3 hours; Number of test items: 155)

**Performance** – Identification of kitchen equipment, identification of herbs, spices, fruits and vegetables, knife sharpening: stone and steel, knife skills, prepare tomato, cucumber and colored bell pepper salad, prepare French strawberry dessert omelet. (Administration time: 3 hours; Number of jobs: 6)

### ***CULINARY ARTS LEVEL II- COOK - 4136***

**Written** – Recipes, knife skills, large and small equipment, sanitation and safety, cold food preparation, fruits, vegetables, and starches, bakery products, stocks, sauces and hot soups, meats, poultry, and seafood, breakfast foods, receiving and storage, nutritional values, customer service, and management and employment skills (Administration Time: 3 hours; Number of test items: 203)

**Performance** – Prepare chicken Hunter Style with sauce, prepare sautéed potatoes, prepare steamed green vegetables, prepare cream puffs with whipped cream and ganache. (Administration time: 3 hours; Number of jobs: 4)

### ***DENTAL ASSISTING - 4026***

**Written** – Introduction to the dental assisting profession, communication, infection control and hazards management, clinical procedures, radiological and digital imagery procedures, performing clerical functions, sciences of dental assisting. (Administration Time: 3 hours; Number of test items: 207)

**Performance** – Chart oral conditions; assemble and disassemble aspirating syringe; assemble radiographic equipment with film, mount full series radiographs; and prepare instruments for autoclaving, appointment scheduling, and prepare amalgam tray. (Administration time: 1 hours, 45 minutes; Number of jobs: 7)

### ***DENTAL LABORATORY TECHNOLOGY - 1417***

**Written** – Oral and dental anatomy; removable prosthodontics-complete dentures; denture repair; removable prosthodontics-partial dentures; fixed prosthodontics-crown and bridge; physiology of the tooth, skull and occlusion; dental materials and equipment; fixed prosthodontics-ceramics; orthodontics; and safety and health. (Administration Time: 3 hours; Number of test items: 173)

**Performance** – Impression tray model and full contour, mandibular 1<sup>st</sup> molar crown. (Administration time: 1 hour, 45 minutes; Number of jobs: 1, in 2 parts)

### ***DIESEL ENGINE TECHNOLOGY - 3027***

**Written** – Safety and general shop practices, diesel engine terminology and theory, preventative maintenance, engine construction, service induction and exhaust systems, diesel fuel systems, cylinder heads, block assembly, engine electrical/electronics systems, and engine diagnosis and failure analysis. (Administration time: 3 hours; Number of test items: 126)

**Performance** – Check and adjust rocker level clearance, measurement of crankshaft bearing clearances, cylinder liner installation, electrical testing, and perform a coolant system inspection. (Administration time: 3 hours; Number of jobs: 5)

### ***EARLY CHILDHOOD CARE & EDUCATION - 3016***

**Written** - Program management, professionalism, observation and documentation of learning, health and safety, cognitive development, language development and communication, physical development, social and emotional development, creativity, culturally relevant care and education, inclusion of children with special needs, positive adult-child relationships and guidance, and positive relationships with families. (Administration Time: 3 hours; Number of test items: 190)

**Performance** – Demonstrate washing of caregiver’s hands, arrange a room, prepare a lesson, storytelling, gross motor stretching activity, and present a lesson plan. (Administration time: 2 hours; Number of jobs: 6)

### **EDUCATION AND TRAINING - 1025**

**Written (ONLY)** General education technical skills, teaching and training technical skills, academic foundations, systems, ethics and legal responsibilities, communication, information technology applications, problem solving, critical thinking and decision making, leadership and teamwork, safety, health, and environmental, employability and career development. (Administration Time: 2 hours; Number of test items: 111)

### **ELECTRICAL CONSTRUCTION - 4030**

**Written** – Introduction to the electrical construction career; OSHA regulations and electrical safety practices; meters, measurements, testing; identification of tools, materials, and components; National Electric Code (NEC); blueprints, specifications, and estimations; AC theory and magnetic theory; motor control circuits, logic circuits, and programmable logic controllers (PLCs); DC: basic electric and electron theories; circuit theorems and conversions; wiring, circuits, and installation; transformers; and motors. (Administration Time: 3 hours; Number of test items: 207)

