



U.S. Department of Transportation
Federal Highway Administration



Office of Technical Services

NHI STYLE AND STANDARDS GUIDE

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Introduction

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Philosophy

The National Highway Institute (NHI) is committed to developing and delivering quality transportation training to our customers and stakeholders. The value of any training depends upon well-designed course materials and highly qualified instructors. NHI maintains an ongoing dialogue with developers, instructors, and participants to ensure that we meet the customers' need to address a skills gap, the stakeholders' expectations for quality training, and the stated outcomes of a course. For more information on NHI's expectations, see https://www.nhi.fhwa.dot.gov/resources/intro_developing.aspx.

Course materials play a significant role in the learning experience. This NHI Style and Standards Guide helps course developers prepare materials that are consistent in appearance and use, helpful to the instructors and participants, and useful as reference tools to enhance job performance.

Training programs deliver maximum effectiveness and encourage transfer of learning when the programs are designed and developed in accordance with currently accepted adult learning principles. Therefore, NHI expects significant contribution from experienced and credentialed instructional systems designers (ISDs) on every course development project.

To meet the above expectations, NHI expects all courses to be developed in accordance with the following approaches:

- Design all courses as learner-centered and experiential.
- Value participants' experience and encourage contributions before, during, and after class.
- Tie content and evaluation methods to the stated learning outcomes.
- Deliver required information, and provide references or resources for those wishing to know more.
- Give participants ownership in mastering the desired outcomes, and provide numerous opportunities for the instructor to assess progress and for participants to gain confidence.
- Maintain compliance with the International Association of Continuing Education and Training (IACET) Standard to provide continuing education units (CEUs) for selected courses and deliver superior training materials and instruction for all NHI courses. (Not all NHI courses offer CEUs; refer to the task order requirements for each course.)

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Instructional Design Standards

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Taxonomy and Course Structure

Learning Taxonomy

NHI courseware should be developed using the following taxonomy:

- Course-Lesson, or
- Course-Module-Lesson

Segment the course into lessons only or into modules with associated lessons. Use the most appropriate structure for logical sequencing of course content. A sample is provided below:

