



Product Catalog

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Career Exploration

Discover a pathway to different career options.

The Transfr Career Exploration hands-on simulations showcase different career paths that allow students and job seekers to understand their career options, experience what it's like to work in different careers, and ultimately get on a path to a well-paying job.





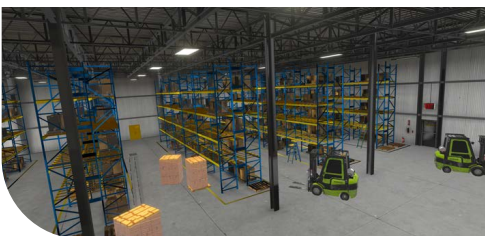
Manufacturing

Careers in the Manufacturing cluster include occupations required to make products like vehicles, foodstuffs, and household goods. Pathways within this cluster include Manufacturing Production Process Development, Maintenance, Installation & Repair, Production, and Quality Assurance.



Skilled Trades

Careers in the Skilled Trades cluster include occupations using the knowledge and abilities of various trades, while also comprehending the usage of sketches, diagrams, and written instructions to implement said skills. Pathways within this cluster include Carpentry, Electricians, HVAC Workers, Metalworking, Machinists, Plumbers and Welders.



Warehousing & Storage

Careers in Warehousing & Storage support warehouse labor, handling, and safety. Pathways in this cluster include Warehouse Receiving Specialists, Workers, and Hoist and Crane Operators.



Public Safety

Careers in Public Safety include occupations that serve and protect the public. Pathways in this cluster include First Responders.



Hospitality & Tourism

Careers in the Hospitality & Tourism cluster centers upon providing people with lodging, food, and related tourism services. Pathways within this cluster include Lodging, Recreation, Amusements & Attractions, Restaurants and Food/Beverage Services, and Travel & Tourism.



Automotive

Careers in the Automotive cluster include occupations involved in the hands-on skills needed in general automotive inspection and repair. Pathways within this cluster include Automotive Service Technicians.

Career Exploration With Transfr

Manufacturing		
Occupation	Description	Duration (Mins)
Robotics Specialist	Robotic Safety	10
Paint Shop Specialist	Paint Robot Troubleshooting: Intro to the Tools	5
Robot Maintenance	Paint Robot Troubleshooting: Isolation Line Leakage	10
Assemblers	Power Tools/Electrical Safety: Pneumatic Wrenches and Screwdrivers	14
Quality Assurance	Precision Measurement: Digital Micrometer	7
Maintenance and Repair Workers	Lockout & Tagout	8
Maintenance and Sanitation	Blood Borne Pathogens	8
Site Safety Specialist	Plant Safety: Accidents and Injury Prevention	18

Automotive		
Occupation	Description	Duration (Mins)
Automotive Service Technician	Automotive Oil Change	10

Public Safety		
Occupation	Description	Duration (Mins)
First Responder	Fire Extinguisher Safety	8

Career Exploration With Transfr

Hospitality & Tourism		
Occupation	Description	Duration (Mins)
Hotel Front Desk	First Impressions: Providing A 5 Star Experience	12

Skilled Trades		
Occupation	Description	Duration (Mins)
Carpenter	Power Tools/Electrical Safety: Circular Saw	15
Cabinet Maker/ Finish Carpenter	Power Tools/Electrical Safety: Miter Saw	9
Electricians	Energy Related Hazards (Electrical Safety, GFCI, And Electrical Shock)	10
Heating, Air Conditioning and Refridgeratiion Mechanics and Installers	Using Hand Tools Correctly	15
Sheet Metal Workers	Power Tools/Electrical Safety: Nibblers	10
Machinists	Power Tools/Electrical Safety: Bench and Pedestal Grinders	15
Plumbers, Pipe-fitters and Steamfitters	Power Tools/Electrical Safety: Handheld Grinders	13
Welders	Welding Safety: MIG Welding Safety	12
Metal Workers	Welding Safety: Oxy- Acetylene Safety	12

Career Exploration With Transfr

Warehousing & Storage		
Occupation	Description	Duration (Mins)
Warehouse Inventory Receiving Specialist	Materials Handling: Receiving and Storage Safety	11
Warehouse Worker	Materials Handling: Situational Awareness	6
Hoist/Crane Operator	Materials Handling: Hoists & Cranes	22

And more to come!

Virtual Training Facility

Real hands-on learning experiences.

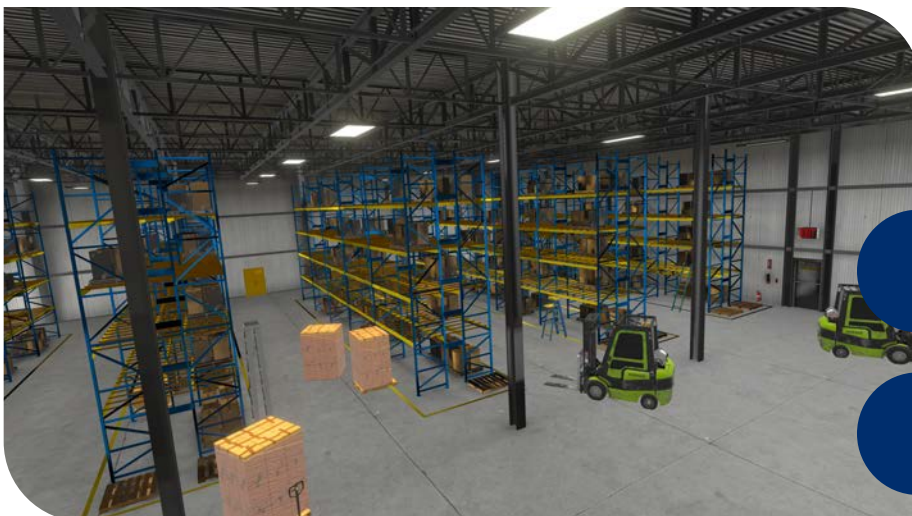
The Transfr Virtual Training Facility's hands-on simulations empower job seekers to master vital skills and get on a path to a well-paying job in a high-growth industry.



