transfr

Product Catalog

September 2024

Career Exploration

Career Exploration provides immersive learning opportunities to guide learners from the classroom to meaningful careers. Transfr empowers learners through a comprehensive career development platform to navigate new career paths, enhance job satisfaction, and adapt to the evolving job market.

Career Exploration With Transfr

All Career Exploration simulations last between 4 and 6 minutes long.

NEW New Sim ESP Available in Spanish

Agriculture, Food & Natural Resources

Career	Simulation	Description
Diesel Farm Equipment Mechanic	Repair Diesel Farm Equipment	The student will diagnose and fix a combine harvester diesel engine.
Veterinary Technician (Coming Soon)	Care for a Dog with an Ear Infection	The student will assist with treating a dog with ticks and an ear infection.

Arts, Audio/Video Technology & Communications

Career	Simulation	Description
Graphic Designer	Redesign a Restaurant Brand Kit	The student will learn different graphic design concepts and apply them while using an image editing program to fix problems with a restaurant's brand kit.

Architecture & Construction

Career	Simulation	Description
Broadband Tower Construction	Rebuild a Destroyed Communication Tower	The student will attach a new segment to rebuild a damaged communication tower.
Broadband Utility Construction	Drill an Underground System	The student will use a horizontal directional drill to install underground conduit for fiber optic cable.
Broadband Fiber Installers and Repairer	Repair Fiber Internet for a City Block	The student will repair a broken fiber optic cable to restore internet service.
Carpenter	Rebuild a Historic Bakery Roof	The student will finish constructing and installing a roof truss assembly as part of a major repair to a historic building.
Construction Laborer	Demolish an Overpass	The student will safely demolish an old overpass using power tools and explosives.
Distribution Line Worker	Restore Power to a Neighborhood	The student will replace a transformer to fix a power outage in a neighborhood.
Electricians	Fix Power Outage at a Hospital	The student will replace a faulty relay to restore power to a hospital.
Plumber, Pipefitter, and Steamfitter	Prepare a Pipe for a Commercial Building	The student will perform the required safety precautions and procedures for cutting a pipe and preparing ends for welding.
Solar Technician	Install a Solar Panel on a Home	The student will install a solar panel and connect the wires in the breaker box.
Transmission Line Worker	Restore Power to an Entire Town	The student will change an insulator on a high voltage power line to restore electricity to a town.

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NEW New Sim ESP Available in Spanish

Finance

Career	Simulation	Description
Financial Analyst	Make an Investment Plan	The learner will assess a foundation's investments and create a new plan to increase their earnings.

Hospitality and Toursim

Career	Simulation	Description
Chef	Prepare and Plate a Signature Dish	The student will help prepare the ingredients for an abalone risotto dish and plate the entree at a Korean-themed, fine dining restaurant.
Restaurant Manager	Improve the Dining Experience at a Restaurant	The student will listen to customer complaints and resolve problems related to food quality around the restaurant.

Information Technology

Career	Simulation	Description
Network Technician	Fix an App Service Outage	The student will make and install a CAT6e cable to fix an offline app.

Law, Public Safety, Corrections & Security

Career	Simulation	Description
Emergency Medical Technician (EMT)	Help at a Car Crash	The student will assist with cervical spine precautions and applying a splint at the scene of a car crash.

Manufacturing

Career	Simulation	Description
Electrical and Electronic Equipment Assembler	Assemble Components of an EV Battery	The student will assemble and test components of an electric vehicle battery.
Maintenance and Repair Worker	Repair an Industrial Cooker	The student will repair a broken industrial cooker to restart the production line in a food manufacturing plant.
Robotics Technician	Repair a Mobile Picker Bot	The student will repair a malfunctioning mobile picker robot so it can safely return to its automated tasks at a large fulfillment center.

Career Exploration With Transfr

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NEW New Sim ESP Available in Spanish

Manufacturing

Career	Simulation	Description
Semiconductor Manufacturing Technician	Find the Contaminated Microchips	The student will use a metrology tool to find which microchip is contaminated with particles.
Welders	Fix a Broken Assembly Line	The student will weld a broken joint to repair a conveyor belt.

Transportation, Distribution & Logistics

Career	Simulation	Description
Aircraft Mechanics and Service Technician	Service a Commercial Airplane	The student will inspect a jet engine fan and repair a damaged tire to make an airplane safe for flight.
Automotive Service Technician – Electric Vehicle	Replace an EV Battery	The student will replace the EV battery in an electric vehicle.
Automotive Service Technician	Change the Oil in an Automobile	The student will change the oil and the oil filter in an automobile.
CDL Truck Driver	Prepare for a Trucking Route	The student will explore the features of a semi-truck and prepare for the final leg of a delivery.

Career Exploration With Transfr

All Career Exploration simulations last between 4 and 6 minutes long.

NEW New Sim ESP Available in Spanish

Health Sciences

Diagnostic Services Pathways

Career	Simulation	Description
Radiologic Technologist (RT)	Capture an X-Ray of a Leg Wound	The student will assist with preparing a patient and radiologic equipment for capturing x-ray images of a penetrating wound with a foreign object in place.

Therapeutic Services Pathways

Emergency Medical Technician (EMT)	Help at a Car Crash	The student will assist with cervical spine precautions and applying a splint at the scene of a car crash.
Medical Assistant (MA)	Assist with an Electrocardiogram (EKG)	The student will assist with the application and removal of electrocardiograph leads during a 12-lead electrocardiogram on a patient in a medical facility.
Pharmacy Technician (PhT)	Prepare an Intravenous (IV) Infusion	The student will assist with preparing and sending an intravenous (IV) infusion for an emergency room patient.
Registered Nurse (RN)	Help an Emergency Patient	The student will obtain a blood pressure measurement and start an intravenous line and infusion on a patient in the emergency room.
Surgical Technologist (ST)	Assist with Knee Surgery	The student will pass instruments to the surgeon and use a bone saw during surgery in an operating room.

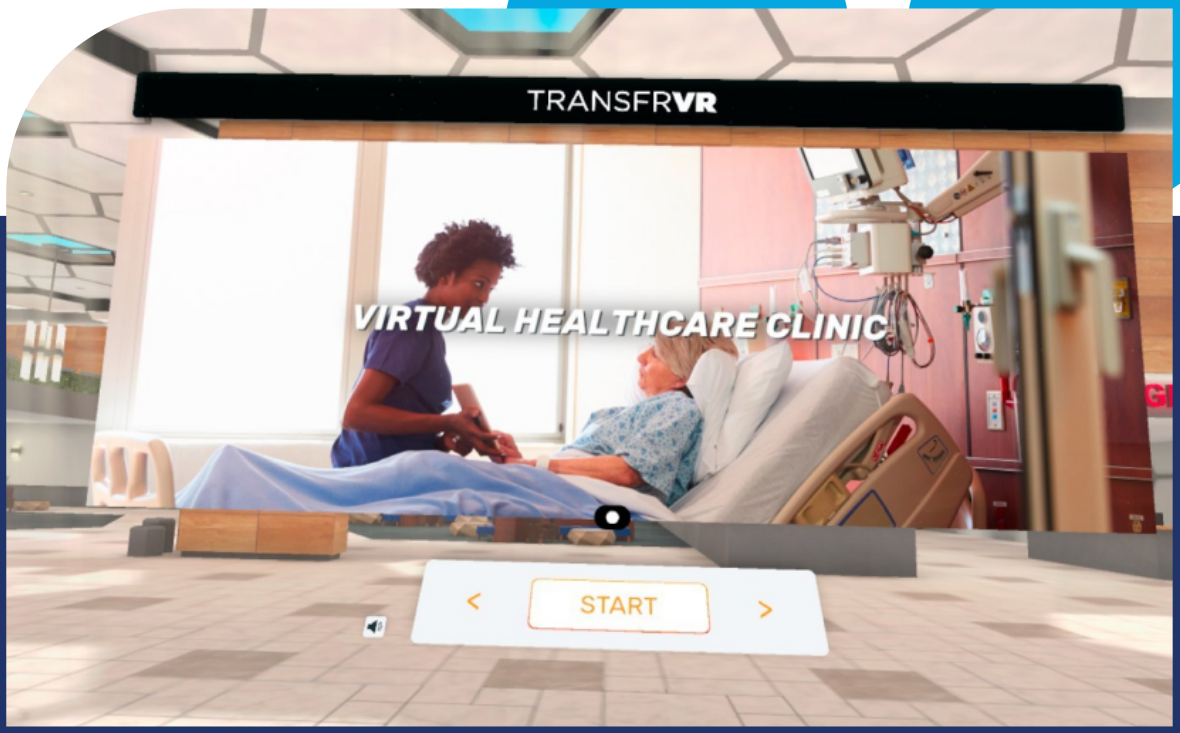
Content Warning: Blood

Career Training

Virtual Healthcare Clinic

Transfr's Virtual Healthcare Clinic simulates the type of training that takes place in a healthcare facility. With one-to-one training from a virtual coach who adapts to learner performance, Transfr's simulations focus on developing a pipeline of healthcare professionals for jobs that are going unfilled, working with educators, employers, and workforce development departments while reducing cost and risk for employers.

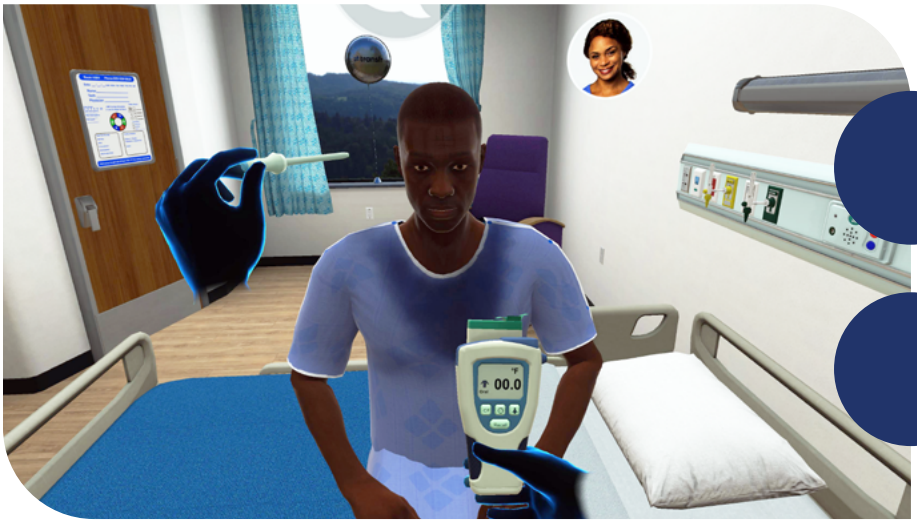
Endorsed by NCHSE National Consortium for Health Science Education



Discipline

Health Sciences

Transfr's Health Sciences modules give current and future healthcare personnel the skills to begin and progress on a career pathway. Learners build the foundational knowledge and skills required to provide safe, effective care that meets patients' needs and improves health outcomes for communities and populations.