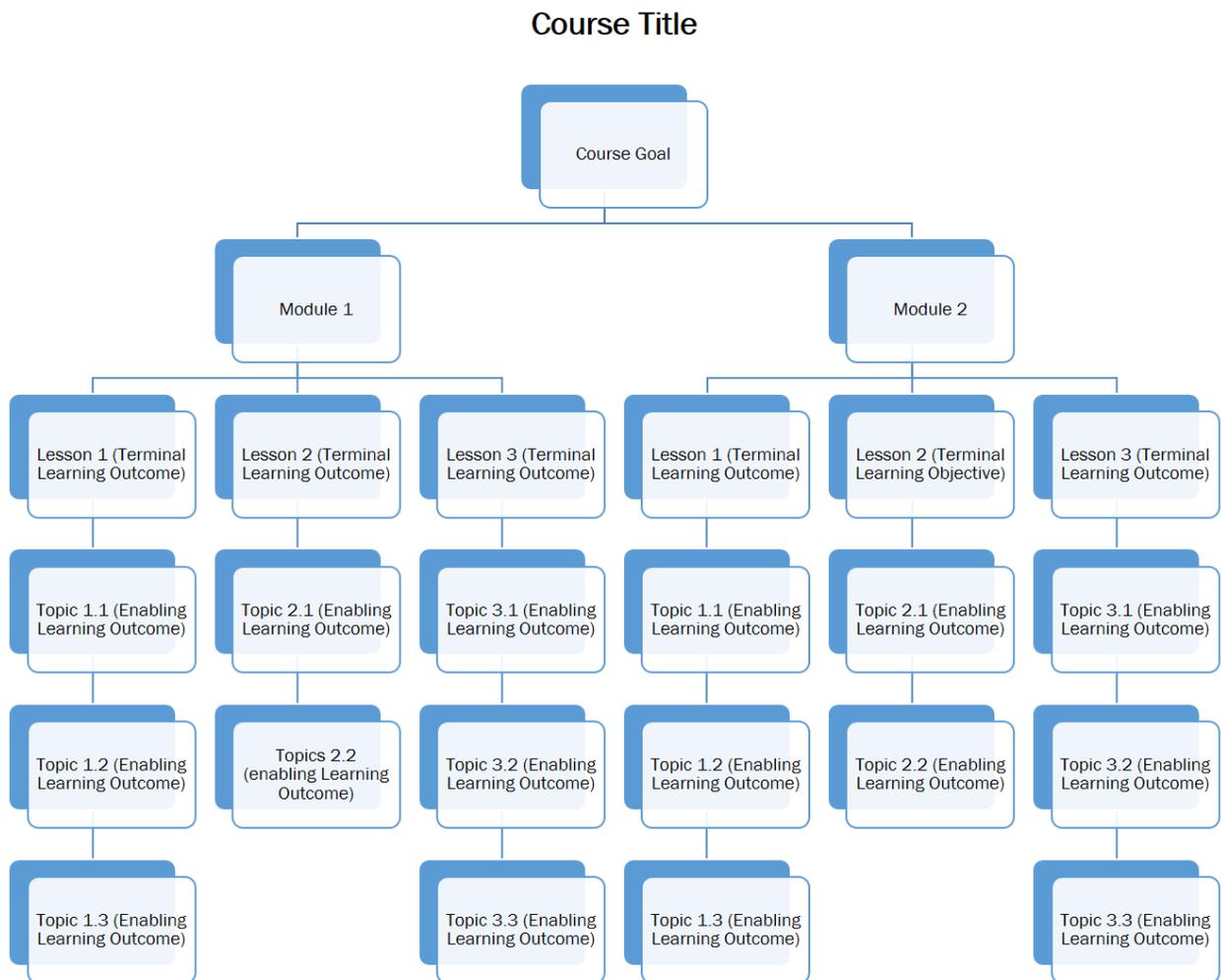


Figure 1: Learning Taxonomy Example Structure

Find more guidance on course structure in the course design plan example at https://www.nhi.fhwa.dot.gov/resources/intro_developing.aspx

The learning taxonomy is best illustrated as follows:

- Course Title
- Course Goal(s)
- Module(s) (grouping of lessons)
 - Terminal Learning Outcomes (TLO)
- Topics
 - Enabling Learning Outcomes (ELO)

Course Goal

A course goal describes the overall objective of the course.

A goal must be both **realistic** and **achievable**, but is not usually measurable.

Terminal Learning Outcomes (TLOs)

Terminal Learning Outcomes (TLOs) are the objectives for lessons (or modules) and are a statement of the course developer's expectations of the learner's performance at the end of a specific lesson.

TLOs are written from the perspective of what the learner will do (not what the instructor will do) and target the performance required when the learners are evaluated, not what they will do as part of the module. TLOs are precise, observable, and measurable, and are stated using active verbs (refer to Bloom's Taxonomy for additional guidance).

The TLO consists of three parts:

1. Condition – under what conditions (setting, supplies, equipment, etc.) will the learner be required to perform the task?
2. Behavior or Action – what will the learner be able to do as a result of completing this lesson?
3. Standard or Criteria – how well must the learner perform the task to pass?

Condition

Whenever possible, state the condition under which you expect the participant to perform. Examples include:

- Given a set of data...
- Using the plan sheets for Silver Street Bridge...
- In small groups...
- Find in the reference manual...

- After researching the assigned model...
- ...from a concrete sample.
- In the laboratory...using the following equipment...
- Based on the case study...
- ...in the Excel spreadsheet.
- Using a calculator...

Behavior or Action

NHI recommends Bloom's Taxonomy of performance levels when writing learning outcomes. Below are the six major levels of Bloom's Taxonomy of the Cognitive Domain, with associated behaviors or actions and sample learning outcomes.