Discipline

Manufacturing and Construction: The Skilled Trades

Manufacturing and Construction: The Skilled Trades discipline gives students and job seekers the hands-on skills they need to get jobs related to the manufacturing of vehicles, foodstuffs, household goods, and other products. Trainees will also build fundamental construction skills related to the building of structures, including 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 mins

Protective Equipment: Eye, Hearing, Hand, and Foot Protection and Hearing Conservation

Trainee will learn and demonstrate personal protective equipment (PPE) usage.

Duration: 12 mins

Hand Tools: Inspecting and Identifying Correctly

Trainee will learn and demonstrate how to identify and inspect the following common hand tools: channel locks, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.

Duration: 7 mins

Hand Tools: Using Hand Tools Correctly

Trainee will learn and demonstrate how to use the following common hand tools: channel locks, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.

Duration: 15 mins

Materials Handling: Situational Awareness

Trainee will learn and demonstrate situational awareness in a warehouse environment.

Duration: 6 mins

Materials Handling: Receiving and Storage Safety

Trainee will learn and demonstrate safe receiving and storage techniques.

Duration: 11 mins

Materials Handling: Manual Lifting

Trainee will learn and demonstrate safe manual lifting techniques.

Duration: 8 mins

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 mins

Materials Handling: Hoists & Cranes

Trainee will learn and demonstrate basic safety practices for working with and around hoists and cranes.

Duration: 22 mins

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 mins

Lockout & Tagout

Trainee will learn and demonstrate a lockout-tagout procedure.

Duration: 7 mins

Robotic Safety

Trainee will learn and demonstrate awareness of robotic work cell safety.

Duration: 10 mins

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 mins

Ladder Safety: Straight Ladders

Trainee will learn and demonstrate how to inspect, safely set up, and properly use a straight ladder.

Duration: 12 mins

Fire Extinguisher Safety

Trainee will learn and demonstrate knowledge of the types of fire extinguishers and how to safely operate them.

Duration: 8 mins

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 mins

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 mins

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 mins

Power Tools/Electrical Safety: Electric Drill

Trainee will learn and demonstrate how to inspect and safely use an electric drill.

Duration: 11 mins

Power Tools/Electrical Safety: Circular Saw

Trainee will learn and demonstrate how to inspect and safely use a circular saw.

Duration: 15 mins

Power Tools/Electrical Safety: Miter Saw

Trainee will learn and demonstrate how to inspect and safely use a miter saw.

Duration: 9 mins

Power Tools/Electrical Safety: Bench and Pedestal Grinders

Trainee will learn and demonstrate how to inspect and safely use a pedestal grinder.

Duration: 15 mins

Power Tools/Electrical Safety: Handheld Grinders

Trainee will learn and demonstrate how to inspect and safely use a handheld grinder.

Duration: 13 mins

Power Tools/Electrical Safety: Nibblers

Trainee will learn and demonstrate how to inspect and safely use a nibbler.

Duration: 10 mins

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 mins

Welding Safety: Spot Welding Safety

Trainee will learn and demonstrate how to safely use resistance welding equipment.

Duration: 9 mins

Welding Safety: MIG Welding Safety

Trainee will learn and demonstrate how to safely use MIG welding equipment.

Duration: 12 mins

Welding Safety: Oxy-Acetylene Safety

Trainee will learn and demonstrate how to safely use oxy-acetylene welding equipment.

Duration: 14 mins

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 mins

Job Site Safety:

Situational Awareness

Trainee will learn and demonstrate job site situational awareness.

Duration: 18 mins

Personal Protective Equipment

Trainee will learn and demonstrate personal protective equipment (PPE) usage.

Duration: 12 mins

Personal Protective Equipment: Respirators

Trainee will learn and demonstrate awareness of respiratory hazards and how to use a respirator.

Duration: 13 mins

Extension Ladder Safety

Trainee will properly inspect, set up, and use an extension ladder.

Duration: 16 mins

Scaffolds

Trainee will learn and demonstrate how to safely use scaffolds.

Duration: 14 mins

Layout Tools: Squares, Plumb Bobs, and Levels

Trainee will identify and use levels, squares, and a plumb bob.

Duration: 14 mins

Hand Tools: Hand Saws

Trainee will learn and demonstrate how to inspect and safely use a hand saw.

Duration: 16 mins

Hand Tools: Hack Saws

Trainee will learn and demonstrate how to inspect and safely use a hacksaw.

Duration: 16 mins

Power Tools: Impact Wrenches

Trainee will learn and demonstrate how to inspect and safely use an impact wrench.

Duration: 15 mins

Power Tools: Hammer Drill

Trainee will inspect and safely use a hammer drill.

Duration: 12 mins

Power Tools: Reciprocating Saw

Trainee will learn and demonstrate how to inspect and safely use a reciprocating saw.

Duration: 14 mins

Power Tools: Portable Band Saw

Trainee will learn and demonstrate how to inspect and safely use a portable band saw.

Duration: 16 mins

Power Tools: Cutoff Saw

Trainee will inspect and safely use a cutoff saw.

Duration: 12 mins

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 mins

Construction Drawings 2

Trainee will read construction drawings and measure dimensions with an architect's scale.

Duration: 12 mins

Materials Handling: Safety Concepts and Precautions

Trainee will learn and demonstrate knowledge of common material handling safety precautions.

Duration: 16 mins

Materials Handling: Placards

Trainee will learn and demonstrate how to identify and understand common hazardous materials placards.

Duration: 15 mins

Materials Handling: Non-Motorized Equipment

Trainee will learn and demonstrate how to plan a safe route when using a pallet jack.

