

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Briefly describe the history of the painting trade, including how the Clean Air and Lead Abatement laws and regulations have changed the paint industry.
2. Identify career opportunities available for people in the painting trade.
3. Explain the purpose and objectives of an apprentice training program.
4. Describe the desired characteristics of professionals in the painting trade.

Note to the Instructor

Before teaching this Task Module, you should review the details in this Instructor's Guide for Equipment and Supplies, Testing, and the suggested Teaching Sequence. Be sure to allow ample time to prepare your own training plan or lesson plan and to gather all required equipment and materials.

The specific content for Sessions 1 and 2 may be altered at your discretion so that the sessions can easily be adapted to the local situation.

Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Overhead projector
Chalkboard and chalk

Materials

Trainee Task Module
Module Examination
Transparencies
Pamphlets/brochures about careers in the painting trade and related fields
Two complete sets of painter's clothing including a hat, proper safety shoes, shirt, and pants/coveralls (one set should be in good condition and the other in unacceptable condition)

HOW TO USE THIS INSTRUCTOR'S GUIDE

For each 2¹/₂ hour class session in this Instructor's Guide, the basic Presentation Sequence is as follows:

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In this Instructor's Guide, the terms classroom, demonstration, and laboratory are defined and used as follows:

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Laboratory: Instructors will facilitate all laboratory activities, coach trainees as they practice the procedures, monitor trainee progress, and provide feedback. The instructor will make sure that safety rules are followed at all times and that protective equipment is worn.

NCCER Standardized Craft Training Programs

The National Center for Construction Education and Research provides a standardized national program of accredited craft training based on the *Wheels of Learning*. Key features of the program include instructor certification, competency-based training, and performance testing. The program provides trainees, instructors, and companies with a standard form of recognition through a National Craft Training Registry. The program is described in full in the *Guidelines for Accreditation*, published by the National Center. For more information on standardized craft training, contact NCCER at P.O. Box 141104, Gainesville, FL 32614-1104; or call 352-334-0911.

TASK MODULE OVERVIEW

This module introduces the trainee to the various career paths available in the painting and wallpapering trades. They are given a brief history of the painting and wallpapering trades including the evolution of paint manufacturing. They are also introduced to the traits and ethics expected of a professional painter. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

NCCER Core Curricula

Teaching Time for This Task Module

Approximately 5 hours or 2 sessions of training time is suggested to cover *Careers in the Painting Trade*. The training class session is a suggested 2¹/₂ hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

Appropriate Personal Protective Equipment

Suggested Teaching Sequence — Two 2¹/₂ Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Introduction; Trade History; Careers in the Painting Trade	1.0.0 – 3.2.7
2	Professionalism; Working with Other Trades; Employer Teaming or Partnering with Other Organizations	4.0.0 – 6.0.0
	Performance Testing and Module Examination	

Optional References for Advanced Study

This module is intended to present thorough resources for task training. The following reference works are suggested for both instructors and motivated trainees interested in further study. These are optional materials for continued education rather than task training.

Painting and Decorating Craftsman's Manual and Textbook, Painting and Decorating Contractors of America, Fairfax, Virginia.

Painting and Decorating Encyclopedia, The Goodheart-Willcox Company, Inc., South Holland, Illinois.

PERFORMANCE PROFILE TASKS

- 1. Demonstrate an understanding of the progression of job levels within the painting trade. Describe the acquired skills and/or responsibilities for each job classification.**
 - Apprentice**
 - Journeyworker**
 - Master**
 - Supervisor**
 - Manager/Administrator**
 - Estimator**
 - Contractor/Owner**

PERFORMANCE PROFILE TASKS

- 2. Demonstrate an understanding of what it means to be a professional painter.**
 - **Demonstrate a high level of productivity**
 - **Be honest and have personal integrity**
 - **Maintain a good appearance**
 - **Practice good work habits**
 - **Maintain good relations with employers, customers, and other craftspeople**

SAFETY

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Explain the obligations and responsibilities of workers, employers, and the Occupational Safety and Health Administration (OSHA) with regards to safety.
2. Describe the nature of the hazard(s) and safety rules and guidelines for job site safety relating to:
 - Personal hygiene and work clothing
 - Personal protective and life saving equipment
 - Respiratory hazards
 - Fall hazards
 - Hazardous chemicals and materials
 - Lead hazards
 - Confined space hazards
 - Painting tool and equipment hazards
 - Hot and cold weather hazards
 - Electrical hazards
3. Explain the purpose of Hazardous Communication (HazCom) programs including:
 - The elements or parts required of a HazCom program
 - The use of Material Safety Data Sheets (MSDSs)
 - The use of Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) codes

Note to the Instructor

Before teaching this Task Module, you should review the details in this Instructor's Guide for Equipment and Supplies, Testing, and the suggested Teaching Sequence. Be sure to allow ample time to prepare your own training plan or lesson plan and to gather all required equipment and materials.

The specific content for Sessions 1 through 4 may be altered at your discretion so that the sessions can easily be adapted to the local situation. Where applicable, optional video tapes are referenced that may be substituted in place of giving a lecture or demonstration. Another alternative is to take field trips to various job sites where the different safety subjects can be discussed and demonstrated under actual conditions.

Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Overhead projector

Chalkboard and chalk

Video tape (optional) – “Safety Orientation for the Painting Trade”

Video tape (optional) – “Employee Hazard Communication Training Program”

Copies of the OSHA *Safety and Health Standards for the Construction Industry* (29 CFR, Part 1926) and *Standards for General Industry* (29 CFR, Parts 1900 to 1910)

Appropriate personal protection equipment

Safety shoes

Gloves of various types

Face masks, goggles, and safety glasses

Hard hats

Ear plugs and earmuffs

Respirators

Half-mask

Full face mask

Supplied air

Self-contained breathing apparatus (SCBA)

Materials

Trainee Task Module

Module Examination

Transparencies

Several examples of MSDSs

Several examples of materials marked with HMIS and/or NFPA codes

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TASK MODULE OVERVIEW

This module introduces the trainee to safety issues and practices specific to the Painting trade. The information supplements some of the general safety information studied earlier in the Core Curricula and introduces new safety topics of importance to painters. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

- NCCER Core Curricula
- NCCER Painting Level 1, Task Module 07101

Teaching Time for This Task Module

Approximately 10 hours or four sessions of training time is suggested to cover *Safety*. The training class session is a suggested 2¹/₂ hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

- Safety shoes
- Gloves of various types
- Face masks, goggles, and safety glasses
- Hard hats
- Ear plugs and earmuffs
- Respirators (half-mask, full face mask, supplied air, and self-contained breathing apparatus (SCBA))

Suggested Teaching Sequence — Four 2¹/₂ Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Introduction; Employer and Employee Safety Obligations; Personal Protective and Life Saving Equipment; Respiratory Hazards and Protection Performance Testing	1.0.0 – 5.2.2
2	Fall Hazards and Protection Devices; Hazardous Chemicals and Materials Performance Testing	6.0.0 – 7.4.4

Session	Topic	Trainee Module Section(s)
3	Lead Hazards and Protection Measures; Asbestos Hazards and Protection Measures; Confined Space Entry; Painting Tool and Equipment Hazards	8.0.0 – 11.0.0
4	Hot and Cold Weather Precautions; Electrical Hazards; Safety Planning	12.0.0 – 14.0.0
Performance Testing and Module Examination		

Optional References for Advanced Study

This module is intended to present thorough resources for task training. The following reference works are suggested for both instructors and motivated trainees interested in further study. These are optional materials for continued education rather than task training.

Basic Safety, Core Curricula.

Compliance Manual for OSHA Lead in Construction Regulation, Painting and Decorating Contractors of America, Fairfax, Virginia.

Employees Safety Handbook, Painting and Decorating Contractors of America, Fairfax, Virginia.

Occupational Safety and Health Standards for the Construction Industry - 29 CFR, Part 1926, U.S. Government Printing Office, Washington, DC.

Occupational Safety and Health Standards for General Industry - 29 CFR, Parts 1900 through 1910, U.S. Government Printing Office, Washington, DC.

Painting & Coatings Industry Hazard Communication Employee Handbook, Painting and Decorating Contractors of America, Fairfax, Virginia.

Painting and Decorating Craftsman's Manual and Textbook, Painting and Decorating Contractors of America, Fairfax, Virginia.

Supervisor's Safety Manual, Painting and Decorating Contractors of America, Fairfax, Virginia.

VIDEO TAPES

"Employee Hazard Communication Training Program," Painting and Decorating Contractors of America, Fairfax, Virginia.

"Safety Orientation for the Painting Trade," Painting and Decorating Contractors of America, Fairfax, Virginia.

PERFORMANCE PROFILE TASKS

- 1. Properly put on a half-mask respirator and perform positive and negative fit checks.**
- 2. Use an MSDS to identify all safety procedures that should be followed, the personal protection equipment that should be used, and any potential hazards that must be considered when using and handling a specific material.**
- 3. Interpret HMIS and/or NFPA codes to identify personal protection equipment and any potential hazards that must be considered when using and handling a specific material.**

**LADDERS, SCAFFOLDS, LIFTS,
AND FALL PROTECTION**

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Recognize, erect, and safely use the different kinds of ladders, including:
 - Stepladders
 - Single ladders
 - Extension ladders
 - Trestle and extension trestle ladders
2. Recognize, erect, and safely use the different kinds of scaffolds, including:
 - Built-up scaffolds
 - Swing scaffolds
 - Beam-suspended scaffolds
3. Recognize and safely use aerial work platforms and scissor lifts.
4. Recognize and safely use fall arresting and other fall protection equipment, including:
 - Body harnesses
 - Lanyards
 - Deceleration devices
 - Lifelines
 - Anchoring devices and equipment connectors

Note to the Instructor

Before teaching this Task Module, you should review the details in this Instructor's Guide for Equipment and Supplies, Testing, and the suggested Teaching Sequence. Be sure to allow ample time to prepare your own training plan or lesson plan and to gather all required equipment and materials.

The specific content for Sessions 1 through 4 may be altered at your discretion so that the sessions can easily be adapted to the local situation. Where applicable, optional video tapes are referenced that may be substituted in place of a lecture or demonstration. Another alternative is to take field trips to various rental companies or job sites where the different types of fall protection equipment, ladders, scaffolds, and lift equipment can be discussed and demonstrated under actual conditions. Safety consultants can also be invited as guest lecturers.

Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Overhead projector

Chalkboard and chalk

Video tapes (optional):

“Construction Stairways and Ladders” or “Watch that First Step (Complying with OSHA’s Stairways and Ladders Standard)”

“Construction Scaffold Safety”

“Construction Fall Protection” or “Fall Protection (What’s Required and Beyond)” or “Preventing the Fall”

Copies of the *OSHA Safety and Health Standards for the Construction Industry* (29 CFR, Part 1926)

Fall arresting and fall protection equipment, including:

Body harnesses

Lanyards

Deceleration devices

Lifelines

Anchoring devices and equipment connectors

Ladders, including:

Stepladders

Single ladders

Extension ladders

Trestle and extension trestle ladders

Ladder accessories, including:

Ladder jacks

Folding ladder hooks

Ladder shoes

Pole straps

Ladder lash

Levelers

End caps

Stabilizers

Tool/paint trays

Scaffolds, including:

Tubular welded frame built-up scaffold

Tube and coupler built-up scaffold

Swing scaffold

Beam-suspended scaffold

Aerial work platform and/or scissor lift

Materials

Trainee Task Module

Module Examinations

Transparencies

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TASK MODULE OVERVIEW

This module introduces the trainee to ladders, scaffolds, and lifts used in the Painting trade. Also covered are the fall protection equipment and procedures used when working on ladders, scaffolds, and lifts. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

NCCER Core Curricula

NCCER Painting Level 1, Task Modules 07101 and 07102

Teaching Time for This Task Module

Approximately 10 hours or four sessions of training time is suggested to cover *Ladders, Scaffolds, Lifts, and Fall Protection*. The training class session is a suggested 2½ hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

Appropriate Personal Protective Equipment

Suggested Teaching Sequence — Four 2½ Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Introduction; Fall Protection Equipment; Ladders	1.0.0 – 2.4.0, 5.0.0 – 5.2.2
	Performance Testing	
2	Scaffolds	3.0.0 – 3.1.2
	Performance Testing	
3	Scaffolds; Aerial Lift Equipment	3.1.3 – 4.0.0
	Performance Testing	
4	Safety Net Systems; Rescue After a Fall; Testing Fall Protection Systems and Equipment	5.3.0 – 7.0.0
	Performance Testing and Module Examination	

Optional References for Advanced Study

This module is intended to present thorough resources for task training. The following reference works are suggested for both instructors and motivated trainees interested in further study. These are optional materials for continued education rather than task training.

Basic Safety, Core Curricula.

Occupational Safety and Health Standards for the Construction Industry - 29 CFR, Part 1926, U.S. Government Printing Office, Washington, DC.

Painting and Decorating Craftsman's Manual and Textbook, Painting and Decorating Contractors of America, Fairfax, Virginia.

Preventing the Fall: a Compliance Guide for OSHA's Fall Protection Standard, American Subcontractors Association, Inc./Foundation of the American Subcontractors Association, Inc., Alexandria, Virginia.

Supervisor's Safety Manual, Painting and Decorating Contractors of America, Fairfax, Virginia.

Video Tapes

"Construction Fall Protection," National Center for Construction Education and Research, Gainesville, Florida.

"Construction Scaffold Safety," National Center for Construction Education and Research, Gainesville, Florida.

"Construction Stairways and Ladders," National Center for Construction Education and Research, Gainesville, Florida.

"Fall Protection (What's Required and Beyond)," National Center for Construction Education and Research, Gainesville, Florida.

"Preventing the Fall," Foundation of the American Subcontractors Association, Inc., Alexandria, Virginia.

"Watch that First Step (Complying with OSHA's Stairways and Ladders Standard)," Foundation of the American Subcontractors Association, Inc., Alexandria, Virginia.

PERFORMANCE PROFILE TASKS

1. Correctly use fall arresting and other fall protection equipment:

- **Body harnesses**
- **Lanyards**
- **Deceleration devices**
- **Lifelines**
- **Anchoring devices and equipment connectors**

2. Erect and safely climb, descend, and work from various ladders:

- **Stepladders**
- **Single ladders**
- **Extension ladders**
- **Trestle and extension trestle ladders**

PERFORMANCE PROFILE TASKS

3. Install and use selected ladder accessories:

- **Ladder jacks**
- **Folding ladder hooks**
- **Ladder shoes**
- **Pole straps**
- **Ladder lash**
- **Levelers**
- **End caps**
- **Stabilizers**
- **Tool/paint trays**

4. Erect and safely use selected scaffolds:

- **Built-up scaffolds**
- **Swing scaffolds**
- **Beam-suspended scaffolds**

IDENTIFYING SURFACE/ SUBSTRATE MATERIALS AND CONDITIONS

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Identify various substrates used in construction:
 - Wood
 - Masonry, concrete, and stucco
 - Plaster/drywall
 - Synthetic
 - Metal
2. Identify the surface condition of substrates and coatings:
 - New
 - Aged
 - Previously coated
3. Be aware of the basic surface preparation methods and coatings required for various substrates.

Note to the Instructor

Before teaching this Task Module, you should review the details in this Instructor's Guide for Equipment and Supplies, Testing, and the suggested Teaching Sequence. Be sure to allow ample time to prepare your own training plan or lesson plan and to gather all required equipment and materials.

The specific content for Sessions 1 and 2 may be altered at your discretion so that the sessions can easily be adapted to the local situation. An alternative to providing certain class materials is to take field trips to various job sites where substrates and surfaces can be observed and studied.

Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Overhead projector

Chalkboard and chalk

Magnets

Power sanders or grinders

Appropriate personal protective equipment

Materials

Trainee Task Module

Module Examinations

Transparencies

To the maximum extent possible, various samples of substrates and surfaces defined in the Trainee Module, including:

- Types of wood

- Masonry, concrete, and stucco

- Plaster and drywall

- Synthetic substrates

- Metal substrates

- Aged substrates

- Previously coated substrates

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TASK MODULE OVERVIEW

This course introduces the painting trainee to the methods and procedures used in identifying surface/substrate materials and conditions. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

NCCER Core Curricula

NCCER Painting Level 1, Task Modules 07101 through 07103

Teaching Time for This Task Module

Approximately 5 hours or two sessions of training time is suggested to cover *Identifying Surface/ Substrate Materials and Conditions*. The training class session is a suggested 2 1/2 hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

Appropriate Personal Protective Equipment

Suggested Teaching Sequence — Two 2 1/2 Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Exterior and Interior Substrates	1.0.0 – 3.6.0
2	Uncoated Aged and Previously Coated Substrates	4.0.0 – 5.6.0
	Performance Testing and Module Examination	

Optional References for Advanced Study

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Painting and Coating Systems, The Sherwin-Williams Company, Cleveland, Ohio.

PERFORMANCE PROFILE TASKS

- 1. Identify various selected substrates and surfaces.**
- 2. Describe general methods of preparation for the selected substrates and surfaces.**

PROTECTING ADJACENT SURFACES

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Describe the tools and materials required for protecting surfaces:
 - Tape dispensers
 - Types of tape
 - Types of masking material, such as paper, film, light-duty plastic sheeting, and liquid or gel masking
 - Paint shields
 - Covering materials, such as dropcloths, netting, and heavy-duty plastic sheeting
2. Describe the methods of applying interior and exterior masking and coverings to various surfaces.
3. Understand the importance of proper cleanup.

Note to the Instructor

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Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Overhead projector
Chalkboard and chalk
Appropriate personal protective equipment
No. 2 Phillips and flat blade screwdrivers
To the maximum extent possible, four or more of each of the various types of masking tools defined in the Trainee Module

Materials

Trainee Task Module
Module Examinations
Transparencies
To the maximum extent possible, four or more of each of the various masking/covering media covered in the Trainee Module

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TASK MODULE OVERVIEW

This course introduces the painting trainee to the methods, procedures, and materials used in protecting adjacent surfaces. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

NCCER Core Curricula

NCCER Painting Level 1, Task Modules 07101 through 07104

Teaching Time for This Task Module

Approximately 5 hours or two sessions of training time is suggested to cover *Protecting Adjacent Surfaces*. The training class session is a suggested 2 ½ hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

Appropriate Personal Protective Equipment

Suggested Teaching Sequence — Two 2½ Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Masking Tools; Materials and Interior Masking and Covering Methods	1.0.0 – 3.1.6
2	Exterior Masking and Covering; Containment and Cleanup	3.2.0 – 4.0.0

Performance Testing and Module Examination

Optional References for Advanced Study

This module is intended to present thorough resources for task training. The following reference works are suggested for both instructors and motivated trainees interested in further study. These are optional materials for continued education rather than task training.

Painting and Decorating Craftsman's Manual and Textbook, Painting and Decorating Contractors of America, Fairfax, Virginia.

Painting and Decorating Encyclopedia, The Goodheart-Willcox Company, Inc., South Holland, Illinois.

PERFORMANCE PROFILE TASKS

- 1. Recognize and describe the application of selected masking materials.**
- 2. Demonstrate the use of selected masking methods and tools.**
- 3. Demonstrate/describe selected methods and materials for interior/exterior coverings.**

BASIC SURFACE PREPARATION

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Describe preparation tools and materials:
 - Cleaning agents
 - Surface conditioning agents
 - Repair agents
 - Hand tools
 - Power tools
2. Describe or demonstrate preparation methods:
 - Washing and cleaning
 - Hand tool cleaning
 - Power tool cleaning
 - Etching and neutralization
 - Vacuuming
 - Checking for moisture in concrete, stucco, masonry, wood, or plaster substrates
 - Repair/replacement of substrates
3. Describe or demonstrate general preparation procedures for various types of surfaces/substrates:
 - Wood
 - Concrete and masonry
 - Plaster and drywall
 - Metal
 - Synthetic

Note to the Instructor

Before teaching this Task Module, you should review the details in this Instructor's Guide for Equipment and Supplies, Testing, and the suggested Teaching Sequence. Be sure to allow ample time to prepare your own training plan or lesson plan and to gather all required equipment and materials.

The specific content for Sessions 1 through 6 may be altered at your discretion so that the sessions can easily be adapted to the local situation. An alternative to providing certain class materials is to take field trips to various job sites where surface preparation methods and materials can be observed and studied.

Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Overhead projector
Chalkboard and chalk
Appropriate personal protective equipment
To the maximum extent possible, four or more of each of the various types of hand and power tools covered in the Trainee Module

Materials

Trainee Task Module
Module Examinations
Transparencies
To the maximum extent possible, four or more examples of the preparation agents and materials as well as substrates/surfaces covered in the Trainee Module

HOW TO USE THIS INSTRUCTOR'S GUIDE

For each 2¹/₂ hour class session in this Instructor's Guide, the basic Presentation Sequence is as follows:

Introduction/Overview

Classroom, and/or Demonstration, and/or Laboratory

Class Break

Classroom, and/or Demonstration, and/or Laboratory

Summary

Suggested time periods for classroom sessions are included throughout this Instructor's Guide. These time periods should be adapted to meet local conditions and training requirements.

Each class session is presented with two columns of information. On the left side of the page, a narrow column provides suggested trainee and instructor actions, icons to call your attention to material, safety, audio-visual, or testing requirements, and space for your notes. The right-hand column provides the outline of the suggested presentation for each class session.

