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NHI Course No. XXXXXX

NHI Style Guide

(Instructor-Led Training)



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Introduction

The National Highway Institute (NHI) is committed to developing and delivering quality transportation training to our customers and stakeholders. As advocates of adult learning principles, NHI recognizes that quality training depends on the quality of instructors and course materials. Both are necessary to provide our customers with the very best learning experience. For these reasons, NHI has an on-going commitment to assist the developers, instructors and participants in every way possible to make sure that learning occurs.

NHI recognizes the vital role that course materials play in the various stages of learning. This style guide is designed to assist our course developers in preparing materials that help participants achieve course outcomes, as well as serving as a useful reference tool for them when they return to their job site.

Overview

The *NHI Style Guide* is structured into two parts: a style guide and a set of appendices.

The style guide addresses: print, formatting, grammar and punctuation guidelines, as well as NHI specifications for course materials.

The appendices are a set of courseware samples that consists of an: instructor guide, participant workbook, reference manual and reference list. The sample covers *Lesson 4: Technology: Resources and Implementation* found in an existing NHI course, *Fundamentals of Road Weather Management*. As you will see, the appendices support the direction given in the style guide.

Print & Electronic File Requirements

Development and Electronic File Requirements

- The U.S. Department of Transportation (DOT) Standard: All printed materials, including visual aids, must be developed in Microsoft Word 2000 and PowerPoint 2000 (or later) format. This requirement allows NHI to be able to edit, with ease, all documents delivered by the contractor
- Documents should not be delivered in “read only,” “presentation only,” or “password protected” format
- The use of macros and other complex formatting should be kept to a minimum

Required Deliverables

The following should be submitted to NHI as final deliverables:

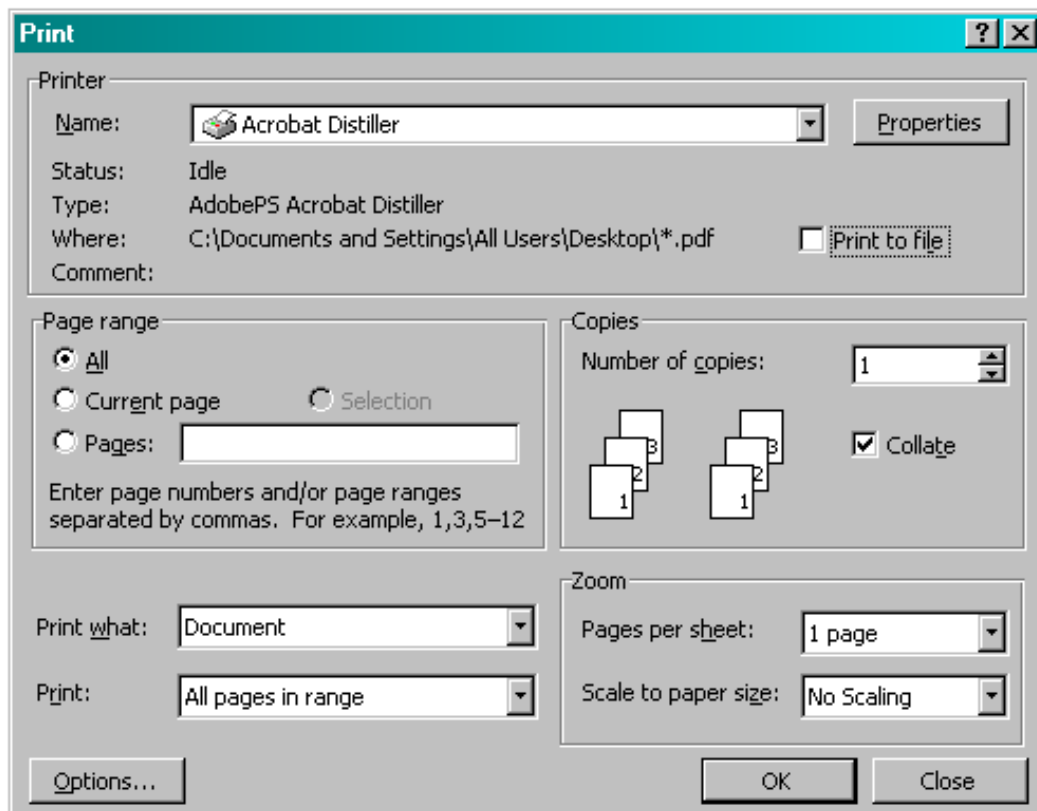
- Camera-ready hard copy, (including tabs, dividers, etc. – ready for print production) of all course materials: Instructor Guide (IG), Participant Workbook (PW), and Reference Manual (RM)
- Copies of all copyright releases and letters granting permission for use from the authors or artists, if applicable
- CD-ROM of Instructor Guide in Microsoft Word 2000 (or later) format
- CD-ROM of Participant Workbook in Microsoft Word 2000 (or later) format
- CD-ROM of Reference Manual in Microsoft Word 2000 (or later) format
- CD-ROM of course slides in Microsoft PowerPoint 2000 (or later) format
- CD-ROM of Instructor Guide in .PDF format
- CD-ROM of Participant Workbook in .PDF format
- CD-ROM of Reference Manual in .PDF format
- Additionally each CD-ROM will be marked with a “W” (Word), or “P” (PDF) located and the bottom of the disc
- Completely assembled example of each document (e.g., 3-ring binder, cover, spine, and contents)