Duration: 16 mins

Materials Handling: Motorized Equipment

Trainee will learn and demonstrate how to identify and safely be around motorized material handling equipment.

Duration: 19 mins

Intro to Rigging Equipment

Trainee will learn about different types of slings and shackles commonly used in rigging.

Duration: 19 mins

Intro to Rigging Hitches

Trainee will learn basic concepts and safety practices for bridle and double choker hitches.

Duration: 18 mins

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 mins

Controls Tutorial

Trainee will learn and demonstrate basic use of the VR controllers.

Duration: 2 mins

Fractional Inch Rule

Trainee will learn to take measurements with a fractional inch rule.

Duration: 7 mins

Decimal Inch Rule

Trainee will learn to take measurements with a decimal inch rule.

Duration: 7 mins

Metric Rule

Trainee will learn to take measurements with a metric rule.

Duration: 6 mins

Controls tutorial: Calipers

Trainee will learn and demonstrate how to use the caliper controls.

Duration: 2 mins

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 mins

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 mins

Controls Tutorial: Calipers II

Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.

Duration: 2 mins

Dial Inch Caliper

Trainee will learn and demonstrate how to use a dial inch caliper to take inside, outside, and depth measurements.

Duration: 8 mins

Digital Caliper

Trainee will learn and demonstrate how to use a digital caliper to take inside, outside, and depth measurements.

Duration: 5 mins

Controls Tutorial: Micrometers

Trainee will learn and demonstrate how to use the micrometer control

Duration: 2 mins

Micrometer

Trainee will learn and demonstrate how to measure using an analog micrometer.

Duration: 10 mins

Digital Micrometer

Trainee will learn and demonstrate how to measure using a digital micrometer.

Duration: 5 mins

Calibration and Zeroing

Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometers

Duration: 9 mins

Simplify Fractions: Halves

Trainee will learn to recognize and simplify fractions with a denominator of 2.

Duration: 8 mins

Simplify Fractions: Quarters

Trainee will learn to recognize and simplify fractions with a denominator of 4.

Duration: 14 mins

Simplify Fractions: 8ths

Trainee will learn to recognize and simplify fractions with a denominator of 8.

Duration: 16 mins

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 mins

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 mins

Rounding Decimals

Trainee will learn and demonstrate how to round measurements to the nearest 10th, 100th, and 1000th decimal places.

Duration: 12 mins

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 mins

Interpreting Technical Drawings

Trainee will learn and demonstrate how to use "The Language of Lines" to interpret technical drawings

Duration: 15 mins

Technical Drawings: Dimensioning

Trainee will learn and demonstrate accepted dimensioning techniques used in technical drawing.

Duration: 20 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

Variable Speed Motor: Measurements

Trainee will learn and demonstrate how to use a multimeter to measure current, voltage, and resistance.

Duration: 18 mins

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 mins

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 mins

Intro to the Virtual Paint Robot

Trainee will learn the components of the paint robot.

Duration: 11 mins

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 mins

Lockout & Tagout

Trainee will learn and demonstrate how to perform a lockout-tagout procedure.

Duration: 7 mins

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 mins

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 mins

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 mins

Troubleshooting Assessment 1

Trainee will be presented with a scenario and use their troubleshooting skills to identify and address the issue.

Duration: 20 mins

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 mins

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 mins

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 mins

Troubleshooting Assessment 2

Trainee will be presented with a scenario and use their troubleshooting skills to identify and address the issue.

Duration: 20 mins

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 mins

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 mins

Electrical Repair: Basic Soldering

Trainee will learn and demonstrate basic soldering skills.

Duration: 16 mins

*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 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 mins

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 mins

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 mins

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 mins

Professional Uniform

Trainee will learn and demonstrate how to select and properly wear a professional culinary uniform.

Duration: 14 mins

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 mins

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 mins

Measuring Dry/Wet

Trainee will properly measure wet and dry ingredients using the appropriate tools.

Duration: 20 mins

Stocks

Trainee will make both white and brown stocks.

Duration: 20 mins

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 mins

Eggs

Trainee will learn and demonstrate how to make basic egg dishes, including sunny-side up eggs, an omelette, and a crepe.

Duration: 21 mins

Quick Breads

Trainee will make quick breads using the biscuit mixing and muffin mixing methods.

Duration: 20 mins

Yeast Breads

Trainee will make straight bread dough.

Duration: 19 mins

Enriched Yeast Breads

Trainee will make enriched yeast doughs using the straight dough and enriched dough methods.

Duration: 17 mins

Cookies and Brownies

Trainee will make drop cookies and sheet bar cookies.

Duration: 17 mins

Pies and Tarts

Trainee will prepare pie dough, form a pie crust, and assemble a fruit tart.

Duration: 14 mins

Cakes

Trainee will make cake batter using the creaming, two-stage, and sponge cake methods.

Duration: 16 mins

*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 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 mins

Engine Oil Change

Trainee will learn and demonstrate how to perform an oil and filter change.

Duration: 10 mins

Battery Safety and Service

Trainee will learn and demonstrate how to safely remove, replace, clean, test, and charge batteries.

Duration: 18 mins

Starting and Charging Fundamentals

Trainee will learn and demonstrate how to identify and test for basic starting and charging system components (DTAC).

Duration: 19 mins

Jacks, Jack Stands, and Lift Safety

Trainee will learn and demonstrate how to safely and properly place jacks, jack stands, and lifts.

Duration: 22 mins

Automotive Safety Awareness: Airbag, ABS, ADAS and HV Batteries

Trainee will learn and demonstrate how to disable and handle air bags.

Duration: 15 mins

Disc Brake Pad Replacement

Trainee will learn and demonstrate how to identify, inspect, remove, and replace disc brake components, including brake pads.

Duration: 13 mins

Drum Brake Shoe Replacement

Trainee will learn and demonstrate how to identify, inspect, remove, and replace drum brake components, including brake shoes.