In this Instructor's Guide, the terms classroom, demonstration, and laboratory are defined and used as follows:

Classroom: Sessions are designed for lectures, group discussions, coaching, and additional activities. Trainees should be encouraged to actively participate.

Demonstration: Instructors will demonstrate all procedures before trainees attempt them. Instructors should make sure that trainees can point out all safety procedures during demonstrations to be assured of the proper use of equipment by trainees.

Laboratory: Instructors will facilitate all laboratory activities, coach trainees as they practice the procedures, monitor trainee progress, and provide feedback. The instructor will make sure that safety rules are followed at all times and that protective equipment is worn.

NCCER Standardized Craft Training Programs

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TASK MODULE OVERVIEW

This course introduces the painting trainee to the methods, procedures, and materials used in the preparation of basic surfaces for coating. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

NCCER Core Curricula

NCCER Painting Level 1, Task Modules 07101 through 07105

Teaching Time for This Task Module

Approximately 15 hours or six sessions of training time is suggested to cover *Basic Surface Preparation*. The training class session is a suggested 2½ hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

Appropriate Personal Protective Equipment

Suggested Teaching Sequence — Six 2½ Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Introduction; Preparation Materials; Hand Tools	1.0.0 – 4.2.10
	Performance Testing	
2	Power Tools	4.3.0 – 4.3.8
	Performance Testing	
3	Surface/Substrate Preparation Methods	5.0.0 – 5.6.0
	Performance Testing	
4	Repair/Replacement of Substrates	5.7.0 – 5.7.9
	Performance Testing	

Session	Topic	Trainee Module Section(s)
5	General Preparation/Inspection Standards; General Procedures for Specific Substrates Performance Testing	5.7.10 – 6.3.2
6	General Procedures for Specific Substrates Performance Testing and Module Examination	6.4.0 – 6.5.5

Optional References for Advanced Study

This module is intended to present thorough resources for task training. The following reference works are suggested for both instructors and motivated trainees interested in further study. These are optional materials for continued education rather than task training.

Adhesives, 8th Edition, Society of Plastics Engineers, Brookfield, Connecticut.

Decorating and Coating of Polymers, Society of Plastics Engineers, Brookfield, Connecticut.

Joining Plastics, Society of Plastics Engineers, Brookfield, Connecticut.

Painting and Coating Systems, The Sherwin-Williams Company, Cleveland, Ohio.

Painting and Decorating Craftsman's Manual and Textbook, 8th Edition, Painting and Decorating Contractors of America, Fairfax, Virginia.

Painting and Decorating Encyclopedia, The Goodheart-Willcox Company, Inc., South Holland, Illinois.

Plastics Surface and Finish, Society of Plastics Engineers, Brookfield, Connecticut.

PERFORMANCE PROFILE TASKS

- 1. Recognize and describe the uses of various preparation agents.**
- 2. Recognize and describe the uses of various hand tools.**
- 3. Demonstrate/describe the uses of various power tools.**
- 4. Demonstrate/describe various surface preparation methods.**
- 5. Demonstrate/describe various substrate repair methods.**
- 6. Demonstrate various inspection test devices.**
- 7. Describe general preparation procedures and hazards for selected surfaces and substrates.**

SEALANTS AND REPAIR/FILLERS

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Describe the composition and function of various sealants and fillers.
2. Select an appropriate product for a given application and surface, stating the important properties for product selection.
3. Describe tools and additional materials required for sealant application.
4. Apply and smooth suitable products to the following joints using appropriate tools:
 - Fixed inside corner joint between two types of substrate
 - Fixed outside corner joint between two pieces of the same substrate
 - Expansion joint with 25%-50% expected movement
 - Long, wide, deep crevice in substrate
5. Based on application conditions, judge whether a post-primer sealant or filler will adhere properly after curing.

Note to the Instructor

Before teaching this Task Module, you should review the details in this Instructor's Guide for Equipment and Supplies, Testing, and the suggested Teaching Sequence. Be sure to allow ample time to prepare your own training plan or lesson plan and to gather all required equipment and materials.

Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Appropriate personal protective equipment	Sprayer for pour grade sealants (if available)
Overhead projector	Buckets
Chalkboard and chalk	Putty knives
Hand-operated caulking gun	Wire and soft bristle brushes
Battery-operated caulking gun	Various types of smoothing tools
Assortment of nozzles	Utility knives
Pneumatic gun	Thermometer(s)
Compressor (if available)	

Materials

Trainee Task Module

Module Examination

Transparencies

Assortment of primed substrate pieces (drywall, wood, plywood, glass, concrete), some with straight edges, some with gouged or dented surfaces

Portion of a fixed joint (such as two pieces of drywall screwed to a piece of plywood)

Portion of a flexible joint with sealant applied (such as two pieces of plywood with butyl)

MSDSs for various sealants

Specification sheets for several acrylic, silicone, and urethane sealants

Specification sheet for at least one two-part sealant

Assortment of sealants in cartridges (at least acrylic latex and silicone)

Assortment of sealants in tubs or pails

Containers of two-part sealant (urethane or silicone)

Mixing containers for two-part sealant

Bondbreaker tape

Backer rod

Polyethylene foam sealant (spray can)

Latex gloves

Soap and water

Assortment of solvents (use recommended solvent on sealant labels)

Cleaning cloths

Substrate pieces with excess applied sealant, already cured

HOW TO USE THIS INSTRUCTOR'S GUIDE

For each 2 1/2 hour class session in this Instructor's Guide, the basic Presentation Sequence is as follows:

Introduction/Overview
Classroom, and/or Demonstration, and/or Laboratory
Class Break
Classroom, and/or Demonstration, and/or Laboratory
Summary

Suggested time periods for classroom sessions are included throughout this Instructor's Guide. These time periods should be adapted to meet local conditions and training requirements.