Creating .PDF files

There are two ways you can create .PDF files on your course materials: through Acrobat Distiller or in Microsoft Word.

Acrobat Distiller

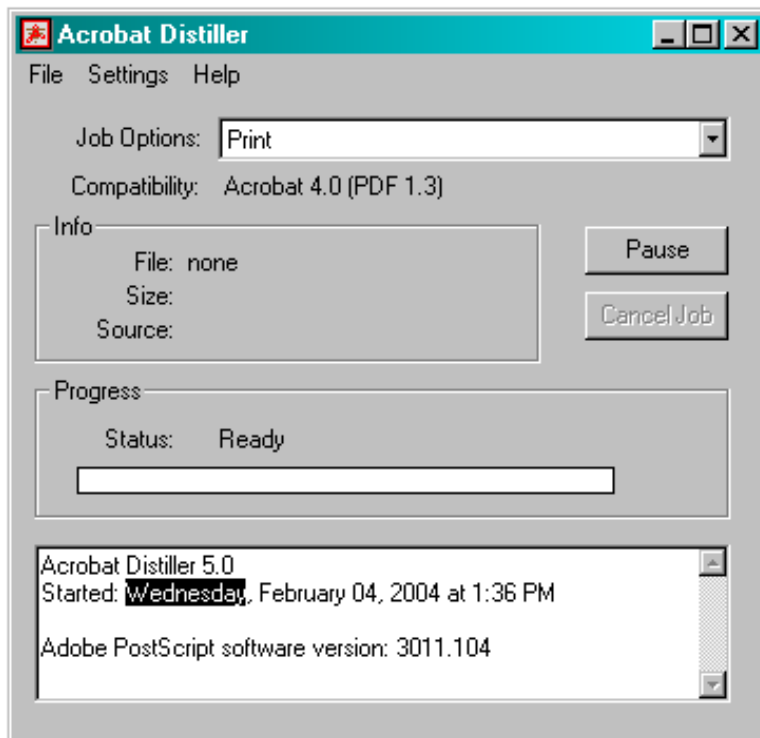
Step 1. Go to File then Print.



Step 2. Go to pop up window and select printer (make sure selected printer is post script printer).

Step 3. Click on Print to file, then OK.

Step 4. Open Acrobat Distiller.