Duration: 15 mins

Suspension System Types

Trainee will learn to identify various types of suspension system designs.

Duration: 14 mins

Fuel System Fundamentals

Trainee will learn to identify air induction and fuel system components.

Duration: 15 mins

Fuel System Safety

Trainee will learn and demonstrate how to perform a fuel system bleeding procedure.

Duration: 17 mins

Engine Cylinder Compression Test

Trainee will learn and demonstrate how to perform a cylinder compression test.

Duration: 18 mins

Steering System Types

Trainee will learn to identify various types of steering system designs.

Duration: 16 mins

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 mins

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 mins

Hammer & Dolly

Trainee will learn and demonstrate how to use a hammer and dolly for basic dent repair.

Duration: 9 mins

Weld-On Pulling

Trainee will learn and demonstrate how to use weld-on pulling equipment for basic dent repair.

Duration: 15 mins

Basic Auto Body Filler: Prep

Trainee will learn and demonstrate how to prepare a workpiece to receive body filler.

Duration: 13 mins

Basic Auto Body Filler:

Application

Trainee will learn and demonstrate how to efficiently apply filler, keeping imperfections to a minimum so the need for sanding can be mitigated.

Duration: 12 mins

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 mins

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 mins

Paint Gun: Inspect and Clean

Trainee will learn and demonstrate how to inspect, clean, and disassemble a paint gun.

Duration: 14 mins

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 mins

Priming Panels

Trainee will learn and demonstrate how to test primer and apply a single-stage topcoat to a workpiece.

Duration: 20 mins

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 mins

Paint Selection and Mixing

Trainee will learn and demonstrate how to measure and mix different paint colors.

Duration: 15 mins

Basic Painting

Trainee will learn and demonstrate the basics of paint spraying.

Duration: 19 mins

Advanced Painting

Trainee will learn and demonstrate how to test paint spray and apply a basecoat and clearcoat.

Duration: 20 mins

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 mins

Electrical Repair: Connectors, Terminals, and Splicing

Trainee will learn and demonstrate construction, splicing, repair, and use of connectors and terminals.
Duration: 15 mins

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 mins

Powder Coating

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

Additional Automotive 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 mins

Controls Tutorial

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

Fractional Inch Rule

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

Decimal Inch Rule

Trainee will learn to take measurements with a decimal inch rule.
Duration: 7 mins

Metric Rule

Trainee will learn to take measurements with a metric rule.
Duration: 6 mins

Controls tutorial: Calipers

Trainee will learn and demonstrate how to use the caliper controls.
Duration: 2 mins

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 mins

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 mins

Controls Tutorial: Calipers II

Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.
Duration: 2 mins

Dial Inch Caliper

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

Digital Caliper

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

Controls Tutorial: Micrometers

Trainee will learn and demonstrate how to use the micrometer control
Duration: 2 mins

Micrometer

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

Digital Micrometer

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

Calibration and Zeroing

Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometers
Duration: 9 mins

Simplify Fractions: Halves

Trainee will learn to recognize and simplify fractions with a denominator of 2.
Duration: 8 mins

Simplify Fractions: Quarters

Trainee will learn to recognize and simplify fractions with a denominator of 4.
Duration: 14 mins

Simplify Fractions: 8ths

Trainee will learn to recognize and simplify fractions with a denominator of 8.
Duration: 16 mins

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 mins

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 mins

Rounding Decimals

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

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 mins

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 mins

Electrical Repair: Basic Soldering

Trainee will learn and demonstrate basic soldering skills.
Duration: 16 mins

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 mins

Protective Equipment: Eye, Hearing, Hand, and Foot Protection and Hearing Conservation

Trainee will learn and demonstrate personal protective equipment (PPE) usage.
Duration: 12 mins

Hand Tools: Inspecting and Identifying Correctly

Trainee will learn and demonstrate how to identify and inspect the following common hand tools: channel locks, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 7 mins

Hand Tools: Using Hand Tools Correctly

Trainee will learn and demonstrate how to use the following common hand tools: channel locks, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 15 mins

Materials Handling: Situational Awareness

Trainee will learn and demonstrate situational awareness in a warehouse environment.
Duration: 6 mins

Materials Handling: Receiving and Storage Safety

Trainee will learn and demonstrate safe receiving and storage techniques.
Duration: 11 mins

Materials Handling: Manual Lifting

Trainee will learn and demonstrate safe manual lifting techniques.
Duration: 8 mins

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 mins

Materials Handling: Hoists & Cranes

Trainee will learn and demonstrate basic safety practices for working with and around hoists and cranes.
Duration: 22 mins

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 mins

Lockout & Tagout

Trainee will learn and demonstrate a lockout-tagout procedure.
Duration: 7 mins

Robotic Safety

Trainee will learn and demonstrate awareness of robotic work cell safety.
Duration: 10 mins

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 mins

Ladder Safety: Straight Ladders

Trainee will learn and demonstrate how to inspect, safely set up, and properly use a straight ladder.
Duration: 12 mins

Fire Extinguisher Safety

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

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 mins

Blood Borne 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 mins

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 mins

Power Tools/Electrical Safety: Electric Drill

Trainee will learn and demonstrate how to inspect and safely use an electric drill.
Duration: 11 mins

Power Tools/Electrical Safety: Circular Saw

Trainee will learn and demonstrate how to inspect and safely use a circular saw.
Duration: 15 mins

Power Tools/Electrical Safety: Miter Saw

Trainee will learn and demonstrate how to inspect and safely use a miter saw.
Duration: 9 mins

Power Tools/Electrical Safety: Bench and Pedestal Grinders

Trainee will learn and demonstrate how to inspect and safely use a pedestal grinder.
Duration: 15 mins

Power Tools/Electrical Safety: Handheld Grinders

Trainee will learn and demonstrate how to inspect and safely use a handheld grinder.
Duration: 13 mins