Each class session is presented with two columns of information. On the left side of the page, a narrow column provides suggested trainee and instructor actions, icons to call your attention to material, safety, audio-visual, or testing requirements, and space for your notes. The right-hand column provides the outline of the suggested presentation for each class session.

In this Instructor's Guide, the terms classroom, demonstration, and laboratory are defined and used as follows:

Classroom: Sessions are designed for lectures, group discussions, coaching, and additional activities. Trainees should be encouraged to actively participate.

Demonstration: Instructors will demonstrate all procedures before trainees attempt them. Instructors should make sure that trainees can point out all safety procedures during demonstrations to be assured of the proper use of equipment by trainees.

Laboratory: Instructors will facilitate all laboratory activities, coach trainees as they practice the procedures, monitor trainee progress, and provide feedback. The instructor will make sure that safety rules are followed at all times and that protective equipment is worn.

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TASK MODULE OVERVIEW

This module introduces the trainee to the uses, selection, and basic application procedures for post-primer sealants and fillers. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

NCCER Core Curricula

NCCER Painting Level 1, Task Modules 07101 through 07106

Teaching Time for This Task Module

Approximately 5 hours or two sessions of training time is suggested to cover *Sealants and Repair/Fillers*. The training class session is a suggested 2½ hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

Appropriate Personal Protective Equipment

Suggested Teaching Sequence — Two 2½ Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Uses, Properties, Tools, and Selection of Sealants and Fillers; Preparing the Substrate for Sealant Performance Testing	1.0.0 – 9.1.0
2	Preparing the Sealant and Tools; Applying Sealants and Fillers; Smoothing; Cleanup and Adhesion Check Performance Testing and Module Examination	9.2.0 – 9.5.0

Optional References for Advanced Study

This module is intended to present thorough resources for task training. The following reference works are suggested for both instructors and motivated trainees interested in further study. These are optional materials for continued education rather than task training.

Building Sealants: Materials, Properties, and Performance, ASTM Special Technical Publication, Philadelphia, PA.

Caulking and Weatherstripping, First Edition, 1985, U.S. Department of Energy, Conservation, and Renewable Energy Inquiry and Referral Service.

Proper Painting and Surface Preparation, National Park Service, U.S. Department of the Interior, Washington, D.C.

PERFORMANCE PROFILE TASKS

- 1. Recognize different types of joints and substrates.**
- 2. Identify the different properties on product data sheets and package labels.**
- 3. Select the appropriate products for various applications.**
- 4. Prepare substrates for sealant.**
- 5. Prepare and apply gun grade sealants to different joints:**
 - Using a hand-operated gun**
 - Using a battery-operated or pneumatic gun**
- 6. Apply knife grade sealants to various types of crevices.**
- 7. Apply pour grade products.**

PERFORMANCE PROFILE TASKS

- 8. Smooth applied products:**
 - **Hand smoothing (soap and water, solvent)**
 - **Cloth smoothing (soap and water, solvent)**
 - **Tool smoothing (soap and water, solvent)**
 - **Mechanical smoothing (knife-trimming excess)**
- 9. Demonstrate cleanup procedures for gun grade, knife grade, and pour grade products.**
- 10. Estimate curing and drying times based on various ambient conditions.**
- 11. Perform the hand pull test to determine adhesion.**

INTRODUCTION TO PAINTS AND COATINGS

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Explain the function(s) of pigments, resins, solvents, and additives.
2. Describe the basic differences between water-based and oil-based paints and coatings, including the film-forming mechanisms, advantages, and disadvantages of both types.
3. Use manufacturer's literature and/or product labels to identify coating(s) recommended for use with various substrates (wood, metal, etc.) and exposure conditions. Also identify the recommended method of surface preparation for each coating.
4. Describe the properties and/or functions of paints or coatings.
 - Properties:
 - Alkyd
 - Latex
 - Epoxy
 - Urethane (polyurethane)
 - Functions:
 - Primers/undercoats
 - Tie coats
 - Finish coat
 - Sealers
 - Shellacs, varnishes, and lacquers
 - Stains
 - Special purpose coatings
5. Demonstrate or explain the general methods used for the cleanup and disposal of water-based and oil-based paints.

Note to the Instructor

Before teaching this Task Module, you should review the details in this Instructor's Guide for Equipment and Supplies, Testing, and the suggested Teaching Sequence. Be sure to allow ample time to prepare your own training plan or lesson plan and to gather all required equipment and materials.

The specific content for Sessions 1 through 4 may be altered at your discretion so that the sessions can be easily adapted to the local situation. Consider making a field trip to a local paint/coatings manufacturing plant or to distributors where the different kinds of paint and/or ingredients used to make paint can be seen and discussed. As an alternative, paint manufacturing representatives are often available to give demonstrations and/or audio-visual presentations depicting the contents and manufacture of paint and coatings.

Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Overhead projector

Chalkboard and chalk

MSDSs and/or paint/coating containers for various water-based and oil-based paints and coatings

Paint and coating system data, specifications, and literature from various paint/coating manufacturers

Metal containers and drums used to store waste solvents, solvent-soaked rags, etc.