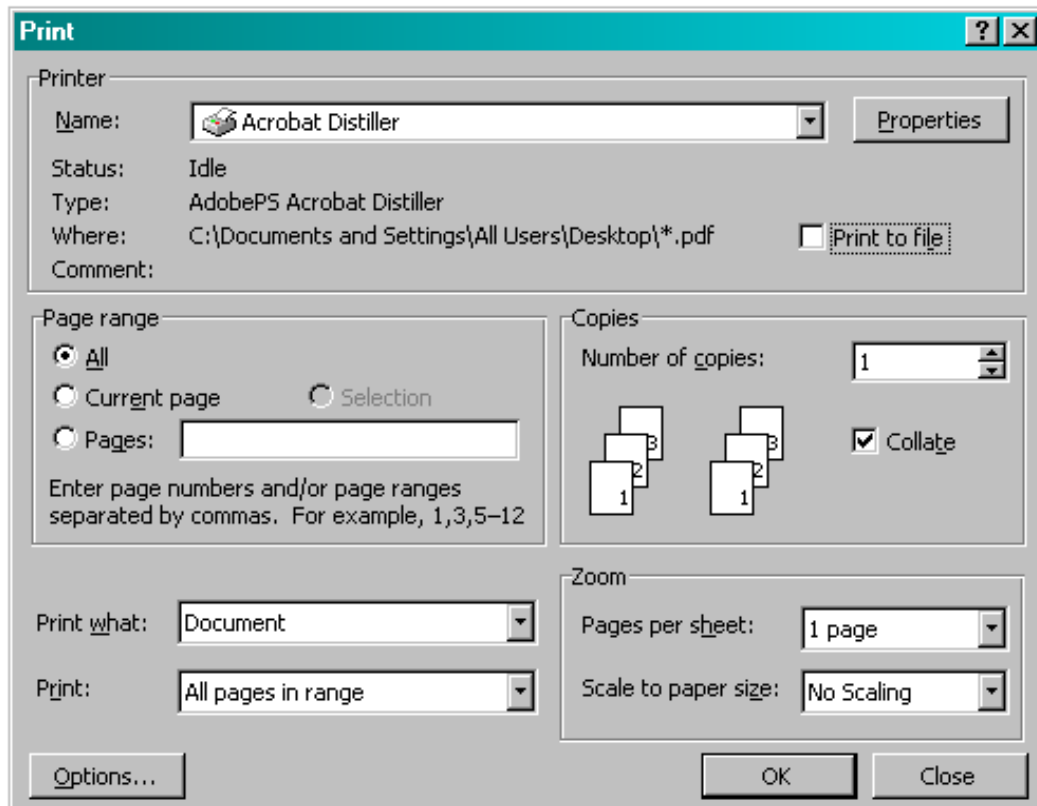
Step 5. Go to setting and make sure to adjust setting for image quality.

Step 6. Go to File and Distiller.prn file, or drag and drop .prn icon file in distiller window.

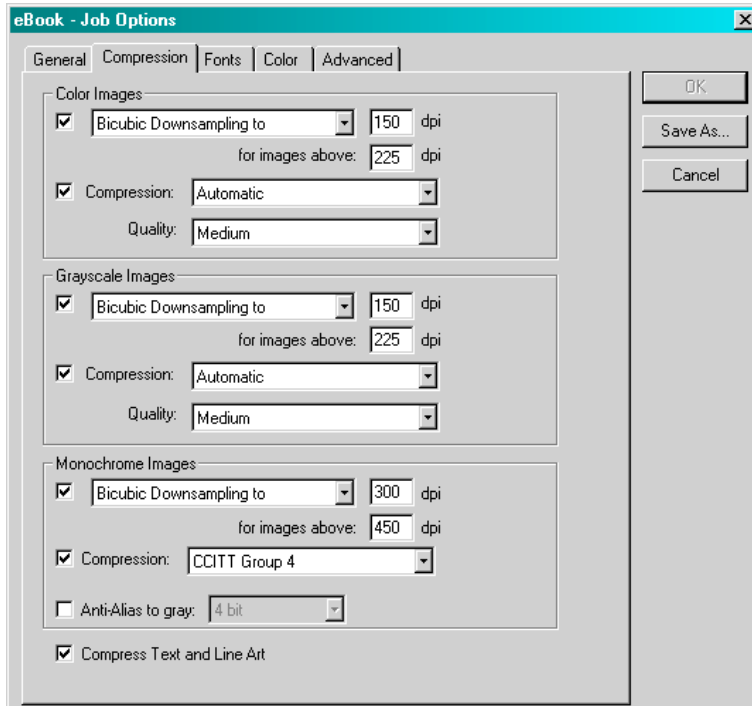
Microsoft Word

Step 1. Select File then click Print.