Power Tools/Electrical Safety: Nibblers

Trainee will learn and demonstrate how to inspect and safely use a nibbler.
Duration: 10 mins

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 mins

Welding Safety: Spot Welding Safety

Trainee will learn and demonstrate how to safely use resistance welding equipment.
Duration: 9 mins

Welding Safety: MIG Welding Safety

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

Welding Safety: Oxy-Acetylene Safety

Trainee will learn and demonstrate how to safely use oxy-acetylene welding equipment.
Duration: 14 mins

*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 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 mins

Tire Inspection

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

Tire Replacement

Trainee will remove and replace two tires in a diesel vehicle.
Duration: 21 mins

Oil and Filter Service

Trainee will perform an oil and filter service on both Cummins X15 and Detroit DD15 engines.
Duration: 23 mins

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 mins

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 mins

Fundamental Analysis: Air Distribution System

Trainee will identify and replace air supply and service system components.
Duration: 19 mins

Fundamental Analysis : Air Valve Arrangement

Trainee will identify and replace air supply and service system components.
Duration: 19 mins

Drum Brake Inspection and Repair

Trainee will remove, clean, and inspect a drum brake.
Duration: 15 mins

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 mins

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 mins

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 mins

Steering Gearbox Replacement

Trainee will remove and replace a power steering gearbox. Trainee will complete the post installation inspection.
Duration: 20 mins

Tie Rod End Replacement

Trainee will replace tie rods and ball joints.
Duration: 19 mins

Remove & Replace Steering Linkages

Remove and replace steering linkage components including: drag link, Pitman arm, and steering shaft.
Duration: 20 mins

Kingpin Assembly Inspection

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

Kingpin Replacement

Trainee will replace the kingpin.
Duration: 26 mins

Shock Absorber Replacement

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

Leaf Spring Replacement

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

Drivetrain Inspection

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

Battery Replacement

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

Starter Replacement

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

Engine Analysis

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

Module:
Diesel Engine Overhaul

Exhaust System Removal

Trainee will remove the turbocharger, exhaust manifold, and thermostat housing.
Duration: 26 mins

Air Intake, EGR, and Crankcase Ventilation Removal

Trainee will remove the air intake, EGR, and crankcase ventilation.
Duration: 20 mins

Fuel Supply System and Cam Gear Removal

Trainee will remove the external engine fuel system components and camshaft gears.
Duration: 15 mins

Cylinder Head Overhaul

Trainee will disassemble the valve cover, valve train, camshafts, and injectors, then remove the cylinder head.
Duration: 21 mins

Cylinder Head Analysis

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

Cylinder Head Integrity Process

Cylinder Head Disassembly and Assembly.
Duration: 15 mins

Cylinder Head Disassembly and Assembly

Trainee will measure and assess cylinder head warpage.
Duration: 17 mins

Cylinder Liner and Head Valve Protrusion Tests

Trainee will perform cylinder liner and head valve protrusion tests using a dial indicator.
Duration: 19 mins

Cylinder Head Installation

Trainees will install the cylinder head, valve bridge, and engine injectors.
Duration: 16 mins

Dual Overhead Cam and Valve Train Installation

Trainee will install the dual overhead camshaft and valve train.
Duration: 15 mins

Fuel Supply System Installation

Trainee will install the fuel supply system.
Duration: 15 mins

Air Intake, EGR, and Crankcase Ventilation Assembly

Trainee will assemble the air intake, EGR, and crankcase ventilation.
Duration: 15 mins

Exhaust System Installation

Trainee will assemble and install the turbocharger, exhaust manifold, and thermostat housing.
Duration: 20 mins

Timing and Backlash Procedure: Part 1

Trainees will learn to inspect and install the timing gear train.
Duration: 6 mins

Timing and Backlash

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

Valve and Injector Adjustments

Trainee will adjust valve bridges, valve clearances, and injector settings.
Duration: 18 mins

Piston and Connecting Rod Removal

Trainee will remove the piston cooling jets, and the piston and connecting rod assembly.
Duration: 15 mins

Crankshaft Removal

Trainee will prepare the engine and remove the crankshaft.
Duration: 16 mins

Cylinder Liner Removal and Reinstallation

Trainee will remove and reinstall the cylinder liners and seals.
Duration: 13 mins

Main Bearing Replacement

Trainee will replace main bearings and thrust bearings.
Duration: 14 mins

Crankshaft End Play Measurement

Trainee will check and correct crankshaft end play.
Duration: 13 mins

Piston Assembly and Measurement

Trainee will measure clearances, install piston rings, and put together the assembly.
Duration: 18 mins

Piston and Bearing Installation

Trainee will install a piston, connecting rod, and bearings into a cylinder liner.
Duration: 16 mins

Module:

Precision Measurement

Intro to Simon

Trainee is introduced to the virtual coach.
Duration: 1 mins

Controls Tutorial

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

Fractional Inch Rule

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

Decimal Inch Rule

Trainee will learn to take measurements with a decimal inch rule.
Duration: 7 mins

Metric Rule

Trainee will learn to take measurements with a metric rule.
Duration: 6 mins

Controls tutorial: Calipers

Trainee will learn and demonstrate how to use the caliper controls.
Duration: 2 mins

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 mins

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 mins

Controls Tutorial: Calipers II

Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.
Duration: 2 mins

Dial Inch Caliper

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

Digital Caliper

Trainee will learn and demonstrate how to use a digital caliper to take inside, outside, and depth measurements.

Duration: 5 mins

Controls Tutorial: Micrometers

Trainee will learn and demonstrate how to use the micrometer control

Duration: 2 mins

Micrometer

Trainee will learn and demonstrate how to measure using an analog micrometer.

Duration: 10 mins

Digital Micrometer

Trainee will learn and demonstrate how to measure using a digital micrometer.