Solvent recycling unit

Materials

Trainee Task Module

Module Examination

Transparencies

HOW TO USE THIS INSTRUCTOR'S GUIDE

For each 2 1/2 hour class session in this Instructor's Guide, the basic Presentation Sequence is as follows:

Introduction/Overview
Classroom, and/or Demonstration, and/or Laboratory
Class Break
Classroom, and/or Demonstration, and/or Laboratory
Summary

Suggested time periods for classroom sessions are included throughout this Instructor's Guide. These time periods should be adapted to meet local conditions and training requirements.

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Classroom: Sessions are designed for lectures, group discussions, coaching, and additional activities. Trainees should be encouraged to actively participate.

Demonstration: Instructors will demonstrate all procedures before trainees attempt them. Instructors should make sure that trainees can point out all safety procedures during demonstrations to be assured of the proper use of equipment by trainees.

Laboratory: Instructors will facilitate all laboratory activities, coach trainees as they practice the procedures, monitor trainee progress, and provide feedback. The instructor will make sure that safety rules are followed at all times and that protective equipment is worn.

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TASK MODULE OVERVIEW

This module introduces the trainee to the ingredients used in water-based and oil-based paint and coating products. Also covered are the types of literature and specifications manufacturers use to describe and otherwise document their paint/coating systems and products. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

NCCER Core Curricula

NCCER Painting Level 1, Task Modules 07101 through 07107

Teaching Time for This Task Module

Approximately 10 hours or four sessions of training time is suggested to cover *Introduction to Paints and Coatings*. The training class session is a suggested 2 1/2 hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

Appropriate Personal Protective Equipment

Suggested Teaching Sequence — Four 2 1/2 Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Introduction; Paint and Coating Materials	1.0.0 – 2.3.5
2	Paint and Coating Materials; Film-Forming Mechanisms of Paints and Coatings	2.4.0 – 3.4.0
	Performance Testing	
3	Coating Systems and Components	4.0.0 – 4.3.7
	Performance Testing	
4	Guidelines for the Use of Water-Based and Oil-Based Paints	5.0.0 – 5.3.3
	Performance Testing and Module Examination	

Optional References for Advanced Study

This module is intended to present thorough resources for task training. The following reference works are suggested for both instructors and motivated trainees interested in further study. These are optional materials for continued education rather than task training.

Painting and Coating Systems, Sherwin-Williams Company, Cleveland, Ohio.

Painting and Decorating Craftsman's Manual and Textbook, Painting and Decorating Contractors of America, Fairfax, Virginia.

Painting and Decorating Encyclopedia, The Goodheart-Wilcox Company, Inc., South Holland, Illinois.

Store Training and Reference Tool - Paints, Stains, and Clear Coatings, Sherwin-Williams Company, Cleveland, Ohio.

PERFORMANCE PROFILE TASKS

- 1. Use manufacturer's product labeling to identify the specific ingredients used in different paint products:**
 - **Pigments**
 - **Resins**
 - **Solvents**
 - **Additives**
- 2. Use manufacturer's coating systems data, product literature, and product labels to identify coatings recommended for use with various substrates and exposure conditions. Also use the literature to identify the method of surface preparation specified by the manufacturer for use with each type of coating.**

PERFORMANCE PROFILE TASKS

- 3. Demonstrate an understanding of the functions performed by the various classes of paints (primers, topcoats, etc.) described in manufacturer's coating system literature.**
- 4. Demonstrate an understanding of when to select and use water-based and oil-based paints.**
- 5. Demonstrate and explain the general methods used for the cleanup and disposal of water-based and oil-based paints.**

BRUSHING AND ROLLING PAINTS AND COATINGS

OBJECTIVES

Upon completion of this module, the trainee will be able to:

1. Recognize the various types of paint brushes and select the proper paint brush for the application.
 - Wall brushes
 - Varnish and enamel brushes
 - Sash and trim brushes
 - Stain brushes
 - Special purpose brushes
 - Decorative brushes
2. Recognize the different kinds of rollers and roller covers and select the proper roller and cover for the application.
 - Dip rollers
 - Self-feeding rollers
 - Special purpose rollers
3. Demonstrate how to properly mix paint.
4. Demonstrate how to properly apply paint to surfaces using a brush and/or roller.
5. Demonstrate how to clean and store paint brushes and rollers.

Note to the Instructor

Before teaching this Task Module, you should review the details in this Instructor's Guide for Equipment and Supplies, Testing, and the suggested Teaching Sequence. Be sure to allow ample time to prepare your own training plan or lesson plan and to gather all required equipment and materials.

The specific content for Sessions 1 through 6 may be altered at your discretion so that the sessions can easily be adapted to the local situation. Consider making a field trip to a local paint supplier where the different kinds of brushes, rollers, and other types of paint applicators and accessories can be seen and discussed. As an alternative, painting products manufacturer's representatives are often available to give demonstrations or audio-visual presentations that show the proper use of paint applicators under different conditions and on different substrates.

Required Equipment and Materials

The following are required for instruction using this Task Module:

Equipment

Overhead projector

Chalkboard and chalk

Assortment of paint brushes, including:

- Wall brushes

- Varnish brushes

- Sash and trim brushes

- Stain brushes

- Special purpose brushes

- Decorative brushes

Assortment of rollers and accessories, including:

- Dip rollers

- Self-feeding rollers

- Corner, trim, pipe, and other special rollers

- Roller covers with various naps

- Paint trays

- Paint grids

- Extension poles

Gloves, goggles, etc. used when handling solvents

Paint pads

Paint mitts

Stir sticks

Portable drill-powered paint mixers

Miscellaneous paint pots and pails

Brush/roller spinners

Brush comb/painter's tools

Wire brushes

Brush keepers

Metal containers and drums used to store waste solvents, solvent-soaked rags, etc.