- **Knowledge** (remembering information): Define, identify, label, state, list, match. Examples include:
 - Identify the six components of a quality assurance program.
 - Define precision, accuracy, and bias.
 - On the given diagram, label the parts of a bridge.
- **Comprehension** (explaining the meaning of information): Describe, generalize, paraphrase, summarize, estimate. Examples include:
 - Explain normal distribution.
 - Describe the meaning of data on a given control chart.
 - Explain how transportation processes can affect the plastic properties of concrete.
 - Describe viscoelastic response of asphalt binders to traffic loads and service climate.
- **Application** (applying concepts to actual situations): Determine, chart, implement, prepare, solve, use, develop. Examples include:
 - Using given data, calculate the area under the curve.
 - Determine the appropriate HMA mixture type for a variety of given highway applications.
 - Establish threshold values based on local or regional parameters.
- **Analysis** (breaking down a whole into component parts): Differentiate, distinguish, discriminate, compare. Examples include:
 - Compare and contrast the processes for project-based and system-based IA programs.
 - Differentiate between structural and functional pavement performance.
 - Compare and contrast the investigation process of a mineral deposit vs. that of a processed aggregate.

- Relate given mix design properties to the selection of reinforcement types.
- **Synthesis** (putting component parts together to form a greater whole): Design, develop, organize, generate, construct, create. Examples include:
 - Using the guidelines defined in class and a given position with associated job responsibilities, develop an effective personnel qualification program.
 - Based on best implementation practices from the U.S., generate a quality assurance program recommendation document for your state.
- **Evaluation** (judging the merits of ideas or materials): Weigh, evaluate, select, critique, assess, recommend. Examples include:
 - Recommend an appropriate corrosion mitigation technique for a given scenario.
 - Using a case study document, assess the feasibility of three pavement rehabilitation activities in terms of potential success and economics.
 - Select appropriate surface treatment types based upon existing pavement conditions.

Standard or Criteria

NHI courses typically set a standard of 70 percent or better as a passing grade (criteria). Unless another benchmark is required, the 70 percent may be assumed and does not need to be written into every learning outcome.

When a performance-based outcome will be assessed by rubric, make sure the learning outcome criteria includes specific, observable, and measurable descriptors that define proficiency. It is acceptable to assign a numeric value to a proficiency level, but it is not necessary.

Learning Outcomes Examples

Best instructional practice includes escalating the LOs through the levels of Bloom's Taxonomy to determine if a learner fully grasps the topic and its application.

Below is an example of a lesson aligned with a variety of taxonomical levels.

Lesson: Performance Tests for Hot Mix Asphalt Mixtures

- Match given examples to field or laboratory tests.
- Using laboratory data, describe potential adjustments to correct deficiencies identified by performance testing.
- Establish threshold values based on local or regional parameters.
- Differentiate between fundamental and empirical tests.
- Based upon criteria provided, determine the type of testing needed to evaluate future pavement distress and possible modes of failure.

- Analyze test results to determine potential future pavement distress and possible modes of failure.

Enabling Learning Outcomes (ELOs)

Enabling Learning Outcomes (ELOs) state the course developer's expectations of the learner's performance and the steps toward accomplishing the Terminal Learning Outcome (TLO). They are also written from the perspective of the learner. ELOs:

- Specify a detailed sequence of learner activities and typically generate the outline for the instructional phase of a lesson plan,
- Cover all of the cognitive, affective, and psychomotor skills learners need to master and/or meet the TLO, and
- Are concise and state the requirement in clear, direct language and are unambiguous.

ELOs may require:

- Recall or recognition of facts
- Explanations or descriptions of procedures
- Paraphrasing of principles, theories, rules, concepts, or standards of conduct
- Demonstration of psychomotor skills
- Any other performance required to support the TLO

Evaluations and Assessments

NHI administers a Level 1 evaluation and a Level 2 evaluation (assessment) per the four levels described in Donald Kirkpatrick's *Evaluating Training Programs*. Level 3 evaluation is required only if the contract specifies.