**Performance** – Switch controls, conduit bending, and GFCI receptacles; doorbell circuit. (Administration time: 3 hours; Number of jobs: 2)

### **ELECTRICAL OCCUPATIONS - 2031**

**Written** - Safety, wiring methods, tools, motors and motor control, National Electrical Code, blueprint reading and estimating, applied mathematics, alternating current (AC), and direct current (DC). (Administration Time: 3 hours; Number of test items: 190)

**Performance** – Install cable from meter base to service entrance panel, wire lighting control, install door chimes, and calculate, bend and test a DC circuit. (Administration time: 3 hours and 40 minutes; Number of jobs: 4)

### **ELECTRONIC TECHNOLOGY - 3035**

**Written** – Safety practices, fundamental electrical principles, electronic testing, direct current (DC) circuit analysis, alternate current (AC) analysis, electronic device analysis and applications, digital electronic circuits, communications, and prototyping and fabrication techniques. (Administration time: 3 hours; Number of test items: 117)

**Performance** – Power supply construction/circuit analysis, Op AMP construction/analysis, and design and build a combinational logic circuit. (Administration time: 2 hours and 45 minutes; Number of jobs: 3)

### **ELECTRONICS - 2034**

**Written** - DC circuits, AC circuits, solid-state circuits, soldering and de-soldering, use of equipment, digital theory, and technical related mathematics. (Administration Time: 3 hours; Number of test items: 176)

**Performance** – IC identification, CD circuit construction and analysis, power supply construction and analysis, de-soldering and soldering, CE amplifier construction and analysis. (Administration time: 3 hours and 10 minutes; Number of jobs: 5)

### **FINANCIAL AND INVESTMENT PLANNING - 1094**

**Written (ONLY)** – General finance technical skills; financial and investment planning technical skills; academic foundations; systems, ethics and legal responsibilities; communication; information technology applications; problem solving, critical thinking, and decision making; leadership and teamwork; safety, health, and environmental; and employability and career development. (Administration Time: 2 hours; Number of test items: 106)

### **FLORICULTURE - 4049**

**Written** - Basic floral design; intermediate floral design; advanced floral design; small floriculture business; plant science. (Administration Time: 3 hours; Number of test items: 141)

**Performance** – Isosceles triangle arrangement; design a multi-flower corsage; cash register/sales; and plant classification and identification. (Administration time: 2 hours, 30 minutes; Number of jobs: 4)

### **FLORICULTURE-GREENHOUSE - 4949**

**Written** – Basic floral design; intermediate floral design; advanced floral design; small floriculture-greenhouse business; plant science, soil sciences, and greenhouse operations. (Administration Time: 3 hours; Number of test items: 196)

**Performance** – Isosceles triangle arrangement; design a multi-flower corsage; cash register/sales; plant classification and identification, and start/propagate herbaceous plant from a stem tip cutting. (Administration time: 2 hours, 55 minutes; Number of jobs: 5)

### **FORESTRY PRODUCTS AND PROCESSING - 3037**

**Written** - Safety, logging/harvesting, tree identification, sawmill operation, diesels and hydraulics, chain saws, silviculture and forest management, forest ecology and protection, surveying, timber cruising, wildlife, and business management and employability skills. (Administration Time: 3 hours; Number of test items: 189)

**Performance** – manually fell a tree, identify leaf, bud and bark specimens, grade hardwood or pine lumber, scale hardwood or pine logs, sharpen and adjust chain saw, calculate acreage, and plot and analyze 1/5 acre. (Administration time: 2 hours, 50 minutes; Number of jobs: 7)

### **GENERAL DRAFTING AND DESIGN - 3038**

**Written** - Preparing to draw: basic drawing and dimensioning skills, geometric construction, drawing techniques, applied mathematics, dimensioning skills and supplementary views. (Administration Time: 3 hours; Number of test items: 118)

**Performance** – Geometric construction, auxiliary views, drawing completion and dimensioning, machined part dimensioning, pattern development and section drawing. (Administration time: 2 hours, 25 minutes on a CAD system OR 3 hours, 50 minutes manually; Number of jobs: 6)

### **GENERAL MANAGEMENT - 1103**

**Written (ONLY)** General business technical skills, general management technical skills, academic foundations, systems, ethics and legal responsibilities, communication, information technology applications, problem solving, critical thinking and decision making, leadership and teamwork, safety, health, and environmental, employability and career development. (Administration Time: 2 hours; Number of test items: 104)