Materials

Trainee Task Module

Module Examination

Transparencies

Plastic wrap or aluminum foil

Assortment of water-based and oil-based paints, including primers, tie coats, finish (top) coats, etc.

Turpentine, mineral spirits, etc. for cleaning brushes, rollers, etc. used with oil-based paints

Soap and water for cleaning brushes, rollers, etc. used with water-based paints

Rags

Interior and exterior surfaces/substrates, trim, doors, windows, cabinets, etc. needed for demonstrating and practicing painting techniques

HOW TO USE THIS INSTRUCTOR'S GUIDE

For each 2 1/2 hour class session in this Instructor's Guide, the basic Presentation Sequence is as follows:

Introduction/Overview
Classroom, and/or Demonstration, and/or Laboratory
Class Break
Classroom, and/or Demonstration, and/or Laboratory
Summary

Suggested time periods for classroom sessions are included throughout this Instructor's Guide. These time periods should be adapted to meet local conditions and training requirements.

Each class session is presented with two columns of information. On the left side of the page, a narrow column provides suggested trainee and instructor actions, icons to call your attention to material, safety, audio-visual, or testing requirements, and space for your notes. The right-hand column provides the outline of the suggested presentation for each class session.

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Classroom: Sessions are designed for lectures, group discussions, coaching, and additional activities. Trainees should be encouraged to actively participate.

Demonstration: Instructors will demonstrate all procedures before trainees attempt them. Instructors should make sure that trainees can point out all safety procedures during demonstrations to be assured of the proper use of equipment by trainees.

Laboratory: Instructors will facilitate all laboratory activities, coach trainees as they practice the procedures, monitor trainee progress, and provide feedback. The instructor will make sure that safety rules are followed at all times and that protective equipment is worn.

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TASK MODULE OVERVIEW

This module introduces the trainee to the different types of brushes, rollers, and other tools that can be used to apply water-based and oil-based paint and coating products. Also covered are the general procedures for using the various paint application tools to paint interior and exterior surfaces. The intended audience for this Task Module includes all painting trainees.

Prerequisites

Please see the Course Map. Prior to training with this Task Module, it is suggested that the trainee shall have successfully completed the following Task Modules:

NCCER Core Curricula

NCCER Painting Level 1, Task Modules 07101 through 07108

Teaching Time for This Task Module

Approximately 15 hours or six sessions of training time is suggested to cover *Brushing and Rolling Paints and Coatings*. The training class session is a suggested 2 ½ hour time period, which includes one break. **You will need to adjust the time required for hands-on activities and testing based on your class size and resources.** All time periods for this module are suggested and you will need to adapt the suggested lesson plan to meet your local conditions.

Safety Considerations

Make sure that the trainees are equipped with proper safety equipment, to include:

Appropriate Personal Protective Equipment

Suggested Teaching Sequence — Six 2½ Hour Sessions

Adjust your class times based on class size and resources.

Session	Topic	Trainee Module Section(s)
1	Introduction; Brushes; Applying Paint with a Brush; Cleaning and Storing Paint Brushes Performance Testing	1.0.0 – 2.3.0, 6.0.0 – 6.2.0, 10.0.0 – 10.3.0
2	Rollers; Applying Paint with a Roller; Cleaning and Storing Roller Covers Performance Testing	3.0.0 – 3.5.0, 7.0.0 10.0.0 – 10.3.0
3	Other Paint Application Tools; Preparing Paint Before Application Performance Testing	4.0.0, 5.0.0 – 5.5.0
4	Guidelines for Painting Using Brushes and Rollers Performance Testing	8.0.0 – 8.2.0

Session	Topic	Trainee Module Section(s)
5	Painting Doors, Windows, and Cabinets Performance Testing	9.0.0 – 9.3.0
6	Painting Doors, Windows, and Cabinets Performance Testing and Module Examination	9.0.0 – 9.3.0

Optional References for Advanced Study

This module is intended to present thorough resources for task training. The following reference works are suggested for both instructors and motivated trainees interested in further study. These are optional materials for continued education rather than task training.

Painting and Decorating Craftsman's Manual and Textbook, Painting and Decorating Contractors of America, Fairfax, Virginia.

Painting and Decorating Encyclopedia, The Goodheart-Willcox Company, Inc., South Holland, Illinois.

Store Training and Reference Tool - Paints, Stains, and Clear Coatings, Sherwin-Williams Company, Cleveland, Ohio.

PERFORMANCE PROFILE TASKS

- 1. Apply paint to selected surfaces using a brush.**
- 2. Properly clean and store paint brushes, including the proper disposal of waste paint, solvents, and waste water.**
- 3. Apply paint to selected surfaces using a roller.**
- 4. Properly clean and store paint rollers and roller covers, including the proper disposal of waste paint, solvents, and waste water.**
- 5. Properly mix paint.**
- 6. Properly clean mixing tools and paint containers, including the proper disposal of waste paint, solvents, and waste water.**

PERFORMANCE PROFILE TASKS

- 7. Demonstrate and describe how to properly coat interior and exterior surfaces.**
- 8. Demonstrate and describe how to paint and/or stain selected doors, windows, and cabinets.**