Module:
Patient Care Foundations

Safety Practices: Infection Prevention and Control

Standard Precautions: Hand Hygiene
Participant will apply standard precautions to properly wash their hands and use alcohol-based hand sanitizer.
Duration: 25 min

Standard Precautions: Donning and Doffing Gloves
Participant will apply best-practice techniques to safely don and doff gloves.
Duration: 15 min

Standard Precautions: Donning and Doffing Gown, Mask, and Eye Protection
Participant will apply best-practice techniques to safely don and doff gowns, masks, and eye protection.
Duration: 25 min

Transmission-Based Precautions: Contact
Participant will apply evidence-based practice techniques for contact-based isolation precautions.
Duration: 20 min

Transmission-Based Precautions: Airborne and Droplet
Participant will apply evidence-based practice techniques for airborne and droplet based isolation precautions.
Duration: 20 min

Technical Skills: Data Collection

Vital Signs: Respirations and Pain
Participant will investigate the presence of a patient's pain and potential interventions prior to measuring and documenting the patient's respiratory rate.
Duration: 16 min

Vital Signs: Temperature
Participant will correctly measure and document patient temperature.
Duration: 25 min

Vital Signs: Heart Rate
Participant will correctly measure and document a patient's heart rate.
Duration: 20 min

Vital Signs: Blood Pressure
Participant will manually measure and chart brachial blood pressure.
Duration: 20 min

Measuring and Recording Intake
Participant will accurately measure and record oral liquid intake.
Duration: 15 min

Measuring and Recording Output
Participant will accurately measure and record urinary output.
Duration: 30 min

Obtaining Height and Weight
Participant will obtain and record height and weight for an ambulatory and non-ambulatory patient.
Duration: 35 min

Technical Skills: Activities of Daily Living (ADLs)

ADL: Assist with Feeding
Participant will prepare for and assist with feeding a patient, then record the oral food intake.
Duration: 35 min

ADL: Assist Person with Female Genitalia During Bedpan, Perineal, and Urinary Catheter Care
Participant will use evidence-based techniques to assist a person with female genitalia during use of a bedpan for bowel elimination and perform subsequent perineal and indwelling (foley) urinary catheter care.
Duration: 60 min ⚠

ADL: Assist Person with Male Genitalia During Perineal and Urinary Catheter Care
Participant will use evidence-based techniques to perform perineal care and indwelling (foley) catheter care on a person with male genitalia.
Duration: 50 min ⚠

ADL: Provide Hair Care, Shave, and Give Back Rub
Participant will demonstrate best-practice techniques to provide hair care, shave a patient's face, and give a back rub.
Duration: 40 min

ADL: Assist with Hand, Foot, and Nail Care
Participant will demonstrate evidence-based techniques for assisting patients with hand, foot, and nail care.
Duration: 60 min

ADL: Assist with Mouth, Teeth, and Denture Care
Participant will demonstrate evidence-based techniques for assisting the patient with oral and denture care.
Duration: 55 min

ADL: Assist with Dressing
Participant will demonstrate evidence-based techniques for assisting with dressing a patient.
Duration: 25 min

ADL: Make an Occupied Bed
Participant will demonstrate evidence-based techniques for changing the linens on an occupied bed.
Duration: 38 min ⚠

ADL: Transfer from Bed to Wheelchair with Gait Belt
Participant will apply best-practice techniques for transferring a patient from bed to wheelchair while reducing risk for injury to self and to patient.
Duration: 25 min

ADL: Position in Bed
Participant will demonstrate evidence-based practice techniques to assist a patient to reposition in bed and obtain a side-lying position.
Duration: 35 min ⚠

⚠ **Content Warning:** Nudity

Reduce Risk for Venous Thromboembolism (VTE)
Participant will demonstrate evidence-based techniques to reduce a patient's risk of developing venous thromboembolism (VTE).
Duration: 35 min

Technical Skills: Regulatory Requirements and Safety Practices

Oxygen Use and Safety Measures
Participant will integrate evidence-based practice techniques to safely use and store
oxygen.
Duration: 22 min

Applying and Removing Fabric Physical Patient Restraints
Participant will demonstrate evidence-based techniques for safe application and removal of fabric physical restraints during patient care.
Duration: 30 min

***Simulation durations noted are estimated times for participants to complete a simulation.**

Actual duration may vary as participants move through simulations at their own pace.

Virtual Training Facility

Real simulated hands-on learning experiences.

The Transfr Virtual Training Facility's simulated hands-on learning experiences empower job seekers to master vital skills and get on pathways to well-paying jobs in high-growth industries.

Discipline

Manufacturing and Construction: The Skilled Trades

Manufacturing and Construction: The Skilled Trades discipline gives students and job seekers the simulated hands-on skills they need to secure positions related to the manufacturing of vehicles, foodstuffs, household goods, and other products. Trainees also develop fundamental skills related to construction of buildings and homes, roads, and other infrastructure.

Module:
Plant Safety

Intro to Simon, and Accidents and Injury Prevention
Trainee will learn and demonstrate accident and injury prevention awareness, including identifying fire hazards; safe lifting; basic lockout-tagout procedures; and workplace hazards.
Duration: 18 min

Protective Equipment: Eye, Hearing, Hand, and Foot Protection and Hearing Conservation
Trainee will learn and demonstrate personal protective equipment (PPE) usage.
Duration: 12 min

Hand Tools: Inspecting and Identifying Correctly
Trainee will learn and demonstrate how to identify and inspect the following common hand tools: slip-joint pliers, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 7 min

Hand Tools: Using Hand Tools Correctly
Trainee will learn and demonstrate how to use the following common hand tools: slip-joint pliers, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 15 min

Materials Handling: Situational Awareness
Trainee will learn and demonstrate situational awareness in a warehouse environment.
Duration: 6 min

Materials Handling: Receiving and Storage Safety
Trainee will learn and demonstrate safe receiving and storage techniques.
Duration: 11 min

Materials Handling: Manual Lifting
Trainee will learn and demonstrate safe manual lifting techniques.
Duration: 8 min

Materials Handling: Metal/Glass Sheets and Cylindrical Objects
Trainee will learn and demonstrate how to safely lift and handle metal/glass sheets and cylindrical objects.
Duration: 7 min

Materials Handling: Hoists & Cranes
Trainee will learn and demonstrate basic safety practices for working with and around hoists and cranes.
Duration: 22 min

Energy Related Hazards (Electrical Safety, GFCI, and Electric Shock)
Trainee will learn and demonstrate awareness of energy-related hazards and the techniques to avoid or mitigate them.
Duration: 10 min

Lockout & Tagout
Trainee will learn and demonstrate a lockout-tagout procedure.
Duration: 7 min

Robotic Safety
Trainee will learn and demonstrate awareness of robotic work cell safety.
Duration: 10 min

Ladder Safety: A-Frame Stepladders
Trainee will learn and demonstrate how to inspect, safely set up, and properly use an A-frame stepladder.
Duration: 10 min

Ladder Safety: Straight Ladders
Trainee will learn and demonstrate how to inspect, safely set up, and properly use a straight ladder.
Duration: 12 min

Fire Extinguisher Safety
Trainee will learn and demonstrate knowledge of the types of fire extinguishers and how to safely operate them.
Duration: 8 min

Safety Data Sheets
Trainee will learn and demonstrate how to use Safety Data Sheets to identify chemical-related hazards, first aid measures, and personal protective equipment.
Duration: 10 min

Bloodborne Pathogens
Trainee will learn and demonstrate knowledge of the types of bloodborne pathogens, as well as how to protect themselves with personal protective equipment and safety procedures.
Duration: 8 min

Power Tools/Electrical Safety: Pneumatic Wrenches and Screwdrivers
Trainee will learn and demonstrate how to inspect and safely use pneumatic wrenches and screwdrivers.
Duration: 14 min

Power Tools/Electrical Safety: Electric Drill
Trainee will learn and demonstrate how to inspect and safely use an electric drill.
Duration: 11 min

Power Tools/Electrical Safety: Circular Saw
Trainee will learn and demonstrate how to inspect and safely use a circular saw.
Duration: 15 min

Power Tools/Electrical Safety: Miter Saw
Trainee will learn and demonstrate how to inspect and safely use a miter saw.
Duration: 9 min

Power Tools/Electrical Safety: Bench and Pedestal Grinders
Trainee will learn and demonstrate how to inspect and safely use a pedestal grinder.
Duration: 15 min

Power Tools/Electrical Safety: Handheld Grinders
Trainee will learn and demonstrate how to inspect and safely use a handheld grinder.
Duration: 13 min

Power Tools/Electrical Safety: Nibblers
Trainee will learn and demonstrate how to inspect and safely use a nibbler.
Duration: 10 min

Welding Safety: Burn Safety
Trainee will learn and demonstrate knowledge of the types of burn risks associated with welding arcs, as well as how to protect themselves with personal protective equipment and safety procedures.
Duration: 8 min

Welding Safety: Spot Welding Safety
Trainee will learn and demonstrate how to safely use resistance welding equipment.
Duration: 9 min

Welding Safety: MIG Welding Safety
Trainee will learn and demonstrate how to safely use MIG welding equipment.
Duration: 12 min

Welding Safety: Oxy-Acetylene Safety
Trainee will learn and demonstrate how to safely use oxy-acetylene welding equipment.
Duration: 14 min

Module: Construction Safety

Intro to Simon, and Accidents and Injury Prevention
Trainee will learn and demonstrate accident and injury prevention awareness, including identifying fire hazards; safe lifting; basic lockout-tagout procedures; and workplace hazards.
Duration: 18 min

Job Site Safety: Situational Awareness
Trainee will learn and demonstrate job site situational awareness.
Duration: 18 min

Personal Protective Equipment
Trainee will learn and demonstrate personal protective equipment (PPE) usage.
Duration: 12 min

Personal Protective Equipment: Respirators
Trainee will learn and demonstrate awareness of respiratory hazards and how to use a respirator.
Duration: 13 min

Extension Ladder Safety
Trainee will properly inspect, set up, and use an extension ladder.
Duration: 16 min

Scaffolds
Trainee will learn and demonstrate how to safely use scaffolds.
Duration: 14 min

Layout Tools: Squares, Plumb Bobs, and Levels
Trainee will identify and use levels, squares, and a plumb bob.
Duration: 14 min

Hand Tools: Hand Saws
Trainee will learn and demonstrate how to inspect and safely use a hand saw.
Duration: 16 min

Hand Tools: Hack Saws
Trainee will learn and demonstrate how to inspect and safely use a hacksaw.
Duration: 16 min

Power Tools: Impact Wrenches
Trainee will learn and demonstrate how to inspect and safely use an impact wrench.
Duration: 15 min