Step 2. Select Acrobat Distiller as your printer driver.

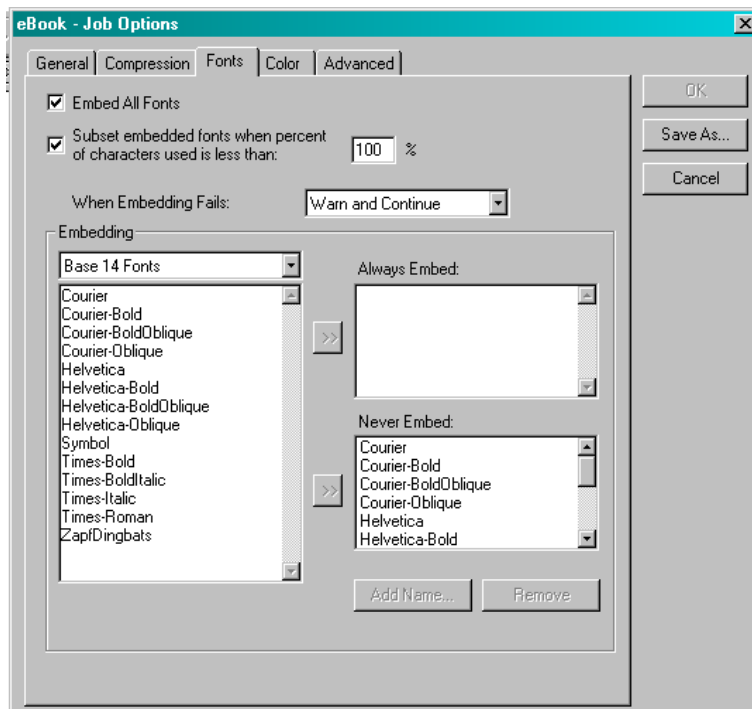


Step 3. Select Properties for document setting.



Step 4. Follow this setting for image quality.

Step 5. Follow this setting for fonts to be embedded on .PDF file.



Step 6. Then save setting and print Word file to .PDF.

Formatting Requirements

The cover page and spine of the Instructor Guide, Participant Workbook, Reference Manual and CD-ROM Labels must contain the following information (See examples in Appendix E):

Cover Page

- U. S. Department of Transportation/Federal Highway Administration Logo
- Publication Number - Federal Highway Administration (FHWA)/National Highway Institute (NHI)
- Date (month and year)
- Official NHI Course Number
- Official NHI Course Title
- Type of guide (i.e., Participant Workbook, Instructor Guide, Reference Manual, etc.)
- NHI Logo
- International Association for Continuing Education and Training (IACET) Logo

Spine

- NHI Logo
- Official NHI Course Number
- Official NHI Course Title
- Type of guide (i.e., Participant Workbook, Instructor Guide, Reference Manual, etc.)
- Publication Number
- IACET Logo

CD-ROM Labels

- U. S. Department of Transportation/Federal Highway Administration Logo
- Publication Number
- Date (Month and Year)
- Official NHI Course Number
- Official NHI Course Title
- Type of guide (i.e., Participant Workbook, Instructor Guide, Reference Manual, etc.)
- NHI Logo
- IACET Logo

Use of Logos and Company References

- Company logos should not be included on any deliverable to NHI
- References to the company and/or persons developing, designing, and/or delivering the course should not be included in any PW, IG, RM or Visual Aids
- Technical Report Document, DOT F 1700.7 may be included in materials. See Appendix

E for a copy of the Technical Report Document

- The DOT, FHWA, NHI, and IACET logos must appear on the cover pages and CD-ROM labels for all material