Level 1 Evaluation

Level 1 measures the degree to which the participant was satisfied with the training. NHI requires this post-course evaluation for each course. (Note that NHI provides this Level 1 evaluation as a standard element of its course administration process. The course developer is not required to produce or administer this evaluation.)

Level 2 Evaluation (End-of-Course Assessment)

Level 2 measures the degree to which the participant acquired the intended knowledge, skills, and attitudes as a result of training. The participant must demonstrate the learning, and the instructor must confirm the learning. NHI requires an end-of-course assessment for most courses.

Format

The assessment must evaluate the course learning outcomes.

The assessment may consist of objective methods, such as multiple choice or matching questions. Where appropriate, the method might be presented in performance-based formats, such as skill demonstrations, case studies, or presentations.

Scoring and Feedback

A passing score is 70 percent, unless the project contract specifically states otherwise.

Assessment answer keys include a justification of the correct answer, as well as information on the relevant reference location within the training materials. Where necessary, it should include tools to mitigate subjectivity in grading or scoring. For case studies, presentations, and other performance-based formats, create a rubric that clearly details assessment criteria, parameters, and levels.

The specific method for handling assessment feedback (information on correct answers) will be handled on a case-by-case basis for each program or course and may differ depending on course format (instructor-led, web-based, etc.)

IACET Continuing Education Units (CEUs)

International Association for Continuing Education and Training (IACET) is an independent, internationally recognized non-profit association whose goal is to ensure quality continuing education for professionals.

NHI is an Accredited Provider of IACET CEUs.

In obtaining this accreditation, NHI has demonstrated that it complies with the American National Standards Institute (ANSI) and IACET Standard, which is recognized internationally as a standard of good practice. As a result of the Accredited Provider status, NHI is authorized to offer IACET CEUs for its programs that qualify under the ANSI and IACET standard.

NHI inserts the IACET logo and accreditation statement on its training materials.

Not all NHI courses qualify for IACET CEUs. Consult O for more information on IACET requirements.

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Style and Language Use

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When preparing training materials, it is important to use clear and concise language to minimize confusion and maximize learning. When updating an older course, make the necessary style changes so that the course conforms to NHI style and language usage expectations.

Font

Use a sans serif font, such as Arial or Verdana, and maintain consistent font sizes and type throughout the course. Below are typical preferred font sizes for NHI instructor guides and participant workbooks.

Reference manuals may be guided by other publishing criteria; consult contract documents for specific requirements.

Content Type	Font Size
Publication: first-level headings	16 pt bold
Publication: second-level headings	14 pt bold
Publication: content	12 pt

Table 1: Font size

Refer to the NHI Instructor-Led Training Standards Guide for guidance on fonts for PowerPoint slides.

Mechanics

Emphasis

Do not use underlining or italics to emphasize words. Underlining is reserved for hyperlinks, and italics are used for titles of published works or words appropriated from other languages.

Use bold font for emphasis sparingly; do not use all capital letters.

Punctuation

Do not use the slash, stroke, or solidus (/).

Apply the following guidelines when using a comma:

- Use the serial, or Oxford, comma: Insert a comma after each item within a series of three or more words, phrases, letters, or figures used with “and,” “or,” or “nor.”
- Insert a comma before the conjunction in a compound sentence containing two or more independent clauses.
- Add a comma after the year in complete dates that appear within a sentence.

Differentiate between the em dash, en dash, and hyphen according to the table below:

Type	Length	Rule	Example
Em dash	Same as lowercase “m”	Do not use a space before or after it. Use it to set off a non-essential element.	There are three basic variables—time, wick drain spacing, and surcharge—that can be manipulated to achieve the desired result.
En dash	Same as lowercase “n”	Use it to connect a span of numbers.	2003–2004 Pp. 28–72
Hyphen	Smaller than en dash	Use to hyphenate a word.	Rock-forming minerals

Table 2: Em dash, en dash, and hyphen

Numerals

Use the Arabic numeral for most cases, but spell the number in words when:

- Counting nine or fewer objects
- Beginning a sentence, title, or heading in print content

- Representing large numbers such as “million” and “billion.” (Write “24 million” instead of “24,000,000.”)