Power Tools: Hammer Drill
Trainee will inspect and safely use a hammer drill.
Duration: 12 min

Power Tools: Reciprocating Saw
Trainee will learn and demonstrate how to inspect and safely use a reciprocating saw.
Duration: 14 min

Power Tools: Portable Band Saw
Trainee will learn and demonstrate how to inspect and safely use a portable band saw.
Duration: 16 min

Power Tools: Cutoff Saw
Trainee will inspect and safely use a cutoff saw.
Duration: 12 min

Construction Drawings 1
Trainee will learn and demonstrate how to identify various types of construction drawings, as well as interpret their purpose and fundamental components.
Duration: 16 min

Construction Drawings 2
Trainee will read construction drawings and measure dimensions with an architect's scale.
Duration: 12 min

Materials Handling: Safety Concepts and Precautions
Trainee will learn and demonstrate knowledge of common material handling safety precautions.
Duration: 16 min

Materials Handling: Placards
Trainee will learn and demonstrate how to identify and understand common hazardous materials placards.
Duration: 15 min

Materials Handling: Non-Motorized Equipment
Trainee will learn and demonstrate how to plan a safe route when using a pallet jack.
Duration: 16 min

Materials Handling: Motorized Equipment
Trainee will learn and demonstrate how to identify and safely be around motorized material handling equipment.
Duration: 19 min

Intro to Rigging Equipment
Trainee will learn about different types of slings and shackles commonly used in rigging.
Duration: 19 min

Intro to Rigging Hitches
Trainee will learn basic concepts and safety practices for bridle and double choker hitches.
Duration: 18 min

Additional Construction related skills can be found in the following simulations from Plant Safety:

Intro to Simon, and Accidents and Injury Prevention
Personal Protective Equipment
Energy Related Hazards
Lockout Tagout
Safety Data Sheets
Hand Tools: Inspecting and Identifying Correctly
Hand Tools: Using Hand Tools Correctly
Power Tools: Pneumatic Wrenches and Screwdrivers
Power Tools: Handheld Grinder
Power Tools: Stationary Grinder
Materials Handling: Situational Awareness
Materials Handling: Manual Lifting
Materials Handling: Receiving and Storage Safety

Additional Construction related skills can be found in the following simulations from Precision Measurement:
Fractional Inch Rule
Decimal Inch Rule
Metric Rule

Module: Precision Measurement

Intro to Simon
Trainee is introduced to the virtual coach.
Duration: 1 min

Controls Tutorial
Trainee will learn and demonstrate basic use of the VR controllers.
Duration: 2 min

Fractional Inch Rule
Trainee will learn to take measurements with a fractional inch rule.
Duration: 7 min

Decimal Inch Rule
Trainee will learn to take measurements with a decimal inch rule.
Duration: 7 min

Metric Rule
Trainee will learn to take measurements with a metric rule.
Duration: 6 min

Controls tutorial: Calipers
Trainee will learn and demonstrate how to use the caliper controls.
Duration: 2 min

Outside Caliper
Trainee will learn and demonstrate how to use an outside caliper to take a transfer measurement with a fractional inch rule.
Duration: 5 min

Inside Caliper
Trainee will learn and demonstrate how to use an inside caliper to take a transfer measurement with a fractional inch rule.
Duration: 5 min

Controls Tutorial: Calipers II
Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.
Duration: 2 min

Dial Inch Caliper
Trainee will learn and demonstrate how to use a dial inch caliper to take inside, outside, and depth measurements.
Duration: 8 min

Digital Caliper
Trainee will learn and demonstrate how to use a digital caliper to take inside, outside, and depth measurements.
Duration: 5 min

Controls Tutorial: Micrometer
Trainee will learn and demonstrate how to use the micrometer control.
Duration: 2 min

Micrometer
Trainee will learn and demonstrate how to measure using an analog micrometer.
Duration: 10 min

Digital Micrometer
Trainee will learn and demonstrate how to measure using a digital micrometer.
Duration: 5 min

Calibration and Zeroing
Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometer.
Duration: 9 min

Simplify Fractions: Halves
Trainee will learn to recognize and simplify fractions with a denominator of 2.
Duration: 8 min

Simplify Fractions: Quarters
Trainee will learn to recognize and simplify fractions with a denominator of 4.
Duration: 14 min

Simplify Fractions: 8ths
Trainee will learn to recognize and simplify fractions with a denominator of 8.
Duration: 16 min

Simplify Fractions: 16ths and Compound Fractions
Trainee will learn to recognize and simplify fractions with a denominator of 16. They'll also learn to recognize compound fractions and convert them to whole numbers.
Duration: 10 min

Simplifying Fractions: 32nds, 64ths, and the Scale Rule
Trainee will learn to recognize and simplify fractions with denominators of 32 and 64. They'll also learn and demonstrate how to take measurements using a scale rule.
Duration: 10 min

Rounding Decimals
Trainee will learn and demonstrate how to round measurements to the nearest 10th, 100th, and 1000th decimal places.
Duration: 12 min

Module: Blueprint Reading

Intro to Construction and Technical Drawings
Trainee will learn how to interpret "The Language of Lines," and use it in architectural and technical drawings.
Duration: 13 min

Interpreting Technical Drawings
Trainee will learn and demonstrate how to use "The Language of Lines" to interpret technical drawings.
Duration: 15 min

Technical Drawings: Dimensioning
Trainee will learn and demonstrate accepted dimensioning techniques used in technical drawing.
Duration: 20 min

Technical Drawings: General Standard Symbols, Screw Callouts, and Thread Symbols
Trainee will learn to identify common dimensioning symbols, interpret screw callouts, and examine thread symbols within a technical drawing.
Duration: 21 min

Technical Drawings: Finishing Surfaces and Symbols
Trainee will learn and demonstrate how to interpret surface finish symbols for use on technical drawings as part of the manufacturing process.
Duration: 25 min

Technical Drawings: Terminology of Machined Slots
Trainee will learn and demonstrate knowledge of terminology, common configurations, and features of the following machined parts and slots: chamfer, dovetails, keys and keyways, mortise and tenon, slotted holes, and T-grooves.
Duration: 20 min

Technical Drawings: Intro to Title Blocks & Assembly Drawings
Trainee is introduced to the practice of using information from title blocks and assembly drawings to correctly identify machined parts.
Duration: 20 min

Technical Drawings: Using Title Blocks & Assembly Drawings
Trainee will learn and demonstrate how to use information from title blocks and assembly drawings to correctly identify machined parts.
Duration: 15 min

Technical Drawings: Visualization & Views
Trainee will learn and demonstrate how to communicate and verify the relationship between technical drawings and machined parts using visualization and interpretation.
Duration: 20 min

Technical Drawings: Section & Auxiliary Views
Trainee will learn and demonstrate how to select and verify machined parts by interpreting sectional and auxiliary views.
Duration: 25 min

Technical Drawings: Assembly and Tolerance
Trainee will learn and demonstrate how to identify the features of an assembly drawing and a matching drawing, as well as practice reading tolerances by defining a part's range of variation.
Duration: 15 min

Module: Mechatronics

Variable Speed Motor: Assembly
Trainee will learn and demonstrate how to assemble an AC variable speed motor with keyed shaft, pillow-block bearings, assorted gears, couplings, and standoffs.
Duration: 18 min

Variable Speed Motor: Wiring
Trainee will learn and demonstrate how to interpret wiring diagrams to make proper connections, energize, and verify rotational direction on a variable speed motor.
Duration: 14 min

Variable Speed Motor: Measurements
Trainee will learn and demonstrate how to use a multimeter to measure current, voltage, and resistance.
Duration: 18 min

Robotic Safety
Trainee will learn and demonstrate how to work safely with and in proximity to robotic arms, work cells, and systems, as well as recognize hazards, emergency procedures, functions, work cell limits, and emergency stops.
Duration: 10 min

Module: Paint Robot Troubleshooting

Intro to Simon and Tools
Trainee is introduced to the virtual coach and will learn and demonstrate basic use of the VR controllers.
Duration: 5 min

Intro to the Virtual Paint Robot
Trainee will learn the components of the paint robot.
Duration: 11 min

Paint Booth Safety Procedures
Trainee will learn and demonstrate key safety procedures, like positioning the robot for maintenance; locking out process air; completing lockout-tagout procedures; cleaning out and super purging; and wearing proper PPE.
Duration: 11 min

Lockout & Tagout
Trainee will learn and demonstrate how to perform a lockout-tagout procedure.
Duration: 7 min

Before Entering the Booth
Trainee will learn and demonstrate how to complete a safety checklist before entering the paint booth. Trainee will also be introduced to the supply and return valves within the booth.
Duration: 3 min

Bell Cup: Paint Spit Visible on Part
Trainee will learn and demonstrate how to identify the cause of paint spit/drips, as well as how to address it.
Duration: 11 min

Applicator: Signs of Moisture on the Shroud
Trainee will learn and demonstrate how to identify the cause of moisture, as well as how to address it.
Duration: 12 min

Troubleshooting Assessment 1
Trainee will be presented with a scenario and use their troubleshooting skills to identify and address the issue.
Duration: 20 min

Applicator: Leak at Quick Disconnect
Trainee will learn and demonstrate how to identify and assess the cause of moisture at the applicator quick disconnect, as well as how to address it.
Duration: 13 min

Isolation Line Leakage
Trainee will learn and demonstrate how to identify an isolation line pinhole leak, as well as how to address it.
Duration: 8 min

Paint Valve Troubleshooting
Trainee will learn and demonstrate how to identify and assess the cause of a leaking paint valve, as well as how to address it.
Duration: 15 min

Troubleshooting Assessment 2
Trainee will be presented with a scenario and use their troubleshooting skills to identify and address the issue.
Duration: 20 min

Module:
Electrical Fundamentals

Electrical Fundamentals: Circuits & Ohm's Law
Trainee will learn and demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law).
Duration: 25 min

Electrical Test Equipment - Multimeter: Voltage
Trainee will learn and demonstrate how to use a multimeter to measure the voltages in specified devices—from line to neutral and neutral to ground—including setting it properly for expected readings and safely using probes to place the meter in parallel with the circuit.
Duration: 28 min

Electrical Repair: Basic Soldering
Trainee will learn and demonstrate basic soldering skills.
Duration: 16 min

*Simulation duration are average estimated times for trainees to complete a simulation.

Individual trainee duration may vary as trainees move at their own pace through simulations

Discipline

Hospitality & Tourism

The Hospitality & Tourism discipline gives students and job seekers the simulated hands-on skills they need to obtain positions in a hotel front desk environment.