Duration: 5 mins

Calibration and Zeroing

Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometers

Duration: 9 mins

Simplify Fractions: Halves

Trainee will learn to recognize and simplify fractions with a denominator of 2.

Duration: 8 mins

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Trainee will learn to recognize and simplify fractions with a denominator of 4.

Duration: 14 mins

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Trainee will learn to recognize and simplify fractions with a denominator of 8.

Duration: 16 mins

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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 mins

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 mins

Rounding Decimals

Trainee will learn and demonstrate how to round measurements to the nearest 10th, 100th, and 1000th decimal places.

Duration: 12 mins

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 mins

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 mins

Electrical Repair: Basic Soldering

Trainee will learn and demonstrate basic soldering skills.

Duration: 16 mins

*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 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 mins

**Ground Operations:
Fueling Preparation**

Trainee will learn and demonstrate how to fuel and service a parked aircraft.
Duration: 16 mins

**Ground Operations:
Starting and Running**

Trainee will learn and demonstrate how to start and run an aircraft.
Duration: 17 mins

**Ground Operations: Taxiing
and Shutdown**

Trainee will learn and demonstrate how to taxi and shutdown an aircraft.
Duration: 17 mins

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 mins

**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 mins

**Precision Measurements:
Hole Gauge**

Trainee will use T-bore hole gauges and digital calipers to determine a hole size.
Duration: 8 mins

**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 mins

**Preparation for Applying N-
Number: Composite Structure**

Trainee will prepare composite structures for painting and apply registration markings.
Duration: 17 mins

**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 mins

**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 mins

**Non-Destructive Testing:
Ultrasonic**

Trainee will demonstrate the basics of ultrasonic testing, including preparing for and performing the test and interpreting results.
Duration: 13 mins

**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 mins

**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 mins

Fabrication of Rigid Fluid Lines

Trainee will cut, bend, and flare rigid lines, and install proper fittings.
Duration: 14 mins

**Fabrication of Flexible
Fluid Lines**

Trainee will cut, bend, and flare flexible lines, and install proper fittings.
Duration: 15 mins

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 mins

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 mins

Composite Repair

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

Plastic Repair

The trainee will learn how to repair a cracked acrylic window using two different methods.
Duration: 16 mins

**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 mins

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 mins

LG Maintenance: Shock Struts

Trainee will remove, rebuild, replace, and service shock struts.
Duration: 18 mins

**LG Maintenance: Brake
Bleeding**

Trainee will service a brake system with hydraulic fluid, including performing gravity brake bleeding and pressure brake bleeding.
Duration: 18 mins

LG Maintenance: Brake Lining Replacement

Trainee will perform brake system maintenance, including replacing the brake lining.

Duration: 20 mins

LG Maintenance: Wheel Bearings

Trainee will remove the wheel and remove, inspect, pack, and reinstall wheel bearings.

Duration: 23 mins

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 mins

LG Maintenance: Retraction Test

Trainee will check landing gear alignment for camber and toe-in/out.

Duration: 13 mins

LG Maintenance: Wheel Alignment

Trainee will replace a fuel filter, as well as prime and bleed the fuel systems for Cummins X15 and Detroit DD15 engines.

Duration: 20 mins

Hydraulic and Pneumatic System Maintenance: Component R&R

Trainee will perform leakage checks on the static and pitot systems.

Duration: 15 mins

Hydraulic and Pneumatic System Maintenance: Component Servicing

Trainee will service a hydraulic reservoir and accumulator

Duration: 15 mins

Static and Pilot Leak Checks

Trainee will service a hydraulic reservoir and accumulator.

Duration: 15 mins

ELT Inspection

Trainee will inspect and install an emergency locator transmitter.

Duration: 12 mins

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 mins

Fuel System Maintenance: Inspect & Service

Trainee will inspect, check, and service a fuel system on a Cessna 172.

Duration: 15 mins

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 mins

AC Electrical System Troubleshooting

Trainee will troubleshoot electrical shorts in the alternator system and remove the alternator.

Duration: 18 mins

DC Electrical System Troubleshooting

Trainee will troubleshoot a DC electrical system and repair a broken circuit wire.

Duration: 13 mins

Inspect and Check Anti-Ice Systems

Trainee will engage, inspect, and troubleshoot anti-ice systems on a Cessna 172 aircraft.

Duration: 15 mins

Module: **Aviation Maintenance: Powerplant Skills**

Reciprocating Engine: Baffling Repair

Trainee will repair the baffling on a reciprocating engine.

Duration: 16 mins

Reciprocating Engine: Induction Filter Change

Trainee will replace the induction air filter and inspect the carburetor airbox.

Duration: 6 mins

Reciprocating Engine: Exhaust Inspection

Trainee will inspect, and perform a pressure test on, the exhaust system of a reciprocating engine.

Duration: 17 mins

Reciprocating Engine: Starter System Inspection and Replacement

Trainee will inspect the starter system and replace the starter.

Duration: 13 mins

Reciprocating Engine: Carburetor System Maintenance

Trainee will install and adjust the carburetor fuel metering system.

Duration: 15 mins

Reciprocating Engine: Oil Pressure Gauge Troubleshooting

Trainee will troubleshoot the oil pressure system and replace a faulty gauge.

Duration: 15 mins

Propeller: Inspection and Repair

Trainee will measure the blade angle, perform static tracking, and file out a nick.

Duration: 12 mins

Reciprocating Engine: Operational Check

Trainee will perform an engine operation check to ensure instruments and systems are functional.

Duration: 13 mins

Turbine Engine: Compressor Inspection

Trainee will remove components to access the compressor and inspect it for damage.

Duration: 14 mins

Turbine Engine: EGT Inspection

Trainee will inspect the turbine engine exhaust gas temperature thermocouple

Duration: 15 mins

Module:

Precision Measurement

Intro to Simon

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Duration: 1 mins

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Duration: 2 mins

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Duration: 2 mins

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Duration: 5 mins

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Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.