### **GRAPHIC COMMUNICATIONS TECHNOLOGY - 4142**

**Written** - Introduction to printing, electronic publishing and printing, pre-press and output, offset press operations, finishing and binding processes. (Administration Time: 3 hours; Number of test items: 198)

**Performance** - Design and pre-press, generate a plate from original, duplicator and press operations and finishing. (Administration time: 2 hours, 35 minutes; Number of jobs: 4)

### **HEALTH ASSISTING - 3043**

**Written** - Medical terminology, observation and communication, documentation and legalities of the health assisting profession, health assisting skills, body systems, first aid and general safety. (Administration Time: 3 hours; Number of test items: 154)

**Performance** - Hand washing and application/removal of personal protective devices, initiating new patient medical record, take vital signs, height and weight, transfer patient from bed to wheelchair, making an unoccupied bed. (Administration time: 1 hour, 40 minutes; Number of jobs: 5)

### **HEATING, VENTILATION & AIR CONDITIONING (HVAC) - 3045**

**Written** – Electricity, soldering, brazing, and welding, pipefitting, controls, installation and service, related math and science, refrigeration, refrigerant recovery, general safety, computer literacy, employability skills, air conditioning, heat pumps and electric heat, hydronic systems, forced air, gas, and oil units, humidity and air movement, and sheet metal and ductwork. (Administration time: 3 hours; Number of test items: 200)

**Performance** – Gas furnace start-up and check and air conditioning. (Administration time: 3 hours and 30 minutes; Number of jobs: 2)

### **HEATING, VENTILATION, AIR CONDITIONING & REFRIGERATION (HVAC/R) - 3064**

**Written** – Electricity, soldering, brazing, and welding, pipefitting, controls, installation and service, related math and science, refrigeration, refrigerant recovery, general safety, computer literacy, and employability skills. (Administration time: 3 hours; Number of test items: 118)

**Performance** - Gas furnace check and start-up, and refrigerant recovery and system recharge. (Administration time: 3 hours; Number of jobs: 2)

### **HEAVY EQUIPMENT MAINTENANCE AND REPAIR - 3046**

**Written** - Maintain/repair engine, maintain/repair power train, maintain/repair electrical system, maintain/repair brake system, welding, preventive maintenance, maintain/repair hydraulic system, general shop practices, air conditioning, and heavy equipment undercarriage. (Administration Time: 3 hours; Number of test items: 174)

**Performance** – Test cooling system, electrical testing, adjust valve clearance, set carrier and piston backlash, identify brake components, measure and adjust track, and cut and weld steel. (Administration time: 2 hours and 25 minutes; Number of jobs: 7)

### **HOME HEALTH AIDE - 3048**

**Written** - First aid and basic emergency procedures, abbreviations, terminology and client observation, employability skills, client care, safety, nutrition and elimination, positioning, client transfer, provide personal care, home maintenance management, child care, medication and client rights. (Administration Time: 3 hours; Number of test items: 196)

**Performance** – Obtain and record vital signs, therapeutic diet meal planning, bathing and personal care of adult, occupied bedmaking, first aid for bleeding and transfer of client from bed to chair. (Administration time: 2 hours, 10 minutes; Number of jobs: 6)

### **HORTICULTURE-LANDSCAPING - 3149**

**Written** - General knowledge, pest management, fundamentals of irrigation, basic nursery/greenhouse skills, horticulture business and retailing, landscape-design, landscape-construction, landscape and turf-maintenance and arboriculture. (Administration Time: 3 hours; Number of test items: 138)

**Performance** – Identify and control pests, inspect and operate power equipment, plant a container-grown shrub, prune a tree and an evergreen shrub and stake out a site plan-entrance walkway. (Administration time: 2 hours; Number of jobs: 5)

### **HORTICULTURE-OLERICULTURE AND POMOLOGY - 3249**

**Written** - General knowledge, pest management, fundamentals of irrigation, basic greenhouse skills, horticulture business and retailing, vegetable and fruit production, soils and seeds and propagation. (Administration Time: 3 hours; Number of test items: 124)

**Performance** – Design a garden for salad production, identify and control pests, inspect and operate power equipment, and judge and grade vegetables. (Administration time: 2 hours; Number of jobs: 4)