Module:
Hospitality Soft Skills

Introduction
Trainee is introduced to the virtual coach and will learn and demonstrate basic use of the VR controllers.
Duration: 5 min

First Impressions: Receiving a 5-Star Experience
Trainee will go through the 5-star hotel guest check-in experience. Trainee will learn the importance of using soft skills for guest interactions and the hallmarks of professionalism, including hygiene, dress, and coming to work prepared.
Duration: 11 min

First Impressions: Providing a 5 Star Experience
Trainee will learn and demonstrate how to welcome guests, make a connection, and ensure guest needs are met with guidance from their virtual coach.
Duration: 12 min

Module:
Culinary: Intro to Culinary Arts and Basic Baking

Identifying Tools & Equipment
Trainee will learn and demonstrate how to identify and utilize common culinary tools and equipment.
Duration: 20 min

Professional Uniform
Trainee will learn and demonstrate how to select and properly wear a professional culinary uniform.
Duration: 14 min

Knife Skills 1
Trainee will learn and demonstrate basic knife safety and skills, including peeling a potato, squaring it off, and performing dice and batonnet cuts.
Duration: 12 min

Knife Skills 2
Trainee will learn and demonstrate how to peel a carrot, perform rondelle, bias, paysanne, and lozenge cuts, peel and dice an onion, and chiffonade herbs.
Duration: 13 min

Measuring Dry/Wet Ingredients
Trainee will properly measure wet and dry ingredients using the appropriate tools.
Duration: 20 min

Stocks
Trainee will make both white and brown stocks.
Duration: 20 min

Soups and Sauces
Trainee will learn and demonstrate how to make a velouté sauce (one of the mother sauces) and a cream-based soup.
Duration: 22 min

Eggs
Trainee will learn and demonstrate how to make basic egg dishes, including sun-ny-side up eggs, an omelette, and a crepe.
Duration: 21 min

Quick Breads
Trainee will make quick breads using the biscuit mixing and muffin mixing methods.
Duration: 20 min

Yeast Breads
Trainee will make straight bread dough.
Duration: 19 min

Enriched Yeast Breads
Trainee will make enriched yeast doughs using the straight dough and enriched dough methods.
Duration: 17 min

Cookies and Brownies
Trainee will make drop cookies and sheet bar cookies.
Duration: 17 min

Pies and Tarts
Trainee will prepare pie dough, form a pie crust, and assemble a fruit tart.
Duration: 14 min

Cakes
Trainee will make cake batter using the creaming, two-stage, and sponge cake methods.
Duration: 16 min

*Simulation duration are average estimated times for trainees to complete a simulation.

Individual trainee duration may vary as trainees move at their own pace through simulations

Discipline

Automotive

The Automotive discipline gives students and job seekers the simulated hands-on skills they need to obtain positions related to general automotive inspection and repair.

Module:
Automotive Fundamentals

Controls Tutorial: Automotive
Trainee will learn and demonstrate basic use of the VR controllers.
Duration: 3 min

Engine Oil Change
Trainee will learn and demonstrate how to perform an oil and filter change.
Duration: 10 min

Battery Safety and Service
Trainee will learn and demonstrate how to safely remove, replace, clean, test, and charge batteries.
Duration: 18 min

Starting and Charging Fundamentals
Trainee will learn and demonstrate how to identify and test for basic starting and charging system components (DTAC).
Duration: 19 min

Jacks, Jack Stands, and Lift Safety
Trainee will learn and demonstrate how to safely and properly place jacks, jack stands, and lifts.
Duration: 22 min

Automotive Safety Awareness: Airbag, ABS, ADAS and HV Batteries
Trainee will learn and demonstrate how to disable and handle air bags.
Duration: 15 min

Disc Brake Pad Replacement
Trainee will learn and demonstrate how to identify, inspect, remove, and replace disc brake components, including brake pads.
Duration: 13 min

Drum Brake Shoe Replacement
Trainee will learn and demonstrate how to identify, inspect, remove, and replace drum brake components, including brake shoes.
Duration: 15 min

Suspension System Types
Trainee will learn to identify various types of suspension system designs.
Duration: 14 min

Fuel System Fundamentals
Trainee will learn to identify air induction and fuel system components.
Duration: 15 min

Fuel System Safety
Trainee will learn and demonstrate how to perform a fuel system bleeding procedure.
Duration: 17 min

Engine Cylinder Compression Test
Trainee will learn and demonstrate how to perform a cylinder compression test.
Duration: 18 min

Steering System Types
Trainee will learn to identify various types of steering system designs.
Duration: 16 min

Module:
Auto Body/ Collision Repair

Hand Tools Used in Auto Body
Trainee will learn and demonstrate knowledge of common auto body hand tools.
Duration: 20 min

Power Tools Used in Auto Body
Trainee will learn and demonstrate how to inspect and safely use power tools used in auto body.
Duration: 15 min

Hammer & Dolly
Trainee will learn and demonstrate how to use a hammer and dolly for basic dent repair.
Duration: 9 min

Weld-On Pulling
Trainee will learn and demonstrate how to use weld-on pulling equipment for basic dent repair.
Duration: 15 min

Basic Auto Body Filler: Prep
Trainee will learn and demonstrate how to prepare a workpiece to receive body filler.
Duration: 13 min

Basic Auto Body Filler: Application
Trainee will learn and demonstrate how to efficiently apply filler, keeping imperfections to a minimum so the need for extra sanding can be mitigated.
Duration: 12 min

Basic Auto Body Filler: Sanding
Trainee will learn and demonstrate how to sand and contour filler using both power tools and hand sanding.
Duration: 17 min

Masking for Priming
Trainee will learn and demonstrate how to use tape and plastic to mask parts of the car prior to priming and painting.
Duration: 15 min

Paint Gun: Inspect and Clean
Trainee will learn and demonstrate how to inspect, clean, and disassemble a paint gun.
Duration: 14 min

Paint Gun: Set up and Spray Patterns
Trainee will learn and demonstrate how to properly set up and adjust spray patterns for a paint gun.
Duration: 14 min

Priming Panels
Trainee will learn and demonstrate how to test primer and apply a single-stage topcoat to a workpiece.
Duration: 20 min

Primer Prep for Painting
Trainee will learn and demonstrate how to prepare a workpiece for painting, including dry-block sanding and applying a guide coat.
Duration: 16 min

Paint Selection and Mixing
Trainee will learn and demonstrate how to measure and mix different paint colors.
Duration: 15 min

Basic Painting
Trainee will learn and demonstrate the basics of paint spraying.
Duration: 19 min

Advanced Painting
Trainee will learn and demonstrate how to test paint spray and apply a basecoat and clearcoat.
Duration: 20 min

Basic Electrical Tools: Test Light
Trainee will learn and demonstrate how to use a test light to check fuses, relays, and wires for ground and continuity.
Duration: 6 min

Electrical Repair: Connectors, Terminals, and Splicing
Trainee will learn and demonstrate construction, splicing, repair, and use of connectors and terminals.
Duration: 15 min

Bead Blasting
Trainee will learn and demonstrate how to remove paint and rust using high pressure blasting tools without damaging the part's surface.
Duration: 15 min

Powder Coating
Trainee will learn and demonstrate how to apply electrostatically-charged powder coating to the part's surface.
Duration: 28 min

Additional Construction related skills can be found in the following simulations from Plant Safety:
Hand Tools: Inspecting and Identifying Correctly
Hand Tools: Using Hand Tools Correctly
Pneumatic Wrenches and Screwdrivers
Electric Drill
Handheld Grinders

Module: Precision Measurement

Intro to Simon
Trainee is introduced to the virtual coach.
Duration: 1 min

Controls Tutorial
Trainee will learn and demonstrate basic use of the VR controllers.
Duration: 2 min

Fractional Inch Rule
Trainee will learn to take measurements with a fractional inch rule.
Duration: 7 min

Decimal Inch Rule
Trainee will learn to take measurements with a decimal inch rule.
Duration: 7 min

Metric Rule
Trainee will learn to take measurements with a metric rule.
Duration: 6 min

Controls tutorial: Calipers
Trainee will learn and demonstrate how to use the caliper controls.
Duration: 2 min

Outside Caliper
Trainee will learn and demonstrate how to use an outside caliper to take a transfer measurement with a fractional inch rule.
Duration: 5 min

Inside Caliper
Trainee will learn and demonstrate how to use an inside caliper to take a transfer measurement with a fractional inch rule.
Duration: 5 min

Controls Tutorial: Calipers II
Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.
Duration: 2 min

Dial Inch Caliper
Trainee will learn and demonstrate how to use a dial inch caliper to take inside, outside, and depth measurements.
Duration: 8 min

Digital Caliper
Trainee will learn and demonstrate how to use a digital caliper to take inside, outside, and depth measurements.
Duration: 5 min

Controls Tutorial: Micrometer
Trainee will learn and demonstrate how to use the micrometer control.
Duration: 2 min

Micrometer
Trainee will learn and demonstrate how to measure using an analog micrometer.
Duration: 10 min

Digital Micrometer
Trainee will learn and demonstrate how to measure using a digital micrometer.
Duration: 5 min

Calibration and Zeroing
Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometer.
Duration: 9 min

Simplify Fractions: Halves
Trainee will learn to recognize and simplify fractions with a denominator of 2.
Duration: 8 min

Simplify Fractions: Quarters
Trainee will learn to recognize and simplify fractions with a denominator of 4.
Duration: 14 min

Simplify Fractions: 8ths
Trainee will learn to recognize and simplify fractions with a denominator of 8.
Duration: 16 min

Simplify Fractions: 16ths and Compound Fractions
Trainee will learn to recognize and simplify fractions with a denominator of 16. They'll also learn to recognize compound fractions and convert them to whole numbers.
Duration: 10 min

Simplifying Fractions: 32nds, 64ths, and the Scale Rule
Trainee will learn to recognize and simplify fractions with denominators of 32 and 64. They'll also learn and demonstrate how to take measurements using a scale rule.
Duration: 10 min

Rounding Decimals
Trainee will learn and demonstrate how to round measurements to the nearest 10th, 100th, and 1000th decimal places.
Duration: 12 min

Module: Electrical Fundamentals

Electrical Fundamentals: Circuits & Ohm's Law
Trainee will learn and demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law).
Duration: 25 min

Electrical Test Equipment - Multimeter: Voltage
Trainee will learn and demonstrate how to use a multimeter to measure the voltages in specified devices—from line to neutral and neutral to ground—including setting it properly for expected readings and safely using probes to place the meter in parallel with the circuit.
Duration: 28 min

Electrical Repair: Basic Soldering
Trainee will learn and demonstrate basic soldering skills.
Duration: 16 min

Module: Plant Safety

Intro to Simon, and Accidents and Injury Prevention
Trainee will learn and demonstrate accident and injury prevention awareness, including identifying fire hazards; safe lifting; basic lockout-tagout procedures; and workplace hazards.
Duration: 18 min