PowerPoint Presentations and Visuals

- Use the Slide Master feature in PowerPoint for background color and page numbering. No imbedded graphics
- 7 X 7 Rule: No more than seven words per line and no more than seven lines per slide. This includes the title lines
- Number slides in the lower right corner (e.g., 5-1, 5-2, 5-3)
- The text on the slides must be in 24 point font or larger. Use 24 point font throughout the body of the slide, with larger font sizes used sparingly for specific emphasis on slides with minimal text
- Use Arial typeface
- Use bullets only. Include explanatory information in IG & PW. Exclude articles and superfluous wording
- Use consistent bullet style throughout slides. Recommendation is to use the black dot
- Bullets shall be no bigger than the text size being used
- No sublevels
- Round off numbers and decimals to whole numbers except where exact numbers are critical
- Use a scale along either the horizontal or vertical axis of a graph, bar chart or column chart instead of numbers at the ends of the bars or columns. If you must include information on the graphic itself, use a font size that is readable – encapsulated in a white background
- Substitute symbols for words (i.e., “\$” instead of dollars, “%” instead of percent, etc.)
- Abbreviate when possible without creating confusion, after first spelling it out (e.g., National Highway Institute (NHI))
- Generally, omit sources from the slides; however, include them in the written materials
- Avoid underlines, excessive grid rulings, and unnecessary outlines
- Use a color scheme that contrasts. Suggestion: use a deep blue background with bright yellow text.
- When pulling slides into the IG or PW ensure legibility and quality of graphics by converting the slides to black and white before insertion. Readability and legibility being key
- Use contrasting colors, but no more than three colors on a single slide
- Do not rely on color alone to convey information. Use dotted/dashed lines or different shapes as well as colors (Note: Participant Workbooks will be printed in black & white only)

- Be cautious when using shades of color to convey information. When slides are printed for the Participant Workbook and/or Instructor Guide, the background could appear dark and make reading the material very challenging. Also if the material is printed in black and white the color might be distorted or lose its meaning
- Slides must be clearly readable from the back of a room that is at least 35 feet long and in the PW in a semi lit classroom environment

Graphics and Photos

- Avoid using too many graphics and colors on one page or slide
- Avoid using graphics that may become outdated in a short time
- Avoid using irrelevant clipart
- Use graphics with colors that complement the slide background
- Digitize photos and save in Joint Photographic Experts Group (.JPEG) format (consistent web format)
- Create charts in the Graphics Interchange Format (.GIF) format (an Internet format to accommodate large files)
- Create tables in a Hyper Text Markup Language (.HTML) format (to accommodate Section 508 compliance). For more information on Section 508 compliance refer to the NHI Accessibility Guidelines document found in the NHI Toolkit

Document Formatting Standards

The following information refers to instructional documents such as the Instructor Guide, Participant Workbook or Reference Manual.

Header

- Title of course to appear on the top left side of the page
- Title of document to appear on the right side of the page (i.e. Instructor Guide, Participant Workbook, or Reference Manual)
- A line should appear underneath the course title and document name
- See Header example in this document (see top of page) or in Appendix A, B, C and/or D

Footer

- Only the page number should be centered at the bottom of the page
- See Footer example in this document (see bottom of page) or in Appendix A, B, C and/or D

Page Numbering

- Page numbers should be centered and placed in the footer of the document
- Use two series of numbers in a single volume: one series of lowercase Roman numbers (i, ii, iii, etc.) for the front material (i.e. Table of Contents) and one series of Arabic numbers (5-1, 5-2, 5-3, etc.) for the body. Front material includes the title page, preface, table of contents and list of references or tables. Front material preceding the table of contents should not be listed in the table of contents. Begin numbering the introduction or first section, session or module
- List every section or subsection title. All capitals or initial capital letters may be used for the titles, but each level of headings must be consistent (e.g., main heading in all bold capitals, subheadings in initial bold capitals). Indenting the subheadings also can emphasize the relationship between the levels of heading and subheadings

Footnotes

- Do not use footnotes in the IG and PW text. Incorporate such notes within the text. A list of references can be included at the end of the Participant Workbook and/or Instructor Guide