### **HOSPITALITY MANAGEMENT - FOOD & BEVERAGE OPTION - 2079**

**Written** - Introduction to the hospitality industry, guest relations and concierge, marketing and sales, safety and security, opening and settling financial transactions, travel and tourism, legal and ethical responsibilities, restaurant management, and food and beverage service. (Administration Time: 3 hours; Number of test items: 159)

**Performance** – Demonstrate napkin folding, identify equipment, perform table side service, prepare chicken cordon bleu, serve guests, pricing menu items, and complete a banquet event order sheet. (Administration time: 3 hours and 25 minutes; Number of jobs: 7)

### ***HOSPITALITY MANAGEMENT - LODGING OPTION - 2080***

**Written** - Introduction to the hospitality industry, guest relations and concierge, marketing and sales, safety and security, opening and settling financial transactions, travel and tourism, legal and ethical responsibilities, housekeeping management, and front office procedures. (Administration Time: 3 hours; Number of test items: 157)

**Performance** – Folio and form completion, housekeeping and room inspection, pricing menu items, complete a banquet order form, and meeting room set-up. (Administration time: 2 hours, 30 minutes; Number of jobs: 5)

### ***HUMAN RESOURCES MANAGEMENT - 1104***

**Written (ONLY)** General business technical skills, human resources technical skills, academic foundations, systems, ethics and legal responsibilities, communication, information technology applications, problem solving, critical thinking and decision making, leadership and teamwork, safety, health, and environmental, employability and career development. (Administration Time: 2 hours; Number of test items: 110)

### ***INDUSTRIAL ELECTRICITY - 2050***

**Written** - Direct current theory, alternating current theory, test equipment, electrical drawings, general wiring, National Electric Code, electrical controls, generators, motors transformers, variable frequency drives (VFDs), programmable logic controllers (PLCs), and safety. (Administration Time: 3 hours; Number of test items: 191)

**Performance** – Tools and material identification, conduit bending, wiring a motor starter and replacing ballast in a fluorescent fixture. (Administration time: 3 hours and 20 minutes; Number of jobs: 4)

### ***INDUSTRIAL ELECTRONICS - 2051***

**Written** - DC electricity, AC circuits, test equipment, semiconductors, electronic circuits, digital/micro, transducers, ladder logic and motors, safety and programmable logic controllers. (Administration Time: 3 hours; Number of test items: 197)

**Performance** - Semiconductor testing, solder/desolder components, meter usage, circuit construction, oscilloscope usage, troubleshooting and gate substitution. (Administration time: 2 hours and 35 minutes; Number of jobs: 7)

### ***INDUSTRIAL MAINTENANCE MECHANIC - 2074***

**Written** – Machinery and equipment, tools and safety, electronics and electrical principles, hydraulics and pneumatics, motors and motor controls, mechanism drives, industrial robotics systems, and blueprints and schematics. (Administration Time: 3 hours; Number of test items: 169)

**Performance** – Connect and operate a circuit, assemble a multiple shaft gear drive system, read and interpret an industrial blueprint, and troubleshoot an electrical control system. (Administration Time: 3 hours; Number of jobs: 4)

### **LOGISTICS TECHNOLOGY/DISTRIBUTION CENTER SERVICES - 2071**

**Written** – Operations- safety and ergonomics, operations-inventory management, operations-procurement, operations-receiving, operations-putaway, operations-picking (order selection), operations-packing, operations-shipping, operations-material handling equipment, operations-technology, customer relations-direct communication with customers, customer relations-customer requirement analysis, logistics-supply chain management, logistics-industry trends and current topics. (Administration Time: 3 hours; Number of test items: 157)

**Performance** – Inventory control/cycle count, material handling equipment, receiving, order fulfillment process, bill of lading. (Administration time: 3 hours and 45 minutes; Number of jobs: 5)

### **MANUFACTURING TECHNOLOGY - 2084**

**Written** – Manufacturing math, science, and measurement; workplace safety, health and job skills, quality assurance; blueprint reading; manufacturing fundamentals, processes, and materials; material handling; industrial robotics systems; computer use; process control; purchasing and resource identification activities; electronics and hydraulics; and design processes. (Administration Time: 3 hours; Number of test items: 195)

**Performance** – Milling operations, assemble a multiple shaft gear drive system, and determining gage block combinations. (Administration Time: 3 hours; Number of jobs: 3)