Protective Equipment: Eye, Hearing, Hand, and Foot Protection and Hearing Conservation
Trainee will learn and demonstrate personal protective equipment (PPE) usage.
Duration: 12 min

Hand Tools: Inspecting and Identifying Correctly
Trainee will learn and demonstrate how to identify and inspect the following common hand tools: slip-joint pliers, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 7 min

Hand Tools: Using Hand Tools Correctly
Trainee will learn and demonstrate how to use the following common hand tools: slip-joint pliers, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 15 min

Materials Handling: Situational Awareness
Trainee will learn and demonstrate situational awareness in a warehouse environment.
Duration: 6 min

Materials Handling: Receiving and Storage Safety
Trainee will learn and demonstrate safe receiving and storage techniques.
Duration: 11 min

Materials Handling: Manual Lifting
Trainee will learn and demonstrate safe manual lifting techniques.
Duration: 8 min

Materials Handling: Metal/Glass Sheets and Cylindrical Objects
Trainee will learn and demonstrate how to safely lift and handle metal/glass sheets and cylindrical objects.
Duration: 7 min

Materials Handling: Hoists & Cranes
Trainee will learn and demonstrate basic safety practices for working with and around hoists and cranes.
Duration: 22 min

Energy Related Hazards (Electrical Safety, GFCI, and Electric Shock)
Trainee will learn and demonstrate awareness of energy-related hazards and the techniques to avoid or mitigate them.
Duration: 10 min

Lockout & Tagout
Trainee will learn and demonstrate a lockout-tagout procedure.
Duration: 7 min

Robotic Safety
Trainee will learn and demonstrate awareness of robotic work cell safety.
Duration: 10 min

Ladder Safety: A-Frame Stepladders
Trainee will learn and demonstrate how to inspect, safely set up, and properly use an A-frame stepladder.
Duration: 10 min

Ladder Safety: Straight Ladders
Trainee will learn and demonstrate how to inspect, safely set up, and properly use a straight ladder.
Duration: 12 min

Fire Extinguisher Safety
Trainee will learn and demonstrate knowledge of the types of fire extinguishers and how to safely operate them.
Duration: 8 min

Safety Data Sheets
Trainee will learn and demonstrate how to use Safety Data Sheets to identify chemical-related hazards, first aid measures, and personal protective equipment.
Duration: 10 min

Bloodborne Pathogens
Trainee will learn and demonstrate knowledge of the types of bloodborne pathogens, as well as how to protect themselves with personal protective equipment and safety procedures.
Duration: 8 min

Power Tools/Electrical Safety: Pneumatic Wrenches and Screwdrivers
Trainee will learn and demonstrate how to inspect and safely use pneumatic wrenches and screwdrivers.
Duration: 14 min

Power Tools/Electrical Safety: Electric Drill
Trainee will learn and demonstrate how to inspect and safely use an electric drill.
Duration: 11 min

Power Tools/Electrical Safety: Circular Saw
Trainee will learn and demonstrate how to inspect and safely use a circular saw.
Duration: 15 min

Power Tools/Electrical Safety: Miter Saw
Trainee will learn and demonstrate how to inspect and safely use a miter saw.
Duration: 9 min

Power Tools/Electrical Safety: Bench and Pedestal Grinders
Trainee will learn and demonstrate how to inspect and safely use a pedestal grinder.
Duration: 15 min

Power Tools/Electrical Safety: Handheld Grinders
Trainee will learn and demonstrate how to inspect and safely use a handheld grinder.
Duration: 13 min

Power Tools/Electrical Safety: Nibblers
Trainee will learn and demonstrate how to inspect and safely use a nibbler.
Duration: 10 min

Welding Safety: Burn Safety
Trainee will learn and demonstrate knowledge of the types of burn risks associated with welding arcs, as well as how to protect themselves with personal protective equipment and safety procedures.
Duration: 8 min

Welding Safety: Spot Welding Safety
Trainee will learn and demonstrate how to safely use resistance welding equipment.
Duration: 9 min

Welding Safety: MIG Welding Safety
Trainee will learn and demonstrate how to safely use MIG welding equipment.
Duration: 12 min

Welding Safety: Oxy-Acetylene Safety
Trainee will learn and demonstrate how to safely use oxy-acetylene welding equipment.
Duration: 14 min

*Simulation duration are average estimated times for trainees to complete a simulation.

Individual trainee duration may vary as trainees move at their own pace through simulations

Discipline

Diesel Technology

The Diesel Technology discipline gives students and job seekers the simulated hands-on skills they need to obtain positions related to general Diesel and Trucking inspection and repair.

Module:
Diesel Vehicle Maintenance

Lifting Devices
Trainee will properly place jack stands and lift a diesel truck.
Duration: 16 min

Tire Inspection
Trainee will inspect and service a tire on a commercial dual-tire fitment.
Duration: 17 min

Tire Replacement
Trainee will remove and replace two tires in a diesel vehicle.
Duration: 21 min

Oil and Filter Service
Trainee will perform an oil and filter service on both Cummins X15 and Detroit DD15 engines.
Duration: 23 min

Fuel System Service
Trainee will replace a fuel filter, as well as prime and bleed the fuel systems for Cummins X15 and Detroit DD15 engines.
Duration: 20 min

Fundamental Analysis: Air Compressor Replacement
Trainee will identify the brake system components and configurations of air S-cam brakes, as well as operate and replace an air compressor.
Duration: 20 min

Intro to Simon, Accidents and Injury Prevention
Trainee will remove and replace the air governor, dryer, and reservoir.
Duration: 19 min

Fundamental Analysis: Air Valve Arrangement
Trainee will identify and replace air supply and service system components.
Duration: 19 min

Drum Brake Inspection and Repair
Trainee will remove, clean, and inspect a drum brake.
Duration: 15 min

Parking Brakes Analysis and Repair
Trainee will cage and uncage the spring brakes, identify and inspect slack adjusters, and replace the spring brake chamber.
Duration: 22 min

CAM Brake Replacement
Trainee will perform an S-cam brake replacement, including removing the drum brake and shoes, assembling replacement shoes, and adjusting and uncaging the brakes.
Duration: 19 min

Wheel Ends
Trainee will disassemble and assemble a wheel-end assembly, including lubricating, chocking, and replacing and adjusting wheel bearings and races/cups, as well as inspecting spindles/tubes and other hardware. Trainee will also check the hub assembly fluid level and condition and verify end play using the dial indicator method.
Duration: 31 min

Controls Tutorial: Picking Up Objects
Trainee will remove and replace a power steering gearbox. Trainee will complete the post installation inspection.
Duration: 20 min

Tie Rod End Replacement
Trainee will replace tie rods and ball joints.
Duration: 19 min

Remove & Replace Steering Linkages
Remove and replace steering linkage components including: drag link, Pitman arm, and steering shaft.
Duration: 20 min

Kingpin Assembly Inspection
Trainee will inspect parts of the lower steering system including the kingpin assembly and tie rod ends.
Duration: 16 min

Kingpin Replacement
Trainee will replace the kingpin.
Duration: 26 min

Controls Tutorial: Calipers
Trainee will replace shock absorbers, bushings, brackets, and mounts in a diesel truck.
Duration: 19 min

Leaf Spring Replacement
Trainee will replace leaf springs, center bolts, pins, bushings, shackles, and U-bolts in a diesel truck.
Duration: 19 min

Drivetrain Inspection
Trainee will lubricate the clutch and U-joints, and service both the transmission and rear axles of a diesel truck.
Duration: 20 min

Battery Replacement
Trainee will diagnose, remove, and replace a battery in a diesel truck.
Duration: 19 min

Starter Replacement
Trainee will diagnose, remove, and replace a starter motor in a diesel truck.
Duration: 13 min

Engine Analysis
Trainee will diagnose and test engine oil, DEF, and engine coolant in a diesel truck.
Duration: 18 min

Module:
Diesel Engine Overhaul

Exhaust System Removal
Trainee will remove the turbocharger, exhaust manifold, and thermostat housing.
Duration: 26 min

Air Intake, EGR, and Crankcase Ventilation Removal
Trainee will remove the air intake, EGR, and crankcase ventilation.
Duration: 20 min

Fuel Supply System and Cam Gear Removal
Trainee will remove the external engine fuel system components and camshaft gears.
Duration: 15 min

Cylinder Head Overhaul
Trainee will disassemble the valve cover, valve train, camshafts, and injectors, then remove the cylinder head.
Duration: 21 min

Cylinder Head Analysis
Trainee will inspect the surface of a cylinder head for damage using two non-destructive tests.
Duration: 16 min

Cylinder Head Integrity Process
Trainee will measure and assess cylinder head warpage.
Duration: 15 min

Cylinder Liner and Head Valve Protrusion Tests
Trainee will perform cylinder liner and head valve protrusion tests using a dial indicator.
Duration: 19 min

Cylinder Head Installation
Trainees will install the cylinder head, valve bridge, and engine injectors.
Duration: 16 min

Dual Overhead Cam and Valve Train Installation
Trainee will install the dual overhead camshaft and valve train.
Duration: 15 min

Fuel Supply System Installation
Trainee will install the fuel supply system.
Duration: 15 min

Air Intake, EGR, and Crankcase Ventilation Assembly
Trainee will assemble the air intake, EGR, and crankcase ventilation.
Duration: 15 min

Exhaust System Installation
Trainee will assemble and install the turbocharger, exhaust manifold, and thermostat housing.
Duration: 20 min

Cylinder Head Disassembly and Assembly
Trainee will disassemble and reassemble the cylinder head valves and injectors.
Duration: 17 min

Timing and Backlash Procedure: Part 1
Trainees will learn to inspect and install the timing gear train.
Duration: 6 min

Timing and Backlash Procedure: Part 2
Trainee will inspect and install the timing gear train and adjust gear backlash.
Duration: 27 min

Valve and Injector Adjustments
Trainee will adjust valve bridges, valve clearances, and injector settings.
Duration: 18 min

Piston and Connecting Rod Removal
Trainee will remove the piston cooling jets, and the piston and connecting rod assembly.
Duration: 15 min

Crankshaft Removal
Trainee will prepare the engine and remove the crankshaft.
Duration: 16 min

Cylinder Liner Removal and Reinstallation
Trainee will remove and reinstall the cylinder liners and seals.
Duration: 13 min

Main Bearing Replacement
Trainee will replace main bearings and thrust bearings.
Duration: 14 min

Crankshaft End Play Measurement
Trainee will check and correct crankshaft end play.
Duration: 13 min

Piston Assembly and Measurement
Trainee will measure clearances, install piston rings, and put together the assembly.
Duration: 18 min

Piston and Bearing Installation
Trainee will install a piston, connecting rod, and bearings into a cylinder liner.
Duration: 16 min

Module: Precision Measurement

Intro to Simon
Trainee is introduced to the virtual coach.
Duration: 1 min

Controls Tutorial
Trainee will learn and demonstrate basic use of the VR controllers.
Duration: 2 min

