

NOTE ON PERFORMANCE TESTING

Performance Profile Sheet(s) are included in a format that can be easily photocopied for each trainee. This examination is designed to measure competency in the tasks taught in each module.

Please note the number of tasks to be tested while teaching each module. Each trainee should be tested on all the tasks listed on the Performance Profile Sheet(s). Before performance testing, the instructor should brief the trainees on:

- Test objectives and criteria
- Safety precautions
- Procedures for each task to be tested

The instructor administering the performance testing should also do the following:

- Ensure that all of the needed equipment is available and operating properly.
- Set up the testing stations.
- Organize and administer the test in a way that allows for optimal performance.
- Complete the Performance Profile Sheet(s) for each trainee by assigning a pass/fail score for each listed task. Include the testing date and start and end times for each task in the rating boxes.
- Monitor adherence to all safety regulations and precautions.
- Provide adequate supervision to prevent injuries.
- Take immediate and effective action to remedy any emergency.

Performance Testing

If Performance Testing is done as part of the NCCER Standardized Craft Training Program, the following conditions must be met:

1. The Craft Instructor must hold valid NCCER instructor certification.
2. The training must be delivered through an Accredited Training Sponsor recognized by NCCER.
3. The specific performance testing must be completed successfully.
4. The results of the testing must be recorded and submitted to the local Accredited Training Sponsor for approval through NCCER's Registry system.

Certified Plus Credential

If the sponsor is working through an NCCER-Accredited Assessment Center, candidates who successfully pass performance testing may be eligible for a Certified Plus credential. A number of NCCER's Performance Profiles cross over to NCCER's Assessment Performance Verifications and may be completed simultaneously. Note that two other important conditions are required for the Certified Plus credential:

1. Candidates must first pass the associated written assessment.
2. An NCCER-Accredited Assessment Administrator must sign off on the Performance Verification before it is submitted to NCCER.

PERFORMANCE PROFILE SHEET

Craft: HVAC

Module: 03308

Module Title: Water Treatment



NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
1	1. Use a water analysis test kit to test water.				
3	2. Inspect a cooling tower or steam boiler and its related water piping system for signs of water treatment problems.				

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PERFORMANCE PROFILE SHEET



Craft: HVAC

Module: 03403

Module Title: Indoor Air Quality

NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
2, 3	1. Perform a building indoor air quality (IAQ) inspection/evaluation.				
2	2. Make air measurements using at least one of the following devices: <ul style="list-style-type: none">• CO₂ detector/sensor• CO detector/sensor				
4	3. Use a manufacturer's humidifier capacity chart to find the humidifier capacity needed for various building types and sizes.				

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**Module 03404 has no Performance Profile Sheet;
performance testing is not required for this module.**

PERFORMANCE PROFILE SHEET



Craft: HVAC

Module: 03405

Module Title: Building Management Systems

NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
3	1. Interpret operating data received through building management system software.				

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PERFORMANCE PROFILE SHEET



Craft: HVAC

Module: 03402

Module Title: System Air Balancing

NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
3, 4	1. Select and properly use test instruments for balancing air distribution systems.				
4	2. Measure the temperature rise and drop across ducted heating and cooling equipment.				
3	3. Adjust supply fan speed to provide higher and lower air quantities.				
4	4. Measure airflow at air supply outlets.				
3, 4	5. Adjust dampers in branch supply ducts and at air terminals and diffusers.				

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PERFORMANCE PROFILE SHEET



Craft: HVAC

Module: 03406

Module Title: System Startup and Shutdown

NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
3	1. Start up and shut down an air handling unit and prepare it for normal operation.				
1, 2	2. Start up and shut down at least one of the following: <ul style="list-style-type: none">• Steam boiler• Hot-water boiler• Reciprocating chiller• Screw chiller• Centrifugal chiller• Cooling tower• Evaporative condenser				

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PERFORMANCE PROFILE SHEET



Craft: HVAC

Module: 03401

Module Title: Construction Drawings and Specifications

NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
1	1. Identify and interpret the following on an architectural drawing: <ul style="list-style-type: none"> • Floor plans and details • Elevations • Foundation plan • Reflected ceiling plan 				
1	2. Identify and interpret at least four of the following on a plumbing plan drawing: <ul style="list-style-type: none"> • Sanitary plumbing plans • Domestic water plumbing plans • Riser diagrams • Schedules • Specification references • Legends 				

continued

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PERFORMANCE PROFILE SHEET



Craft: HVAC

Module: 03401

Module Title: Construction Drawings and Specifications

NCCER TRAINING

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
1	3. Identify and interpret the following on a mechanical plan drawing: <ul style="list-style-type: none">• Hot- and chilled-water coil piping• HVAC piping• Chiller piping/installation• Refrigeration piping schematics• Air handling unit installation/connecting ductwork• Hot- and chilled-water flow diagrams• Schedules• Specification references• Legends				
1	4. Identify and interpret the following on an electrical plan drawing: <ul style="list-style-type: none">• Riser diagrams• Schedules• Specification references• Legends				
1	5. Interpret HVAC-related shop drawings.				
3	6. Perform and HVAC equipment and material takeoff and prepare the takeoff forms.				

PERFORMANCE PROFILE SHEET



Craft: HVAC

Module: 03407

Module Title: Heating and Cooling System Design

NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
1, 2	1. Using plans provided by the instructor, perform a load estimate using a standardized method.				
3	2. Use a manufacturer's product data to select the appropriate heating and cooling equipment based on a load estimate and airflow requirements.				
4	3. Determine the number, location, and sizes of the supply outlets and return inlets needed in a building.				
4	4. Use standard duct sizing tables, duct design calculator, or software application to size the trunk and branch ducts for a selected low-pressure air distribution system.				
4	5. Calculate the total system friction loss (external static pressure) for a selected air distribution system.				

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PERFORMANCE PROFILE SHEET

Craft: HVAC

Module: 03408

Module Title: Commercial/Industrial Refrigeration Systems



NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
2, 3	1. Install or make repairs to a packaged refrigeration condensing unit.				
2, 3	2. Install or make repairs to a packaged unit cooler in a refrigeration system.				
2	3. Identify at least three of the following devices (selection provided by the instructor) commonly used in refrigeration systems: <ul style="list-style-type: none"> • Crankcase pressure regulator • Evaporator pressure regulator • Condenser head pressure regulator • Hot gas bypass regulator • Pressure-controlled cylinder unloader • Solenoid-controlled cylinder unloader 				

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**Module 03409 has no Performance Profile Sheet;
performance testing is not required for this module.**

PERFORMANCE PROFILE SHEET



Craft: HVAC

Module: 46101

Module Title: Fundamentals of Crew Leadership

NCCER TRAINING

TRAINEE NAME: _____

TRAINING PROGRAM SPONSOR: _____

INSTRUCTOR: _____

Rating Levels: (1) Passed: performed task (2) Failed: did not perform task
Be sure to list the date the testing for each task was completed.

Recognition: When testing for the NCCER Training Program, record performance testing results and submit them to your Training Program Sponsor through the Registry System.

OBJECTIVE	TASK	RATING	DATE	START TIME	END TIME
4	1. Develop and present a look-ahead schedule.				
4	2. Develop an estimate for a given work activity.				

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