### **MEDICAL ASSISTING - 4055**

**Written** – Medical office procedures, general laboratory procedures and diagnostic testing, clinical procedures, patient instruction, and foundations for healthcare. (Administration Time: 3 hours; Number of test items: 199)

**Performance** - Infant length, weight and head circumference (in pounds and inches), applying and removing sterile gloves, capillary puncture (simulation), electrocardiogram, blood pressure and pulse measurement, and appointment scheduling. (Administration time: 2 hours; Number of procedures: 6)

### **NURSING ASSISTING - 4058**

**Written** - Basic nursing assisting skills, infection control, communication skills, personal care skills, mental health and social service needs, client's rights, basic restorative devices, and employability skills. (Administration Time: 3 hours; Number of test items: 198)

**Performance** - Vital signs, barrier techniques, wheelchair use, occupied bed making, and modified bed bath. (Administration time: 2 hours and 5 minutes; Number of procedures: 5)

### **PAINTING AND DECORATING - 2060**

**Written** – Wood finishes; wall coverings; safety; special wall finishes; equipment; exterior and interior painting; and color. (Administration Time: 3 hours; Number of test items: 147)

**Performance** – Prepare and paint a door and door frame; paint interior/exterior wall with door/window; and patch dry wall. (Administration time: 2 hours; Number of jobs: 3)

### **PERFORMING ARTS - 1107**

**Written (ONLY)** General arts and communication technical skills, performing arts technical skills, academic foundations, systems, ethics and legal responsibilities, communication, information technology applications, problem solving, critical thinking and decision making, leadership and teamwork, safety, health, and environmental, employability and career development. (Administration Time: 2 hours; Number of test items: 104)

### **PLUMBING - 3061**

**Written** – Professionalism, general practices, building drainage systems, vent installation, traps, joining pipes and fittings, installing fixtures, water supply lines, hot water systems, inspection/safety, plumbing math, plumbing service and repair. (Administration time: 3 hours; Number of test items: 194)

**Performance** – Install and pressure test a DWV system, and install and pressure test a water supply system. (Administration time: 4 hours; Number of jobs: 2)

### **PRACTICAL NURSING - 4062**

**Written** - Communications and employability; legal/ethical responsibilities; anatomy and physiology; patient care skills; administer medication; infection control; psychological support; and supervised management functions. (Administration Time: 3 hours; Number of test items: 202)

**Performance** – Take vital signs; transfer a CVA patient; insertion of indwelling catheter, remove contaminated linen from isolation unit; administration of medication; and CPR. (Administration time: 2 hours and 50 minutes; Number of jobs: 6)

### **PRE-ENGINEERING/ENGINEERING TECHNOLOGY - 2475**

**Written** – Overview of engineering, design process/problem solving, manufacturing, assembly and fabrication, materials, communication and teamwork, safety, and engineering systems. (Administration Time: 3 hours; Number of test items: 202)

**Performance** – Technical writing and oral presentation. (Administration time: 3 hours and 30 minutes; Number of jobs: 2)

### **PRECISION MACHINING - 4052**

**Written** – Organization and shop practices, measurement/inspection, metallurgical processes and heat treating, blueprint interpretation and process planning, layout and benchwork, band saw machines, lathes, milling machines, surface grinder, and CNC programming preparation, and operations. (Administration time: 3 hours; Number of test items: 1494)

**Performance** – Milling operations and lathe operations. (Administration time: 3 hours; Number of jobs: 2)

### ***PRODUCTION AGRICULTURE - 2063***

**Written** - Animal science, companion animals and aquaculture, land use and stewardship, plant science, agriculture mechanics, farm management and recordkeeping and employability. (Administration Time: 3 hours; Number of test items: 161)

**Performance** – Vehicle maintenance, calculate net worth, determine genotypes and phenotypes (Punnett Square), crop leaf identification, administer an injection and compute acreage. (Administration time: 3 hours and 5 minutes; Number of jobs: 6)

### ***PROTECTIVE SERVICES - 1480***

**Written** – Public safety, law enforcement, fire fighting, emergency medical services, legal issues, career development and homeland security. (Administration Time: 3 hours; Number of test items: 148)

**Performance** – Street interview, arrest and search, complete an incident report, chemical identification, fire suppression demonstration, vital signs, perform CPR on an adult and patient assessment. (Administration time: 2 hours and 15 minutes; Number of jobs: 8)