Fractional Inch Rule
Trainee will learn to take measurements with a fractional inch rule.
Duration: 7 min

Decimal Inch Rule
Trainee will learn to take measurements with a decimal inch rule.
Duration: 7 min

Metric Rule
Trainee will learn to take measurements with a metric rule.
Duration: 6 min

Controls tutorial: Calipers
Trainee will learn and demonstrate how to use the caliper controls.
Duration: 2 min

Outside Caliper
Trainee will learn and demonstrate how to use an outside caliper to take a transfer measurement with a fractional inch rule.
Duration: 5 min

Inside Caliper
Trainee will learn and demonstrate how to use an inside caliper to take a transfer measurement with a fractional inch rule.
Duration: 5 min

Controls Tutorial: Calipers II
Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.
Duration: 2 min

Dial Inch Caliper
Trainee will learn and demonstrate how to use a dial inch caliper to take inside, outside, and depth measurements.
Duration: 8 min

Digital Caliper
Trainee will learn and demonstrate how to use a digital caliper to take inside, outside, and depth measurements.
Duration: 5 min

Controls Tutorial: Micrometer
Trainee will learn and demonstrate how to use the micrometer control.
Duration: 2 min

Micrometer
Trainee will learn and demonstrate how to measure using an analog micrometer.
Duration: 10 min

Digital Micrometer
Trainee will learn and demonstrate how to measure using a digital micrometer.
Duration: 5 min

Calibration and Zeroing
Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometer.
Duration: 9 min

Simplify Fractions: Halves
Trainee will learn to recognize and simplify fractions with a denominator of 2.
Duration: 8 min

Simplify Fractions: Quarters
Trainee will learn to recognize and simplify fractions with a denominator of 4.
Duration: 14 min

Simplify Fractions: 8ths
Trainee will learn to recognize and simplify fractions with a denominator of 8.
Duration: 16 min

Simplify Fractions: 16ths and Compound Fractions
Trainee will learn to recognize and simplify fractions with a denominator of 16. They'll also learn to recognize compound fractions and convert them to whole numbers.
Duration: 10 min

Simplifying Fractions: 32nds, 64ths, and the Scale Rule
Trainee will learn to recognize and simplify fractions with denominators of 32 and 64. They'll also learn and demonstrate how to take measurements using a scale rule.
Duration: 10 min

Rounding Decimals
Trainee will learn and demonstrate how to round measurements to the nearest 10th, 100th, and 1000th decimal places.
Duration: 12 min

Module: Electrical Fundamentals

Electrical Fundamentals: Circuits & Ohm's Law
Trainee will learn and demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law).
Duration: 25 min

Electrical Test Equipment - Multimeter: Voltage
Trainee will learn and demonstrate how to use a multimeter to measure the voltages in specified devices—from line to neutral and neutral to ground—including setting it properly for expected readings and safely using probes to place the meter in parallel with the circuit.
Duration: 28 min

Electrical Repair: Basic Soldering
Trainee will learn and demonstrate basic soldering skills.
Duration: 16 min

*Simulation duration are average estimated times for trainees to complete a simulation.

Individual trainee duration may vary as trainees move at their own pace through simulations

Discipline

Aviation Maintenance

The Aviation Maintenance discipline gives students and job seekers the simulated hands-on skills they need to obtain positions related to general aircraft equipment inspection and repair.

Module:
Aviation Maintenance: General Skills

Ground Operations: Moving and Securing
Trainee will move and secure an aircraft on a ramp.
Duration: 18 min

Ground Operations: Fueling Preparation
Trainee will learn and demonstrate how to fuel and service a parked aircraft.
Duration: 16 min

Ground Operations: Starting and Running
Trainee will learn and demonstrate how to start and run an aircraft.
Duration: 17 min

Ground Operations: Taxiing and Shutdown
Trainee will learn and demonstrate how to taxi and shutdown an aircraft.
Duration:17 min

Aircraft Weight and Balance
Trainee will calculate an aircraft's empty weight and empty weight center of gravity, and adjust calculations following a component change.
Duration: 19 min

Precision Measurements: Dial Indicator
Trainee will learn and demonstrate how to set up and use a dial indicator to determine the amount of runout or bend in a circular component.
Duration: 20 min

Precision Measurements: Hole Gauge
Trainee will use T-bore hole gauges and digital calipers to determine a hole size.
Duration: 8 min

Aircraft Cleaning and Corrosion Treatment: Metal Structure
Trainee will inspect metal structures for corrosion and remove the damage, then clean and prepare the structures for corrosion prevention and painting.
Duration: 13 min

Preparation for Applying N-Number: Composite Structure
Trainee will prepare composite structures for painting and apply registration markings.
Duration: 17 min

Non-Destructive Testing: Dye Penetrant
Trainee will demonstrate the basics of dye penetrant testing, including preparing for and performing the test and interpreting results.
Duration: 15 min

Non-Destructive Testing: Eddy Current
Trainee will demonstrate the basics of eddy current testing, including preparing for and performing the test and interpreting results.
Duration: 20 min

Non-Destructive Testing: Ultrasonic
Trainee will demonstrate the basics of ultrasonic testing, including preparing for and performing the test and interpreting results.
Duration: 13 min

Non-Destructive Testing: Magnetic Particle
Trainee will demonstrate the basics of magnetic particle testing, including preparing for and performing the test and interpreting results.
Duration: 19 min

Non-Destructive Testing: Tap Test
Trainee will demonstrate the basics of tap testing, including preparing for and performing the test and interpreting results.
Duration: 6 min

Fabrication of Rigid Fluid Lines
Trainee will cut, bend, and flare rigid lines, and install proper fittings.
Duration: 14 min

Fabrication of Flexible Fluid Lines
Trainee will cut, bend, and flare flexible lines, and install proper fittings.
Duration: 15 min

Module:
Aviation Maintenance: Airframe Skills

Sheet Metal Fabrication
Trainee will fabricate a sheet metal doubler plate for an antenna installation, including cutting sheet metal to proper dimensions and determining proper rivet layout.
Duration: 15 min

Sheet Metal Repair
Trainee will install a flush patch for a damaged sheet metal skin, including riveting the patch to the aircraft skin.
Duration: 18 min

Composite Repair
Trainee will cut out and repair the damaged area of a composite surface on a Lear 35.
Duration: 21 min

Plastic Repair
Trainee will learn how to repair a cracked acrylic window using two different methods.
Duration: 16 min

Rudder Balance and Cable Terminal End Swaging
Trainee will check the balance of the rudder, then swage the cable terminal end to the specified dimension.
Duration: 15 min

Aileron Rigging
Trainee will confirm the following are rigged to specification and adjust as needed: bellcrank stop bushing position, carry-through cable tension, aileron flushness with adjacent flap, and aileron travel.
Duration: 16 min

LG Maintenance: Shock Struts
Trainee will remove, rebuild, replace, and service shock struts.
Duration: 18 min

LG Maintenance: Brake Bleeding
Trainee will service a brake system with hydraulic fluid, including performing gravity brake bleeding and pressure brake bleeding.
Duration: 18 min

LG Maintenance: Brake Lining Replacement
Trainee will perform brake system maintenance, including replacing the brake lining.
Duration: 20 min

LG Maintenance: Wheel Bearings
Trainee will remove the wheel and remove, inspect, pack, and reinstall wheel bearings.
Duration:23 min

LG Maintenance: Wheel and Tire Replacement
Trainee will disassemble the wheel, remove the tire from the wheel and inspect it, and then reassemble the wheel.
Duration: 15 min

LG Maintenance: Retraction Test
Trainee will perform a retraction test, including swinging the landing gear, and a position indication system check.
Duration: 12 min

LG Maintenance: Wheel Alignment
Trainee will check landing gear alignment for camber and toe-in/out.
Duration: 13 min

Hydraulic and Pneumatic System Maintenance: Component R&R
Trainee will remove and replace the hydraulic accumulator and the hydraulic system filter.
Duration: 17 min

Hydraulic and Pneumatic System Maintenance: Component Servicing
Trainee will service a hydraulic reservoir and accumulator.
Duration: 15 min

Static and Pitot Leak Checks
Trainee will perform leakage checks on the static and pitot systems.
Duration: 15 min

ELT Inspection
Trainee will inspect and install an emergency locator transmitter.
Duration: 12 min

Antenna Installation
Trainee will install a GPS antenna on an aircraft, including setting proper antenna placement, measuring and marking for the antenna, and attaching the antenna to the aircraft.
Duration: 22 min

Fuel System Maintenance: Inspect & Service
Trainee will inspect, check, and service a fuel system on a Cessna 172.
Duration: 15 min

Fuel System Component: Remove & Replace
Trainee will remove and replace the fuel quantity transmitter and selector valve, then prime the aircraft fuel system.
Duration: 15 min

AC Electrical System Troubleshooting
Trainee will troubleshoot electrical shorts in the alternator system and remove the alternator.
Duration: 18 min

DC Electrical System Troubleshooting
Trainee will troubleshoot a DC electrical system and repair a broken circuit wire.
Duration: 13 min

Inspect and Check Anti-Ice Systems
Trainee will engage, inspect, and troubleshoot anti-ice systems on a Cessna 172 aircraft.
Duration: 15 min

Module: **Aviation Maintenance:** Powerplant Skills

Reciprocating Engine: Baffling Repair
Trainee will repair the baffling on a reciprocating engine.
Duration: 16 min

Reciprocating Engine: Induction Filter Change
Trainee will replace the induction air filter and inspect the carburetor airbox.
Duration: 6 min

Reciprocating Engine: Induction Filter Change
Trainee will replace the induction air filter and inspect the carburetor airbox.
Duration: 6 min

Reciprocating Engine: Exhaust Inspection
Trainee will inspect, and perform a pressure test on, the exhaust system of a reciprocating engine.
Duration: 17 min

Reciprocating Engine: Starter System Inspection and Replacement
Trainee will inspect the starter system and replace the starter.
Duration: 13 min

Reciprocating Engine: Carburetor System Maintenance
Trainee will install and adjust the carburetor fuel metering system.
Duration: 15 min

Reciprocating Engine: Oil Pressure Gauge Troubleshooting
Trainee will troubleshoot the oil pressure system and replace a faulty gauge.
Duration: 15 min

Propeller: Inspection and Repair
Trainee will measure the blade angle, perform static tracking, and file out a nick.
Duration: 12 min

Reciprocating Engine: Operational Check
Trainee will perform an engine operation check to ensure instruments and systems are functional.
Duration: 13 min

Turbine Engine: Compressor Inspection
Trainee will remove components to access the compressor and inspect it for damage.
Duration: 14 min

Turbine Engine: EGT Inspection
Trainee will inspect the turbine engine exhaust gas temperature thermocouple.
Duration: 15 min