Figure and Table Captions

- Figures and Tables should be placed on pages as near as practical to textual references. A list of tables and figures should follow the table of contents. These lists should include the table or figure number, title, and page number. If the lists are short, both lists may be placed on the same page
- Each figure and table must have a unique title or caption and a unique figure number not duplicated by another figure or table caption in the publication
- The caption must be left justified at the left hand corner of the graph, table or graphic
- On a figure page (including line drawings, charts, graphics, etc.), the caption is centered at the bottom and is parallel to the lines of the text when the figure is upright
- On a table page, the caption is centered at the top of the table
- Graphics, tables and figures should be placed so they can be viewed without turning the page sideways, if at all possible. If a figure or table must be placed sideways on a page, place it so that the top is at the left side of the page, and is not obscured by the spine or binding
- Place captions on the page where they cannot be confused with the text. Ensure adequate space is used, or use a different font size from the text
- See List of Figures and Tables example in Appendix E

References

The majority of reference material should be included in the Reference Manual. The reference information is to be presented in a uniform style, with complete identifying data, in standard bibliographic format. Abbreviations are not recommended and should be used sparingly. Each entry should include the author, title source, identifying number, pagination, and publication date. When using references however, include the following:

- A list of reference material pertaining to the subject; and
- A list of all other related courses available

Metrication

Measurement must be provided in both International System of Units (SI) and English. Units and terms should conform to American Association of State Highway and Transportation Official's (AASHTO's) *Guide to Metric Conversion*.

- Use prefixes instead of power for SI units (**cubic meters** instead of m³)
- Give the metric unit first with the English in parenthesis (e.g. 4.3 m – 9 m (14 – 30 feet))

Exercise Information

A copy of all case studies, exercises, problems and simulations must be included in both the Instructor Guide and the Participant Workbook. Be sure the Instructor Guide has complete background information to include directions, outcomes, answers and debriefing information.

Grammar and Punctuation

Acronyms and Abbreviations

- Acronyms do not include spaces or periods
- To introduce an acronym for the first time in a section, write out the full name of the entity, followed by its acronym in parentheses
- Abbreviations should be used when using titles before and after names (e.g., Mr., Mrs., Ph.D., Col., Sr. Ret., etc.)
- Abbreviations should be spelled out in the first instance (e.g., National Highway Institute (NHI))
- Abbreviations should be used for mathematical measurements (e.g., lb., kg, etc.)

Bullets

- No sub-bullets or sub-number is allowed on PowerPoint slides
- Sub-bullets or sub-numbered lists can be used in other instructional materials (i.e. IG, PW, RM)
- Use a colon at the end of an introductory sentence that is followed by a series of phrases or terms emphasized in list form with bullets
- Use numbers where sequence is important; otherwise, use bullets
- Begin sentences with caps and end with periods
- Learning Outcomes, even when stated in a complete sentence, should not end with periods (e.g., Identify the challenges faced in implementing road weather technology)
- Begin phrases (bulleted items that are not complete sentences) with caps and end without punctuation

Numbers

- Use figures to express the numbers 10 and above, all numbers representing mathematical functions or quantities, dates, ages, time, money, and numbers as part of a series
- Spell out the numbers nine and below unless they represent precise measurement
- Spell out any number that begins a sentence, title, or heading (except in PowerPoint slides)
- To pluralize a number, add “s” or “es,” without an apostrophe

Date/Time

- If space is not critical, write out the date in full (e.g. January 2, 2004)
- Use slashes, if space is an issue (e.g. 1/2/04)
- Use a colon to separate the hours and minutes (e.g., 9:00 a.m.)

Em Dash

- An em dash is the same length as a small letter “m.” It is used within or at the end of a sentence to set off a nonessential element (e.g., “There are three basic variables – time, wick drain spacing, and surcharge – that can be manipulated to achieve a desired result from Equation 1.”)

En Dash

- An en dash is the same length as the small letter “n.” It is used to connect two related elements (e.g., 2003-2004, pp. 28-72, etc.)

