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# Appendix A

## Instructor-Led Training Standards Guide



U.S. Department of Transportation  
Federal Highway Administration 

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## Taxonomy and Course Structure for ILT

NHI courseware for ILT can be developed using the following taxonomy: **Course, Module, or Lesson.**

When developing Instructor-led training, a course is able to be set up in one of two formats. Below you will see on the left side of the box Lessons 1-6 which means you may create a course with lessons only. On the right side you can see where Lessons are part of Modules. Depending on what you are trying to convey in your course will determine which format you will use.

### Instructor-led Training

Course	
Lesson 1	Module 1
Lesson 2	Lesson 1
Lesson 3	Lesson 2
Lesson 4	Module 2
Lesson 5	Lesson 1
Lesson 6	Lesson 2

### Deliverables for ILT

Deliverables will accompany ILT courses. These will include paper documents, and may include other supporting materials.

### 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 printed from the PDF version in black and white, (including initially blank pages for tab dividers, etc. - for print production) of all course materials: Instructor Guide (IG), Participant Workbook (PW), separate Reference Manual (RM) if necessary
- Copies of all copyright released and letters granting permission for use from the authors or artist, if applicable
- Completely assembled example of each document (e.g., 3-ring binder, cover, spine, and contents)
- CD-ROM of Instructor Guide in Microsoft Word 2000 (or later) and .PDF formats
- CD-ROM of Participant Workbook in Microsoft Word 2000 (or later) and .PDF formats
- CD-ROM of Reference Manual in Microsoft Word 2000 (or later) and .PDF formats
- CD\_ROM of course slides in Microsoft Word 2000 (or later) format
- Additionally each CD\_ROM will be marked with a "W" (Word), or "P" (PDF) located on the bottom of the disc
- Any written approvals for modifications

The cover page and spine of the Instructor Guide, Participant Workbook, Reference Manual and CD-ROM Labels must contain the following information:

#### Cover Page

- 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., Instructor Guide, Participant Workbook, Reference Manual, etc.)
- IACET Logo (If offering CEUs, course must meet IACET criteria to display logo)
- NHI Logo

#### Spine

- Publication Number
- Date (Month and Year)

- Official NHI Course Number
- Official NHI Course Title
- Type of guide (i.e., Instructor Guide, Participant Workbook, Reference Manual, etc.)
- IACET Logo ((If offering CEUs, course must meet IACET criteria to display logo)
- NHI 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., Instructor Guide, Participant Workbook, Reference Manual, etc.)
- IACET Logo ((If offering CEUs, course must meet IACET criteria to display logo)
- NHI Logo

#### Use of Logos and Company References

- Company logos will not be included on any deliverable to NHI
- References to the company and/or persons developing, designing, and/or delivering the course will not be included in any PW, IG, RM or Visual Aids (exceptions must be documented on Technical Report Documentation Page) *See Appendix A*
- The DOT, FHWA, NHI, and IACET logos must appear on the cover pages and CD-ROM labels for all material

## Formatting for Deliverables

### ILT Document Formatting Standards

The following information refers to instructional hard copy 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

#### Footer

- Only the page number should be centered at the bottom of the page

#### 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 at the introduction or first lesson or session
- 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, charges, 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

### 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:

- If a reference is included in the PW, it will be quoted below the PowerPoint slide
- A list of reference material pertaining to the subject; and,
- A list of all other related courses available

In terms of design and style, font sizes are the first point of divergence. In every case, set size as appropriate given the amount of content on the slides, while remaining consistent throughout the course.

ILT Content Type	Font Size
Headings on PowerPoint Slides (Course title, Lesson title, Screen title)	Trebuchet 28pt bold
Text on PowerPoint Slides	Trebuchet 24pt
Printed material: first-level headings:	Trebuchet 16pt bold
Printed material: second-level headings	Trebuchet 14 pt
Printed material: content	Trebuchet 12pt

## ILT Details

### 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
- Course Overview
- 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 one page Lesson Plan summary includes, as a minimum:

- I. Lesson Number
- II. Lesson Title
- III. Performance-Based Learning Outcomes
- IV. Instructional Methodology (e.g. question 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

## ILT 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 Experts (SME) intended and to achieve the same results each time taught. The Instructor Notes template should be the same for each slide and resemble this:

<b>Key Message:</b>	Summarize the point that you want everyone to remember from slide.
<b>Background Information:</b>	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.
<b>Interactivity:</b>	<p>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).</p> <p>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.</p>
<b>Notes:</b>	<p>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.</p> <p>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.</p>

## ILT PowerPoint Presentations and Visuals

- Use the Slide Master feature in PowerPoint for background color and page numbering. No embedded graphics
- Use a color scheme that contrasts. Suggestion: use a deep blue background with white text:
  - The body text of the power point slides should be white. (The background of the power point slides should be blue.) The blue on the power point slide: Path - Colors - Custom Color Model: RGB; Red: 0, Green: 0, Blue: 153
- 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 Trebuchet MS 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, source should be placed under the PowerPoint slide when appropriate, not on the slide
- Avoid underlines, excessive grid rulings, and unnecessary outlines
- When pulling slides into the IG or PW ensure legibility and quality of graphics by converting the slides to black and white before insertion
- 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 from the projector screen and in the PW in a semi-lit classroom environment

## ILT 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. Course Overview
  - III. Course Description
  - IV. Course Organization - Agenda and Course Times
  - V. Course Coordination
  - VI. Class Size
  - VII. Host Agency Responsibilities
  - VIII. Description of Target Audience
  - IX. Course Goal and Outcomes
  - X. Course Agenda
  - XI. Instructor: Presentation Requirements
    - Before the training Event
    - During the training Event
    - After the Training Event

- XII. Lesson Plans and Visual Notes
- XIII. Exercises (with answers)
- XIV. End of Course Assessment (with answers)
- XV. List of Abbreviations and Acronyms
- XVI. Glossary
- XVII. List of References and Source Documents

## **ILT 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. Course Overview
  - III. Course Description
  - IV. Course Goal & Outcomes
  - V. Course Agenda
  - VI. Course Material
  - VII. Exercises (Handouts) (if applicable)
  - VIII. List of Abbreviations and Acronyms
  - IX. Glossary
  - X. List of References and Source Documents

## **ILT 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.

### **ILT 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.

### **ILT 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, and explanation of roles for group projects, case studies, problems (with solutions) or other supplementary information.

### **End of Course Assessment**

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 an assessment if Continuing Education Units (CEUs) are being offered an instructional systems design decision. The assessment tool should be consistent with course outcomes and be designed to measure participant performance to those outcomes.

### **ILT 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 or gain added information. 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.