Module:
Precision Measurement

Intro to Simon
Trainee is introduced to the virtual coach.
Duration: 1 min

Controls Tutorial
Trainee will learn and demonstrate basic use of the VR controllers.
Duration: 2 min

Fractional Inch Rule
Trainee will learn to take measurements with a fractional inch rule.
Duration: 7 min

Decimal Inch Rule
Trainee will learn to take measurements with a decimal inch rule.
Duration: 7 min

Metric Rule
Trainee will learn to take measurements with a metric rule.
Duration: 6 min

Controls tutorial: Calipers
Trainee will learn and demonstrate how to use the caliper controls.
Duration: 2 min

Outside Caliper
Trainee will learn and demonstrate how to use an outside caliper to take a transfer measurement with a fractional inch rule.
Duration: 5 min

Inside Caliper
Trainee will learn and demonstrate how to use an inside caliper to take a transfer measurement with a fractional inch rule.
Duration: 5 min

Controls Tutorial: Calipers II
Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.
Duration: 2 min

Dial Inch Caliper
Trainee will learn and demonstrate how to use a dial inch caliper to take inside, outside, and depth measurements.
Duration: 8 min

Digital Caliper
Trainee will learn and demonstrate how to use a digital caliper to take inside, outside, and depth measurements.
Duration: 5 min

Controls Tutorial: Micrometer
Trainee will learn and demonstrate how to use the micrometer control.
Duration: 2 min

Micrometer
Trainee will learn and demonstrate how to measure using an analog micrometer.
Duration: 10 min

Digital Micrometer
Trainee will learn and demonstrate how to measure using a digital micrometer.
Duration: 5 min

Calibration and Zeroing
Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometer.
Duration: 9 min

Simplify Fractions: Halves
Trainee will learn to recognize and simplify fractions with a denominator of 2.
Duration: 8 min

Simplify Fractions: Quarters
Trainee will learn to recognize and simplify fractions with a denominator of 4.
Duration: 14 min

Simplify Fractions: 8ths
Trainee will learn to recognize and simplify fractions with a denominator of 8.
Duration: 16 min

Simplify Fractions: 16ths and Compound Fractions
Trainee will learn to recognize and simplify fractions with a denominator of 16. They'll also learn to recognize compound fractions and convert them to whole numbers.
Duration: 10 min

Simplifying Fractions: 32nds, 64ths, and the Scale Rule
Trainee will learn to recognize and simplify fractions with denominators of 32 and 64. They'll also learn and demonstrate how to take measurements using a scale rule.
Duration: 10 min

Rounding Decimals
Trainee will learn and demonstrate how to round measurements to the nearest 10th, 100th, and 1000th decimal places.
Duration: 12 min

Module:
Electrical Fundamentals

Electrical Fundamentals: Circuits & Ohm's Law
Trainee will learn and demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law).
Duration: 25 min

Electrical Test Equipment - Multimeter: Voltage
Trainee will learn and demonstrate how to use a multimeter to measure the voltages in specified devices—from line to neutral and neutral to ground—including setting it properly for expected readings and safely using probes to place the meter in parallel with the circuit.
Duration: 28 min

Electrical Repair: Basic Soldering
Trainee will learn and demonstrate basic soldering skills.
Duration: 16 min

*Simulation duration are average estimated times for trainees to complete a simulation.

Individual trainee duration may vary as trainees move at their own pace through simulations

Discipline

Electrical Construction

The Electrical Construction discipline gives students and job seekers the simulated hands-on skills they need to secure positions in the electrical field and other related settings, including manufacturing. Trainees also develop fundamental skills related the construction of buildings and homes, roads, and other infrastructure.

Module:
Electrical Construction

Electrical Construction sims are all accessed in the Electrical Construction app sometimes referred to as VTF Electrical Construction

Conduit Bending: Introduction to 90-Degree Stub-Ups
Trainee will be introduced to 90-degree stub-ups and will learn and demonstrate how to measure, mark, and bend them.
Duration: 25 min

Conduit Bending: Calculating and Performing 90-Degree Bends
Trainee will learn and demonstrate how to take measurements, then calculate and perform a 90-degree bend.
Duration: 27 min

Conduit Bending: Introduction to Offsets
Trainee will be introduced to offsets, then learn and demonstrate how to bend and evaluate them.
Duration: 30 min

Conduit Bending: Preparing and Performing Offsets
Trainee will learn and demonstrate how to evaluate and measure obstacles, then bend offsets around them.
Duration: 30 min

Conduit Bending: Calculating and Evaluating Offsets
Trainee will learn and demonstrate how to calculate and convert measurements interpreted from a job site, then lay out and evaluate offset bends according to specifications.
Duration: 23 min

Single MC Prefab Assembly
Trainee will learn and demonstrate how to assemble, then install, a prefab device for a single MC.
Duration: 18 min

Single Conduit Prefab Assembly
Trainee will learn and demonstrate how to build a single conduit box bracket prefab device.
Duration: 17 min

Assessment 1
Trainee will assemble and install a prefab device for a single MC installation, prepare an EMT, bend a 90-degree stub-up, and bend and evaluate an offset.
Duration: 20 min

Single MC 1
Trainee will learn and demonstrate how to complete a single MC installation without an HR box present.
Duration: 20 min

Single MC 2
Trainee will complete a single MC installation with an overhead box present.
Duration: 22 min

Single MC 3
Trainee will learn and demonstrate how to complete a single MC installation with an obstruction.
Duration: 14 min

Single MC 4
Trainee will learn and demonstrate how to complete a single MC installation when extra vertical and horizontal supports are required.
Duration: 22 min

Assessment 2
Trainee will assess the jobsite to determine correct measurements and calculations for 90-degree conduit and offset bends, and complete a single MC installation in an OH box.
Duration: 20 min

Horizontal MC 1
Trainee will learn and demonstrate how to run a horizontal MC between boxes of the same height, with a focus on taking measurements and punching holes in studs.
Duration: 30 min

Horizontal MC 2
Trainee will learn and demonstrate how to run a horizontal MC between boxes of different heights.
Duration: 24 min

Horizontal MC 3
Trainee will learn and demonstrate how to run a horizontal MC between boxes with obstructions.
Duration: 20 min

Horizontal Conduit 1
Trainee will learn and demonstrate how to run conduit between boxes of the same height, with a focus on taking measurements and punching holes in studs.
Duration: 30 min

Horizontal Conduit 2
Trainee will learn and demonstrate how to run conduit between boxes of different heights.
Duration: 29 min

Horizontal Conduit 3
Trainee will learn and demonstrate how to run conduit between boxes with obstructions.
Duration: 32 min

Single Conduit Install 1
Trainee will install single conduit that must be trimmed to meet elevation requirements and connect to an HR box present.
Duration: 32 min

Single Conduit Install 2
Trainee will learn and demonstrate how to install a single conduit that must have a 90-degree stub bent to fit a predetermined elevation and that may have an HR box present.
Duration: 35 min

Single Conduit Install 3
Trainee will learn and demonstrate how to install a single conduit that must be extended in length to meet the predetermined elevation.
Duration: 34 min

Single Conduit Install 4
Trainee will determine elevation and alter a prefab conduit with 90-degree stubs to proper elevation when an OH box is present.
Duration: 32 min

Supporting Boxes and Racks Overhead
Trainee will learn and demonstrate how to install overhead supports for use in concrete and steel, including wedge anchors, actuated fasteners, and beam clamps.
Duration: 25 min

Assessment 3
Trainee will install a wedge anchor for an HR box, prepare and install horizontal conduit between two wall device boxes, and install single conduit between a wall box and the HR box.
Duration: 24 min

Installing HR & OH 2100 Boxes
Trainee will learn and demonstrate how to mark locations for ceiling fasteners, as well as safely install HR and OH 2100 boxes using actuated fasteners, wedge anchors, and beam clamps.
Duration: 29 min

Overhead MC Install 1
Trainee will learn and demonstrate how to install an overhead MC, with a focus on installing the MC.
Duration: 20 min

Overhead MC Install 2
Trainee will learn and demonstrate how to install and support an overhead MC, with a focus on supporting the MC.
Duration: 24 min

Overhead MC Install 3
Trainee will learn and demonstrate how to install an overhead MC when there is insufficient room to support the MC above the box.
Duration: 21 min

Wall Wire Pulling
Trainee will learn and demonstrate how to prepare for, label, and safely pull wire from wall boxes to an overhead box.
Duration: 17 min

Overhead Branch Conduit 1
Trainee will learn and demonstrate how to install EMT conduit that includes overhead supports and couplings, per specifications.
Duration: 20 min

Overhead Branch Conduit 2
Trainee will learn and demonstrate how to install EMT conduit that includes overhead supports, couplings, and type-C conduit bodies, per specifications.
Duration: 19 min

Overhead Branch Conduit 3
Trainee will learn and demonstrate how to calculate, bend, and install EMT conduit that includes overhead supports, couplings, and type-C conduit bodies, per specifications.
Duration: 20 min

Assessment 4
Trainee will prepare and install horizontal conduit between two wall device boxes, install single MC, install an OH 2100 box, and run branch conduit with a 30-degree offset.
Duration: 20 min

Module: Precision Measurement

Intro to Simon
Trainee is introduced to the virtual coach.
Duration: 1 min

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Trainee will learn and demonstrate basic use of the VR controllers.
Duration: 2 min

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Trainee will learn to take measurements with a fractional inch rule.
Duration: 7 min

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Micrometer
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Duration: 10 min

Digital Micrometer
Trainee will learn and demonstrate how to measure using a digital micrometer.
Duration: 5 min

Calibration and Zeroing
Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometer.
Duration: 9 min

Simplify Fractions: Halves
Trainee will learn to recognize and simplify fractions with a denominator of 2.
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Trainee will learn and demonstrate how to round measurements to the nearest 10th, 100th, and 1000th decimal places.
Duration: 12 min

Module: Electrical Fundamentals

Electrical Fundamentals: Circuits & Ohm's Law
Trainee will learn and demonstrate knowledge of electrical/electronic series, parallel, and series-parallel circuits using principles of electricity (Ohm's Law).
Duration: 25 min

Electrical Test Equipment-Multimeter: Voltage
Trainee will learn and demonstrate how to use a multimeter to measure the voltages in specified devices—from line to neutral and neutral to ground—including setting it properly for expected readings and safely using probes to place the meter in parallel with the circuit.
Duration: 28 min

Electrical Repair: Basic Soldering
Trainee will learn and demonstrate basic soldering skills.
Duration: 16 min

Module: Plant Safety

Intro to Simon, and Accidents and Injury Prevention
Trainee will learn and demonstrate accident and injury prevention awareness, including identifying fire hazards; safe lifting; basic lockout-tagout procedures; and workplace hazards.
Duration: 18 min