When 2 or more numbers appear in a sentence, and 1 of them is 10 or larger, use the numeral for each. Below are examples of this application:

- Each of 15 major commodities (9 metal and 6 nonmetal) was in supply.
- That man has 3 suits, 2 pairs of shoes, and 12 pairs of socks.

Use the symbol “%” (instead of the word “percent”) only when representing a mathematical formula.

Do not pluralize numbers with an apostrophe.

Spelling, Grammar, and Language

NHI adheres primarily to the [GPO Style Manual](#), [Chicago Manual of Style](#), and the [Federal Plain Language Guidelines](#) for style guidance. Consult *Webster's Third New International Dictionary* for spelling guidance.

Abbreviations and Acronyms

Write out the first instance of a word and put the abbreviation or acronym in parentheses. Use the abbreviation or acronym alone only if it is more recognizable than its written-out form. Examples of this include IBM, FBI, and FedEx.

Below are guidelines on common abbreviations and acronyms:

- Use abbreviations to represent units, such as lb and kg, but omit internal punctuation. Do not abbreviate “inch” except where an abbreviation saves space in tables and figures.
- Do not include spaces or periods for acronyms.
- Use “email” instead of “e-mail.”
- Use lowercase letters for file extensions: e.g., .jpg, .gif, .doc.
- If the training materials include numerous abbreviations or acronyms, include a list after any lists of tables and figures.

Capitalization

Do capitalize:

- “State” when referring to one of the 50 states
- “Federal” but not “federally”
- “Government”
- “Contractor” and “Agency” only when they refer to specific legal or contractual roles

Do **not** capitalize common nouns used for reference, such as table 1, chapter 2, reference 4, and appendix A.

Plain Language

The [Plain Writing Act of 2010](#) requires that Federal agencies provide “clear Government communication that the public can understand and use.” The Federal Plain Language Guidelines emphasize the importance of writing in active voice, and in a concise, organized format tailored to the audience.

Guidelines are available at <http://www.plainlanguage.gov>.

Standards for Deliverables

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Intellectual Property

Ownership Rights

The Federal Government has unlimited rights in all course material produced in the performance of a contract.

Copyrighted Material

Do not use copyrighted material without explicit written permission of the copyright owner. Cite the copyright source in course materials. (An email citing the exact allowable content from a named source and stated purpose is adequate.)

NHI takes copyright issues very seriously. Ensure that any subject matter experts (SMEs) with whom you are working, or from whom you are receiving content, understand and comply with relevant copyright guidelines for all content, including graphics and other media.

Images and Videos of People

When using image or videos of individuals submit a completed FHWA Multimedia Model Release Form, as found in Oof this document.

Mark and Signature

Use only the training material front cover and spine templates provided by NHI; these templates include the required FHWA, NHI, and IACET logos. No other logos or marks may be added to the training products unless specified in the project contract or directed by the NHI Training Program Manager or Contracting Officer's Representative.

Do not mark course materials with the developer's or contributor's corporate name, logo, or symbol; do not use graphics with such logos or symbols embedded in them.

Graphics

Graphics, including photographs, charts, and illustrations, can help a participant understand complex concepts. Effective graphics support the text and add content value; whereas ineffective graphics detract from learning.

To optimize graphics, keep the treatments, effects, quality, and perspective consistent throughout the course. Make sure that all complex and detailed graphics are large and sharp enough to be decipherable. Some best practices for graphics configurations are listed below:

- Use graphics that are current and relevant.
- Avoid using cartoons.
- Avoid unnecessary effects, such as shadows or decorative borders. Avoid using shaded or patterned backgrounds, as NHI's training materials are printed in black and white.
- Photographs and other raster images must have a resolution of at least 300 dpi.
- Remove or blur all branding (such as logos) or identifying content.
- All graphics must comply with Section 508 of the Rehabilitation Act.
- Submit all original illustration source files in their native software configuration.