Duration: 2 mins

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Trainee will learn and demonstrate how to use a dial inch caliper to take inside, outside, and depth measurements.

Duration: 8 mins

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Duration: 2 mins

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Duration: 10 mins

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Trainee will learn and demonstrate how to measure using a digital micrometer.

Duration: 5 mins

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Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometers

Duration: 9 mins

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Duration: 8 mins

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Electrical Fundamentals

Electrical Fundamentals: Circuits & Ohm's Law

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Duration: 25 mins

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Duration: 28 mins

Electrical Repair: Basic Soldering

Trainee will learn and demonstrate basic soldering skills.

Duration: 16 mins

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Discipline

Electrical Construction

The Electrical Construction discipline gives students and job seekers the hands-on skills they need to get jobs related to the manufacturing of vehicles, foodstuffs, household goods, and other products. Trainees will also build fundamental construction skills related to the building of structures, including 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 Offsets

Trainee will be introduced to offsets, then learn and demonstrate how to bend and evaluate them.
Duration: 30 mins

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 mins

Conduit Bending: Preparing and Performing Offsets

Trainee will learn and demonstrate how to evaluate and measure obstacles, then bend offsets around them.
Duration: 30 mins

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 mins

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 mins

Single MC Prefab Assembly

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

Single Conduit Prefab Assembly

Trainee will learn and demonstrate how to build a single conduit box bracket prefab device.
Duration: 17 mins

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 mins

Single MC 1

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

Single MC 2

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

Single MC 3

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

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

Horizontal MC 2

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

Horizontal MC 3

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

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 mins

Horizontal Conduit 2

Trainee will learn and demonstrate how to run conduit between boxes of different heights.
Duration: 29 mins

Horizontal Conduit 3

Trainee will learn and demonstrate how to run conduit between boxes with obstructions.
Duration: 32 mins

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 mins

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 mins

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 mins

Overhead MC Install 1

Trainee will learn and demonstrate how to install an overhead MC, with a focus on installing the MC.

Duration: 20 mins

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 mins

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 mins

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 mins

Overhead Branch Conduit 1

Trainee will learn and demonstrate how to install EMT conduit that includes overhead supports and couplings, per specifications.

Duration: 20 mins

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 mins

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 mins

Final Assessment

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 mins

Module:

Precision Measurement

Intro to Simon

Trainee is introduced to the virtual coach.

Duration: 1 mins

Controls Tutorial

Trainee will learn and demonstrate basic use of the VR controllers.

Duration: 2 mins

Fractional Inch Rule

Trainee will learn to take measurements with a fractional inch rule.

Duration: 7 mins

Decimal Inch Rule

Trainee will learn to take measurements with a decimal inch rule.

Duration: 7 mins

Metric Rule

Trainee will learn to take measurements with a metric rule.

Duration: 6 mins

Controls tutorial: Calipers

Trainee will learn and demonstrate how to use the caliper controls.

Duration: 2 mins

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 mins

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 mins

Controls Tutorial: Calipers II

Trainee will learn and demonstrate how to use the dial inch and digital caliper controls.

Duration: 2 mins

Dial Inch Caliper

Trainee will learn and demonstrate how to use a dial inch caliper to take inside, outside, and depth measurements.

Duration: 8 mins

Digital Caliper

Trainee will learn and demonstrate how to use a digital caliper to take inside, outside, and depth measurements.

Duration: 5 mins

Controls Tutorial: Micrometers

Trainee will learn and demonstrate how to use the micrometer control

Duration: 2 mins

Micrometer

Trainee will learn and demonstrate how to measure using an analog micrometer.

Duration: 10 mins

Digital Micrometer

Trainee will learn and demonstrate how to measure using a digital micrometer.

Duration: 5 mins

Calibration and Zeroing

Trainee will learn and demonstrate how to check the calibration of precision tools and how to zero digital calipers and micrometers

Duration: 9 mins

Simplify Fractions: Halves

Trainee will learn to recognize and simplify fractions with a denominator of 2.

Duration: 8 mins

Simplify Fractions: Quarters

Trainee will learn to recognize and simplify fractions with a denominator of 4.

Duration: 14 mins

Simplify Fractions: 8ths

Trainee will learn to recognize and simplify fractions with a denominator of 8.

Duration: 16 mins

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 mins

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 mins

Rounding Decimals

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

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 mins

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 mins

Electrical Repair: Basic Soldering

Trainee will learn and demonstrate basic soldering skills.
Duration: 16 mins

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 mins

Protective Equipment: Eye, Hearing, Hand, and Foot Protection and Hearing Conservation

Trainee will learn and demonstrate personal protective equipment (PPE) usage.
Duration: 12 mins

Hand Tools: Inspecting and Identifying Correctly

Trainee will learn and demonstrate how to identify and inspect the following common hand tools: channel locks, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 7 mins

Hand Tools: Using Hand Tools Correctly

Trainee will learn and demonstrate how to use the following common hand tools: channel locks, Phillips head screwdriver, sheet metal shears, torque wrench, utility knife, and wrench.
Duration: 15 mins

Materials Handling: Situational Awareness

Trainee will learn and demonstrate situational awareness in a warehouse environment.
Duration: 6 mins

Materials Handling: Receiving and Storage Safety

Trainee will learn and demonstrate safe receiving and storage techniques.
Duration: 11 mins

Materials Handling: Manual Lifting

Trainee will learn and demonstrate safe manual lifting techniques.
Duration: 8 mins

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 mins

Materials Handling: Hoists & Cranes

Trainee will learn and demonstrate basic safety practices for working with and around hoists and cranes.
Duration: 22 mins

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 mins

Lockout & Tagout

Trainee will learn and demonstrate a lockout-tagout procedure.
Duration: 7 mins

Robotic Safety

Trainee will learn and demonstrate awareness of robotic work cell safety.
Duration: 10 mins