### ***RETAIL COMMERCIAL BAKING - 3010***

**Written** – Safety and sanitation, weights, measures and general baking math, identification, classification and properties of ingredients, identification, classification, and function of methods and processes, mise en place, analysis/assessment/troubleshooting, and merchandising of products. (Administration Time: 3 hours; Number of test items: 201)

**Performance** – Soft dinner roll dough, puff pastry (cream horns), cake decorating, biscuits, and pate a choux. (Administration time: 5 hours and 30 minutes; Number of jobs: 5)

### ***RETAIL TRADES - 4053***

**Written** – Advertising/promotion; communications; visual merchandising; marketing/merchandising; electronic marketing and E-commerce; economics; sales and selling; human relations, related mathematics, entrepreneurship, and professional development. (Administration Time: 3 hours; Number of test items: 198)

**Performance** - Completing a sale and handling money; handling customer complaints; product knowledge and selling; and retail math. (Administration time: 1 hour and 50 minutes; Number of jobs: 4)

### ***SMALL ENGINE TECHNOLOGY - 3068***

**Written** – Safety, general shop practices, maintenance, lubrication systems, fuel system, carburetor fundamentals, governor, ignition, starters and alternators, cylinder head service and maintenance, engine assembly and troubleshooting. (Administration Time: 3 hours; Number of test items: 194)

**Performance** - Check and start engine, ignition service, measure parts, valve service, carburetor service, and invoicing parts. (Administration time: 3 hours; Number of jobs: 6)

### **TECHNICAL DRAFTING - 4054**

**Written** – Basic drawing skills, geometric construction, applied mathematics, dimensioning skills, multiview drawing, threads and fasteners, manufacturing processes, and design principles. (Administration Time: 3 hours; Number of test items: 201)

**Performance** – Visualization, orthographic drawing, development, and assembly. (Administration time: 3 hours and 15 minutes; Number of jobs: 4)

### **TELEVISION PRODUCTION - 2427**

**Written** – Safety, pre-production, production and post-production. (Administration Time: 3 hours; Number of test items: 196)

**Performance** – Pre-production (planning), production, and post-production. (Administration time: 4 hours and 30 minutes; Number of jobs: 3)

### **VISUAL ARTS - 1108**

**Written (ONLY)** General arts and communication technical skills, visual arts technical skills, academic foundations, systems, ethics and legal responsibilities, communication, information technology applications, problem solving, critical thinking and decision making, leadership and teamwork, safety, health, and environmental, employability and career development. (Administration Time: 2 hours; Number of test items: 104)

### **VISUAL COMMUNICATIONS - 2425**

**Written** – Computer literacy, multimedia, visual literacy, conceptual design process, color theory, typography, materials and tools, safety, and career overview. (Administration Time: 3 hours; Number of test items: 178)

**Performance** – Corporate logo, and web banner. (Administration time: 3 hours; Number of jobs: 2)

### **WELDING - 4072**

**Written** – Safety, welding symbols and blueprint reading, oxyfuel cutting, arc cutting process, physical characteristics and mechanical properties of metals, weld fit-up and quality, shielded metal arc welding, gas metal arc welding and flux cored arc welding, and gas tungsten arc welding. (Administration time: 3 hours; Number of test items: 138)

**Performance** - Oxyfuel cutting, SMAW vertical groove, GMAW spray horizontal fillet, aluminum GTAW horizontal fillet, and stainless steel GTAW horizontal fillet. (Administration time: 2 hours, 55 minutes; Number of jobs: 5)

**WORKPLACE READINESS – 3033 or 3931 (Certificate Program Assessment)**

**Written (Only)** – Communications, problem solving and critical thinking, information technology applications, systems, safety, health and environment, leadership and teamwork, ethics and/or legal responsibilities, and employability and/or career development. (Number of test items: 90) *NOTE: Administration time for this test is 90 minutes.*

**Workplace Readiness Certification Program** – The NOCTI Job Ready Workplace Readiness Assessment serves as the foundation for the Workplace Readiness Certificate Program. Schools ordering this certification package provide their students with the opportunity to qualify for the Workplace Readiness Certificate/Wallet Card. This recognition is a value-added certification credential for students seeking employment and/or admission to further education.