Do not use copyrighted graphics without explicit written permission. When using graphics covered under licenses, such as Creative Commons (CC) licenses, follow all related attribution guidelines. Ensure that graphics you receive from subject matter experts (SMEs) are not copyrighted.

Section 504 and Section 508 Compliance

NHI complies with [Section 504](#) and [Section 508](#) of the [Rehabilitation Act of 1973](#), as amended, in its training design, development, and delivery efforts.

The Act requires that all electronic products prepared for the Federal Government be accessible to persons with disabilities, including those with vision, hearing, cognitive, and mobility impairments. Compliance with the Act requires training materials formatted to include features such as, but not limited to, the following:

- Closed captioning and audio descriptions for multimedia, with options to turn either of them on or off as desired
- Comprehensive and descriptive alternative text, written in plain language, for each non-text element
- Fully labeled tables, charts, and graphics that convey content independent of color coding
- Mouse-independent navigation, such as Tab button navigation

Information and Communication Technology (ICT) Refresh

On January 18, 2017, the Access Board published a [final rule](#) that jointly updates requirements for information and communication technology covered by Section 508 of the Rehabilitation Act and Section 255 of the Communication Act. The Section 508 Standards continue to apply to training media, support services, and documentation.

Contractor Responsibility

NHI expects contractors developing courseware to be fully competent in the knowledge and practice of Section 508 compliance. For those seeking related guidance, we refer to the resources below.

Section 508 Resources

- Section 508 Standards (the actual law):
<https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/section-508-standards>
- Guide to the Section 508 Standards (explanations of law):
<https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-section-508-standards/guide-to-the-section-508-standards>
- Information and Communication Technology (ICT) Refresh (2017 update and harmonization)
<https://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-ict-refresh>

- Section508.gov GSA Government-wide IT Accessibility Program:
<https://section508.gov/>
- How-To's and Checklists for Creating Accessible Products:
<https://section508.gov/create>
- U.S. Department of Transportation Disability Resource Center (DRC):
<https://www.transportation.gov/drc/section-508>

File Format

Unless specified otherwise, all work must be deliverable in Microsoft operating system (MS OS) editable file formats. Any Web-based application must be compatible with the FHWA Common Operating Environment (COE). Refer to your task order or COR instructions for the latest specifications.

Deliver final electronic files to NHI via acceptable media, as specified by NHI. Do not secure files with a password. Printable files must be print-ready.

Provide source files in one folder and PDFs in another folder. Source files may include files such as:

- Documents
- Presentations
- Graphics
- Animation
- Video
- Audio
- Other resource materials, such as spreadsheets

If the final deliverables include layered raster elements, include the original layered version of the element.

Supplement the deliverables with:

- A complete “readme.txt” file and help file that have been proofread and tested
 - Include printing and tabbing instructions for print documents, such as instructor guides, participant workbooks, and reference manuals.
 - Include installation instructions, minimum hardware system requirements, additional software needed, file structure breakdown, and any potential troubleshooting information for all electronic media.
 - Explain any Flash elements or complex programming of elements, functions, resources, etc., if applicable.
- Information on all intended operating system platforms
 - Include technical details about file size and other information in the installation instructions.
- An “about.txt” file that gives a general overview of the purpose and content of the materials
 - Include any copyright, software, trademark, and patent information and release documents.