Capitalization

- In headlines, capitalize all words except definite/indefinite articles, prepositions and conjunctions that are shorter than four letters
- When using bullets, capitalize the first word contained in each bullet
- Capitalize the word “State” whenever referring to one of the 50 States
- Capitalize the word “Federal” and “Government” as in Federal Government when used together or alone
- Do not capitalize the word “federally”

Emphasis

- Use emphasis sparingly to introduce key concepts or important terms
- Avoid excessive use of bolding or all capitals. It can decrease readability
- Use italics only for citations. They can be hard to read on the screen
- Use underlining only for a hyperlink
- Use quotation marks only for setting off quotations
- Use headings and subheadings to draw attention to specific concepts
- Break up blocks of text to make it easier for the learner to scan the content
- Use learning objects and page elements to engage learners and focus on specific details of information

NHI Specifications for Course Material

Preliminary Lesson Plan

A Preliminary Lesson Plan (PLP) serves as the framework for developing the Lesson Plans for the Instructor Guide, and related curriculum material. The PLP will serve as the benchmark before starting the course development process to assure the contractor and the Government that the finished product will meet the training needs of the target audience and be designed in accordance with the best teaching practices based on adult learning principles.

The PLP is the first step in developing the Instructor Guide. It includes, as a minimum:

- Course Introduction
- Executive Summary
- Course Organization
- Course Coordination
- Class Size
- Host Agency Responsibilities
- Target Audience
- Course Goal and Outcomes
- Course Agenda
- Presentation Requirements
- Lesson Plans and Visual Notes

A typical Lesson Plan includes, as a minimum:

- I. Lesson Number
- II. Lesson Title
- III. Performance-Based Learning Outcomes
- IV. Instructional Methodology (e.g. questions and answer sessions, lecture, demonstrations, small group discussions, problem solving exercises, case studies, etc.)
- V. Instruction Day
- VI. Time Allocation
- VII. Evaluation Plan (e.g. a plan to evaluate the effectiveness of each lesson to meet the stated learning outcomes)
- VIII. References and Source Documents

A Preliminary Lesson Plan sample can be found in Appendix A (pages 2 - 15).

Instructor Notes

The Instructor Notes are to be complete and extensive so that a new instructor will be able to teach the course as the developers and subject matter specialists intended and to achieve the same results each time taught. The Instructor Notes template should be the same for each slide and resemble this:

Key Message: Summarize the point that you want everyone to remember from slide.

Background Information: Explain any background or related information to support the slide that may be used to answer questions or to elaborate, if necessary.

Keep notes brief and straight to the point. Avoid essay format, rather use bullet format so that an instructor can easily follow the information provided.

Interactivity: If there are special comments, or facilitation techniques, that are recommended for the instructors to use, they should be stated here. It is important, that the instructional methodology supports the Learning Outcomes (LOs).

Visual cues should be included in the notes, giving the instructor a reminder for the activities, speaking points, possible questions to prompt discussions and time allotments.

Notes: Describe any factors that might make it difficult for learners to understand/accept a key message, identifying typical questions, regional, political or demographic issues and possible solutions.

The Notes field also gives the instructor a way to record their personal notes or suggestions as they deliver the course. The Notes field contains reminders when the instructor delivers the curriculum again.

Learning Outcomes

Learning outcomes state what the instructor expects participants to learn as a result of the specific lesson being taught. They allow both instructor and participant to verify their understanding of the content presented. Learning outcomes must be written as observable and measurable performance. Learning outcomes use the following list of performance verbs to measure participant's performance:

To measure <i>knowledge, use—</i>	To measure <i>comprehension, use—</i>	To measure <i>application, use—</i>	To measure <i>analysis, use—</i>	To measure, <i>synthesis, use—</i>
Classify	Compare	Apply	Appraise	Argue
Define	Contrast	Assess	Analyze	Arrange
Describe	Describe	Choose	Break down	Assemble
Label	Discuss	Construct	Calculate	Collect
List	Explain	Demonstrate	Categorize	Combine
Measure	Express	Dramatize	Compare	Compose
Memorize	Formulate	Employ	Conclude	Conclude
Name	Identify	Explain	Contrast	Construct
Recall	Indicate	Find	Criticize	Create
Record	Judge	Illustrate	Debate	Derive
Relate	Justify	Interpret	Diagram	Design
Repeat	Locate	Operate	Differentiate	Discuss
Reproduce	Name	Perform	Distinguish	Formulate
Select	Report	Practice	Examine	Generalize
State	Represent	Predict	Experiment	Manage
Underline	Restate	Schedule	Identify	Organize
Write	Review	Select	Inspect	Plan
	Select	Show	Inventory	Prepare
	Tell	Use	Justify	Propose
	Translate		Question	Relate
			Resolve	Restate
			Select	Select
			Separate	Set up
			Solve	Summarize
			Test	