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 mins

Ladder Safety: Straight Ladders

Trainee will learn and demonstrate how to inspect, safely set up, and properly use a straight ladder.
Duration: 12 mins

Fire Extinguisher Safety

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

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 mins

Blood Borne 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 mins

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 mins

Power Tools/Electrical Safety: Electric Drill

Trainee will learn and demonstrate how to inspect and safely use an electric drill.
Duration: 11 mins

Power Tools/Electrical Safety: Circular Saw

Trainee will learn and demonstrate how to inspect and safely use a circular saw.
Duration: 15 mins

Power Tools/Electrical Safety: Miter Saw

Trainee will learn and demonstrate how to inspect and safely use a miter saw.
Duration: 9 mins

Power Tools/Electrical Safety: Bench and Pedestal Grinders

Trainee will learn and demonstrate how to inspect and safely use a pedestal grinder.
Duration: 15 mins

Power Tools/Electrical Safety: Handheld Grinders

Trainee will learn and demonstrate how to inspect and safely use a handheld grinder.
Duration: 13 mins

Power Tools/Electrical Safety: Nibblers

Trainee will learn and demonstrate how to inspect and safely use a nibbler.
Duration: 10 mins

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 mins

Welding Safety: Spot Welding Safety

Trainee will learn and demonstrate how to safely use resistance welding equipment.
Duration: 9 mins

Welding Safety: MIG Welding Safety

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

Welding Safety: Oxy-Acetylene Safety

Trainee will learn and demonstrate how to safely use oxy-acetylene welding equipment.
Duration: 14 mins

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 mins

Interpreting Technical Drawings

Trainee will learn and demonstrate how to use "The Language of Lines" to interpret technical drawings
Duration: 15 mins

Technical Drawings: Dimensioning

Trainee will learn and demonstrate accepted dimensioning techniques used in technical drawing.
Duration: 20 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

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 mins

Job Site Safety: Situational Awareness

Trainee will learn and demonstrate job site situational awareness.

Duration: 18 mins

Personal Protective Equipment

Trainee will learn and demonstrate personal protective equipment (PPE) usage.

Duration: 12 mins

Personal Protective Equipment: Respirators

Trainee will learn and demonstrate awareness of respiratory hazards and how to use a respirator.

Duration: 13 mins

Extension Ladder Safety

Trainee will properly inspect, set up, and use an extension ladder.

Duration: 16 mins

Scaffolds

Trainee will learn and demonstrate how to safely use scaffolds.

Duration: 14 mins

Layout Tools: Squares, Plumb Bobs, and Levels

Trainee will identify and use levels, squares, and a plumb bob.

Duration: 14 mins

Hand Tools: Hand Saws

Trainee will learn and demonstrate how to inspect and safely use a hand saw.

Duration: 16 mins

Hand Tools: Hack Saws

Trainee will learn and demonstrate how to inspect and safely use a hacksaw.

Duration: 16 mins

Power Tools: Impact Wrenches

Trainee will learn and demonstrate how to inspect and safely use an impact wrench.

Duration: 15 mins

Power Tools: Hammer Drill

Trainee will inspect and safely use a hammer drill.

Duration: 12 mins

Power Tools: Reciprocating Saw

Trainee will learn and demonstrate how to inspect and safely use a reciprocating saw.

Duration: 14 mins

Power Tools: Portable Band Saw

Trainee will learn and demonstrate how to inspect and safely use a portable band saw.

Duration: 16 mins

Power Tools: Cutoff Saw

Trainee will inspect and safely use a cutoff saw.

Duration: 12 mins

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 mins

Construction Drawings 2

Trainee will read construction drawings and measure dimensions with an architect's scale.

Duration: 12 mins

Materials Handling: Safety Concepts and Precautions

Trainee will learn and demonstrate knowledge of common material handling safety precautions.

Duration: 16 mins

Materials Handling: Placards

Trainee will learn and demonstrate how to identify and understand common hazardous materials placards.

Duration: 15 mins

Materials Handling: Non-Motorized Equipment

Trainee will learn and demonstrate how to plan a safe route when using a pallet jack.

Duration: 16 mins

Materials Handling: Motorized Equipment

Trainee will learn and demonstrate how to identify and safely be around motorized material handling equipment.

Duration: 19 mins

Intro to Rigging Equipment

Trainee will learn about different types of slings and shackles commonly used in rigging.

Duration: 19 mins

Intro to Rigging Hitches

Trainee will learn basic concepts and safety practices for bridle and double choker hitches.

Duration: 18 mins

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 mins

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 mins

Variable Speed Motor:

Measurements

Trainee will learn and demonstrate how to use a multimeter to measure current, voltage, and resistance.

Duration: 18 mins

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 mins

*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

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.



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**

**Measuring and
Recording Output**

Participant will accurately measure and record urinary output.
Duration: 30 mins

**Safety Practices:
Infection Control**

**Standard Precautions:
Hand Hygiene**

Participant will apply standard precautions to properly wash their hands and use alcohol-based hand sanitizer.
Duration: 15 mins

**Standard Precautions:
Donning and Doffing Gloves**

Participant will apply best-practice techniques to safely don and doff gloves.
Duration: 15 mins

**Transmission-Based
Precautions: Contact**

Participant will apply evidence-based practice techniques for contact-based isolation precautions.
Duration: 20 mins

**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 patient's respiratory rate.
Duration: 20 mins

Vital Signs: Heart Rate

Participant will correctly measure and document patient's heart rate.
Duration: 20 mins

Vital Signs: Blood Pressure

Participant will manually measure and chart brachial blood pressure.
Duration: 20 mins

**Measuring and
Recording Intake**

Participant will accurately measure and record oral liquid intake.
Duration: 20 mins

*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.

Contact Information

Technical Support Inquiries:
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Thank You!

May 2023