File-Naming Conventions

Name the files according the following conventions:

Course number_Publication type_Publication number (if any)_Revision date_File description.Application extension

Example:

141031_EX-0712_032418_ExamA.doc

Publication Type

Use the following abbreviations for various publication types:

- IG (instructor guide)
- PW (participant workbook)
- RM (reference manual)
- PP (PowerPoint presentation)
- EX (exam, test, assessment, evaluation instrument, answer key)
- SM (simulation)
- VD (video)
- AU (audio)
- BK (book)
- OM (other materials)

Revision Date (month, day, year)

- 05022018 (May 2, 2018)
- 12132018 (December 13, 2018)

Application Extension Examples

- pdf (Adobe Acrobat)
- doc; docx (Microsoft Word)
- ppt; pptx (Microsoft PowerPoint)
- ppc (auto-generated audio file by Adobe Presenter)
- wav or MP3 (audio file)
- flv; avi (video file)

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Appendices

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Appendix A: Standards for IACET CEUs

NHI Responsibility

The National Highway Institute (NHI) is the entity within Federal Highway Administration (FHWA) with the authority and responsibility for administering CEUs. They ensure that quality materials and qualified instructors are provided for learners attending a learning program or single learning event. NHI has the responsibility for documenting continuing education or training within the organization.

Qualifying for CEUs

A **course** must meet several requirements in order to be offered for CEUs:

- The marketing material for the course must clearly identify the course learning outcomes.
- The course must include an official assessment at the end.
- The course instructors must be technically competent and possess good training delivery skills.

Courses without an official end-of-course assessment will not receive CEUs. Participants will receive credit for attending the course, but no CEUs will be awarded.

In addition, **participants** must meet certain requirements in order to earn the CEUs:

- Participants must score at least 70 percent on the assessment.
- Participants must attend 100 percent of the training event.

Specific requirements are explained in more detail below.

Calculation of CEUs

One CEU is awarded for every ten contact hours of training led by a qualified instructor. Lunch periods and breaks are not calculated when determining the number of contact hours. Therefore, in an eight-hour day, there are approximately six contact hours of instruction, for an award of 0.6 CEU per day.

The CEUs will be calculated by the ISD or TPM at the end of the pilot presentation. The checklist used to make this determination is filled out, signed, and submitted to the IACET Administrator for signature.

On occasion, there may be adjustments to the course length to accommodate course hosting location conditions. In that event, the number of CEUs awarded will be adjusted to reflect the actual contact hours.

Clear Communication of Course Content

Course descriptions, as well as other marketing materials, must reflect the outcomes and the method of assessment to be used for measurement.

Course Assessment Requirements

Instructors will advise participants at the beginning of the session that an assessment of individual learning will take place by the end of the class. This assessment may consist of a post test, a case study, or a project/demonstration. It is expected that all participants will take an active role in this assessment.

The assessment is designed to measure the achievement of course learning outcomes. Instructors commonly facilitate question-and-answer sessions, quizzes, and pre assessments for courses. The course learning outcomes dictate the form of assessment used to measure the learner's knowledge, skill, or ability gained during the course. The assessment of outcomes can be formal (e.g., post test) or informal (e.g., group activity), as long as the instructor(s) can measure that the course outcomes were met by the participants.

If a post test is given, the participants will be considered to have "passed" the assessment if they score a 70 percent or higher. If the assessment is in the form of a post test, only one in ten questions can be phrased in such a way to solicit a response of true/false or yes/no.

Course Attendance Requirements

In addition to the assessment, to receive CEUs, a participant must attend and initial the sign-in sheet each morning and afternoon of the class. Our goal is to have 100 percent attendance.

If participants miss a short segment, they will be required to make up the work and demonstrate achievement of the outcome to meet the intent of the IACET requirements. Participants absent for more than 5 percent of the course and who do not make up the course work, will not receive CEUs. (Participants must address the absence with the instructor in advance and make up the work prior to the end of the course.)

Instructor Qualifications

As NHI is a technical training organization, all instructors must be technically proficient. In addition to professional competencies, they must exhibit an awareness and practice of the principles of learner-centered delivery and adult education theory.