Instructor Guide

The Instructor Guide (IG) is based on the approved PLP and provides an outline that is used as a guide during the delivery of a course. The IG provides a detailed interactive lesson plan for each section of the course to assist the instructor in conducting the class. The IG gives the instructor cues for the activities, speaking points, possible questions to prompt discussion, and time allotments for each section.

Supporting material is either incorporated directly in the IG, or cross-referenced to related course materials. Case histories, workshop problems, computer exercises, etc. must be described in complete detail in the IG.

The IG includes, as a minimum:

Cover

Table of Contents

Introduction/Administrative Section

- I. Introduction
- II. Executive Summary
- III. Course Organization - Agenda and Course Times
- IV. Course Coordination
- V. Class Size
- VI. Host Agency Responsibilities
- VII. Description of Target Audience
- VIII. Course Goal and Outcomes
- IX. Course Agenda
- X. Instructor: Presentation Requirements
 - Before the training Event
 - During the training Event
 - After the Training Event
- XI. Lesson Plans and Visual Notes
- XII. Exercises (with answers)
- XIII. Pre-Test - if applicable (with answers)
- XIV. Post-Test (with answers)
- XV. List of Acronyms
- XVI. Glossary
- XVII. List of References and Source Documents (if applicable)

An example of an Instructor Guide can be found in Appendix A.

Participant Workbook

The Participant Workbook (PW) is used by participants to take notes during the course in lined areas or white space specifically intended for this purpose. Generally each page includes copies of PowerPoint slides and formulas. In addition, it provides information about the exercises, and key points or references to information that may appear in other visual aids, handouts and in the Reference Manual. Limited textual expansion is allowed and may be included in the PW when approved by the COTR.

The PW includes, as a minimum:

Cover

Table of Contents

Course Materials

- I. Introduction
- II. Executive Summary
- III. Course Goal & Outcomes
- IV. Course Agenda
- V. Course Material
- VI. Exercises (Handouts) (if applicable)
- VII. Acronym List (if applicable)
- VIII. Glossary (if applicable)
- IX. List of References and Source Documents (if applicable)

An example of a Participant Workbook can be found in Appendix B.

Reference Manual

A Reference Manual (RM) includes technical text, formulae, codes, graphs, tables, etc. that are used by the participants and instructor in class. The RM often resembles a textbook, or a manual of instruction, which the participants use to solve problems. The course shall be designed so that participants will become thoroughly familiar with the manual, and will be able to use it effectively as a reference tool on the job.

An example of a Reference Manual can be found in Appendix C.

Visual Aids

For each lesson, the most suitable type of visual aid (or combination of aids) shall be developed to support and reinforce the subject material or interactive components. This includes selecting or generating slides, generating computer graphics, selecting and/or shooting photographs, video, audio, and animation, and preparing graphs or tables. Computer generated graphics shall be developed using the most modern technology generally available. Electronic and hard copies of any slides, PowerPoint, video, formulae, simulation, cross section(s) of plans, wall charts, web pages, etc. used by the instructor to conduct class shall be provided. Flip charts should also be created during the class and used effectively to generate participant interaction and discussion. When using flip charts, be sure to use dark colors and write large enough to be seen in the back of the room.

Handouts

Handouts include any additional material used by the instructor that is given to participants during class such as: exercises, workshop information, skill practice information, explanation of roles for group projects, case studies, problems (with solutions) or other supplementary information.

An example of a Handout (Exercise) can be found at the end of Appendix A: Instructor Guide.

Post-Course Tests

As part of a continuous improvement process and to conform to the standards of the International Association of Continuing Education and Training (IACET), NHI has instituted a course design policy to include post-course testing. Selection of the post-course test evaluation tool is an instructional systems design decision. The evaluation tool should be consistent with course outcomes and be designed to measure participant performance to those outcomes.