Protective Equipment: Eye, Hearing, Hand, and Foot Protection and Hearing Conservation
Trainee will learn and demonstrate personal protective equipment (PPE) usage.
Duration: 12 min

Hand Tools: Inspecting and Identifying Correctly
Trainee will learn and demonstrate how to identify and inspect the following common hand tools: slip-joint pliers, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 7 min

Hand Tools: Using Hand Tools Correctly
Trainee will learn and demonstrate how to use the following common hand tools: slip-joint pliers, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 15 min

Materials Handling: Situational Awareness
Trainee will learn and demonstrate situational awareness in a warehouse environment.
Duration: 6 min

Materials Handling: Receiving and Storage Safety
Trainee will learn and demonstrate safe receiving and storage techniques.
Duration: 11 min

Materials Handling: Manual Lifting
Trainee will learn and demonstrate safe manual lifting techniques.
Duration: 8 min

Materials Handling: Metal/Glass Sheets and Cylindrical Objects
Trainee will learn and demonstrate how to safely lift and handle metal/glass sheets and cylindrical objects.
Duration: 7 min

Materials Handling: Hoists & Cranes
Trainee will learn and demonstrate basic safety practices for working with and around hoists and cranes.
Duration: 22 min

Energy Related Hazards (Electrical Safety, GFCI, and Electric Shock)
Trainee will learn and demonstrate awareness of energy-related hazards and the techniques to avoid or mitigate them.
Duration: 10 min

Lockout & Tagout
Trainee will learn and demonstrate a lockout-tagout procedure.
Duration: 7 min

Robotic Safety
Trainee will learn and demonstrate awareness of robotic work cell safety.
Duration: 10 min

Ladder Safety: A-Frame Stepladders
Trainee will learn and demonstrate how to inspect, safely set up, and properly use an A-frame stepladder.
Duration: 10 min

Ladder Safety: Straight Ladders
Trainee will learn and demonstrate how to inspect, safely set up, and properly use a straight ladder.
Duration: 12 min

Fire Extinguisher Safety
Trainee will learn and demonstrate knowledge of the types of fire extinguishers and how to safely operate them.
Duration: 8 min

Safety Data Sheets
Trainee will learn and demonstrate how to use Safety Data Sheets to identify chemical-related hazards, first aid measures, and personal protective equipment.
Duration: 10 min

Bloodborne Pathogens
Trainee will learn and demonstrate knowledge of the types of bloodborne pathogens, as well as how to protect themselves with personal protective equipment and safety procedures.
Duration: 8 min

Power Tools/Electrical Safety: Pneumatic Wrenches and Screwdrivers
Trainee will learn and demonstrate how to inspect and safely use pneumatic wrenches and screwdrivers.
Duration: 14 min

Power Tools/Electrical Safety: Electric Drill
Trainee will learn and demonstrate how to inspect and safely use an electric drill.
Duration: 11 min

Power Tools/Electrical Safety: Circular Saw
Trainee will learn and demonstrate how to inspect and safely use a circular saw.
Duration: 15 min

Power Tools/Electrical Safety: Miter Saw
Trainee will learn and demonstrate how to inspect and safely use a miter saw.
Duration: 9 min

Power Tools/Electrical Safety: Bench and Pedestal Grinders
Trainee will learn and demonstrate how to inspect and safely use a pedestal grinder.
Duration: 15 min

Power Tools/Electrical Safety: Handheld Grinders
Trainee will learn and demonstrate how to inspect and safely use a handheld grinder.
Duration: 13 min

Power Tools/Electrical Safety: Nibblers
Trainee will learn and demonstrate how to inspect and safely use a nibbler.
Duration: 10 min

Welding Safety: Burn Safety
Trainee will learn and demonstrate knowledge of the types of burn risks associated with welding arcs, as well as how to protect themselves with personal protective equipment and safety procedures.
Duration: 8 min

Welding Safety: Spot Welding Safety
Trainee will learn and demonstrate how to safely use resistance welding equipment.
Duration: 9 min

Welding Safety: MIG Welding Safety
Trainee will learn and demonstrate how to safely use MIG welding equipment.
Duration: 12 min

Welding Safety: Oxy-Acetylene Safety
Trainee will learn and demonstrate how to safely use oxy-acetylene welding equipment.
Duration: 14 min

Module: Blueprint Reading

Intro to Construction and Technical Drawings
Trainee will learn how to interpret "The Language of Lines," and use it in architectural and technical drawings.
Duration: 13 min

Interpreting Technical Drawings
Trainee will learn and demonstrate how to use "The Language of Lines" to interpret technical drawings.
Duration: 15 min

Technical Drawings: Dimensioning
Trainee will learn and demonstrate accepted dimensioning techniques used in technical drawing.
Duration: 20 min

Technical Drawings: General Standard Symbols, Screw Callouts, and Thread Symbols
Trainee will learn to identify common dimensioning symbols, interpret screw callouts, and examine thread symbols within a technical drawing.
Duration: 21 min

Technical Drawings: Finishing Surfaces and Symbols
Trainee will learn and demonstrate how to interpret surface finish symbols for use on technical drawings as part of the manufacturing process.
Duration: 25 min

Technical Drawings: Terminology of Machined Slots
Trainee will learn and demonstrate knowledge of terminology, common configurations, and features of the following machined parts and slots: chamfer, dovetails, keys and keyways, mortise and tenon, slotted holes, and T-grooves.
Duration: 20 min

Technical Drawings: Intro to Title Blocks & Assembly Drawings
Trainee is introduced to the practice of using information from title blocks and assembly drawings to correctly identify machined parts.
Duration: 20 min

Technical Drawings: Using Title Blocks & Assembly Drawings
Trainee will learn and demonstrate how to use information from title blocks and assembly drawings to correctly identify machined parts.
Duration: 15 min

Technical Drawings: Visualization & Views
Trainee will learn and demonstrate how to communicate and verify the relationship between technical drawings and machined parts using visualization and interpretation.
Duration: 20 min

Technical Drawings: Section & Auxiliary Views
Trainee will learn and demonstrate how to select and verify machined parts by interpreting sectional and auxiliary views.
Duration: 25 min

Technical Drawings: Assembly and Tolerance
Trainee will learn and demonstrate how to identify the features of an assembly drawing and a matching drawing, as well as practice reading tolerances by defining a part's range of variation.
Duration: 15 min

Module:
Construction Safety

Intro to Simon, and Accidents and Injury Prevention
Trainee will learn and demonstrate accident and injury prevention awareness, including identifying fire hazards; safe lifting; basic lockout-tagout procedures; and workplace hazards.
Duration: 18 min

Job Site Safety: Situational Awareness
Trainee will learn and demonstrate job site situational awareness.
Duration: 18 min

Personal Protective Equipment
Trainee will learn and demonstrate personal protective equipment (PPE) usage.
Duration: 12 min

Personal Protective Equipment: Respirators
Trainee will learn and demonstrate awareness of respiratory hazards and how to use a respirator.
Duration: 13 min

Extension Ladder Safety
Trainee will properly inspect, set up, and use an extension ladder.
Duration: 16 min

Scaffolds
Trainee will learn and demonstrate how to safely use scaffolds.
Duration: 14 min

Layout Tools: Squares, Plumb Bobs, and Levels
Trainee will identify and use levels, squares, and a plumb bob.
Duration: 14 min

Hand Tools: Hand Saws
Trainee will learn and demonstrate how to inspect and safely use a hand saw.
Duration: 16 min

Hand Tools: Hack Saws
Trainee will learn and demonstrate how to inspect and safely use a hacksaw.
Duration: 16 min

Power Tools: Impact Wrenches
Trainee will learn and demonstrate how to inspect and safely use an impact wrench.
Duration: 15 min

Power Tools: Hammer Drill
Trainee will inspect and safely use a hammer drill.
Duration: 12 min

Power Tools: Reciprocating Saw
Trainee will learn and demonstrate how to inspect and safely use a reciprocating saw.
Duration: 14 min

Power Tools: Portable Band Saw
Trainee will learn and demonstrate how to inspect and safely use a portable band saw.
Duration: 16 min

Power Tools: Cutoff Saw
Trainee will inspect and safely use a cutoff saw.
Duration: 12 min

Construction Drawings 1
Trainee will learn and demonstrate how to identify various types of construction drawings, as well as interpret their purpose and fundamental components.
Duration: 16 min

Construction Drawings 2
Trainee will read construction drawings and measure dimensions with an architect's scale.
Duration: 12 min

Materials Handling: Safety Concepts and Precautions
Trainee will learn and demonstrate knowledge of common material handling safety precautions.
Duration: 16 min

Materials Handling: Placards
Trainee will learn and demonstrate how to identify and understand common hazardous materials placards.
Duration: 15 min

Materials Handling: Non-Motorized Equipment
Trainee will learn and demonstrate how to plan a safe route when using a pallet jack.
Duration: 16 min

Materials Handling: Motorized Equipment
Trainee will learn and demonstrate how to identify and safely be around motorized material handling equipment.
Duration: 19 min

Intro to Rigging Equipment
Trainee will learn about different types of slings and shackles commonly used in rigging.
Duration: 19 min

Intro to Rigging Hitches
Trainee will learn basic concepts and safety practices for bridle and double choker hitches.
Duration: 18 min

Additional Construction related skills can be found in the following simulations from Plant Safety:
Intro to Simon, and Accidents and Injury Prevention
Personal Protective Equipment
Energy Related Hazards
Lockout Tagout
Safety Data Sheets
Hand Tools: Inspecting and Identifying Correctly
Hand Tools: Using Hand Tools Correctly
Power Tools: Pneumatic Wrenches and Screwdrivers
Power Tools: Handheld Grinder
Power Tools: Stationary Grinder
Materials Handling: Situational Awareness
Materials Handling: Manual Lifting
Materials Handling: Receiving and Storage Safety

Module:
Mechatronics

Variable Speed Motor: Assembly
Trainee will learn and demonstrate how to assemble an AC variable speed motor with keyed shaft, pillow-block bearings, assorted gears, couplings, and standoffs.
Duration: 18 min

Variable Speed Motor: Wiring
Trainee will learn and demonstrate how to interpret wiring diagrams to make proper connections, energize, and verify rotational direction on a variable speed motor.
Duration: 14 min

Variable Speed Motor: Measurements
Trainee will learn and demonstrate how to use a multimeter to measure current, voltage, and resistance.
Duration: 18 min

Robotic Safety
Trainee will learn and demonstrate how to work safely with and in proximity to robotic arms, work cells, and systems, as well as recognize hazards, emergency procedures, functions, work cell limits, and emergency stops.
Duration: 10 min

*Simulation duration are average estimated times for trainees to complete a simulation.

Individual trainee duration may vary as trainees move at their own pace through simulations

Contact Information

Technical Support Inquiries:

technicalsupport@transfrvr.com

transfr

Thank You!

September 2024