To ensure a minimum understanding of the concepts and their application, NHI offers an Instructor Development Course (IDC) that each instructor will attend and successfully complete. The instructors will also request certification from NHI during the first year of course delivery.

Appendix B: Style, Language Use, and Standards Authorities

NHI adheres to the following guidelines for language use, graphic design, formatting, and accessibility:

- [Government Printing Office \(GPO\) Style Manual](#)
- [Chicago Manual of Style](#)
- [Section 508](#) of the [Rehabilitation Act of 1973](#), as amended
- [Federal Plain Language Guidelines](#) from the [Plain Writing Act of 2010](#)
- [International Association for Continuing Education and Training \(IACET\)](#)
- *Webster's Third New International Dictionary* (for spelling guidance)

When the *GPO Style Manual* and *Chicago Manual of Style* present conflicting guidance, the *GPO Style Manual* supersedes the *Chicago Manual of Style*.

Contractual requirements supersede this guide. Consult your development contract for specific requirements.

Appendix C: Marks and Logos

US Department of Transportation - Federal Highway Administration

Note that the NHI cover template includes the required size and color of the logo. The developer adds the USDOT-FHWA logo to the first slide in the PowerPoint presentation.

Obtain the logo image file directly from NHI, to ensure it is the official logo. Do not attempt to obtain logo image files from internet sites.

The logo can be printed in black and white or in color. You can enlarge or shrink the size of the logo, but you must keep the same design proportions. (For example, don't move the triskelion symbol, enlarge the symbol, or reduce the size of the type.)

NHI can also supply the full NHI Brand Style Guide for additional specifications on use of logos.

National Highway Institute

The NHI cover template includes the required size and color of the logo. The developer adds the NHI logo to the first slide in the PowerPoint presentation.

Please obtain the NHI logo image file directly from NHI.

IACET Logo and Accreditation Statement

NHI provides a cover sheet for training materials, which incorporates the IACET accredited provider logo.



Appendix D: FHWA Multimedia Model Release Form

(as taken from [APPENDIX M of the Turner-Fairbank Highway Research Center R&D Communication Reference Guide](#))

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FHWA MULTIMEDIA MODEL RELEASE FORM

U.S. Department of Transportation
Federal Highway Administration (FHWA)

National Highway Institute
Office of Technical Services – Arlington, VA 22201

Name: _____ **Location:** _____ **Date:** _____

I hereby grant to FHWA the absolute and irrevocable right and permission, in respect of the photographs or audio or videotape recording and their transcripts, that it has taken or has had taken of me or in which I may be included with others, to copyright the same, in its own name or otherwise (and assign my rights throughout the world in such photograph and audio and video recordings and their transcripts), to use, reuse, publish, and republish, and otherwise reproduce, modify and display the same, in whole or in part, individually or with other photographs, and with any copyrighted matter, in any and all media now or hereafter known, for illustration, promotion, art, advertising and trade, or any other purpose whatsoever; and to use my name in connection therewith if it so chooses.

I hereby release and discharge FHWA from any and all claims and demands arising out of, or in connection to, the use of the photographs, including without limitation any and all claims for libel or invasion of privacy. FHWA may sell, assign license, or otherwise transfer all rights granted to it hereunder.

This authorization and release shall also inure to the benefit of the specific legal representatives, licensees, and assigns of FHWA, as well as the staff representative(s) (if any) for whom it took the photographs.

I am of full age and have the right to contract in my own name. I have read the foregoing and fully understand the contents thereof. This release shall be binding upon me and my heirs, legal representatives and assigns. I further release FHWA from any responsibility for injury incurred during the photography or audio or videotaping session.

Signed: _____

(If minor, parent or legal guardian must sign.)

Printed Name: _____

Address: _____

City, State, Zip: _____

Phone: _____

Fax Number: _____

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Appendix E: Technical Report Documentation

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Technical Report Documentation Page

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle		5. Report Date	
		6. Performing Organization Code	
7. Author(s)		8. Performing Organization Report No.	
9. Performing Organization Name and Address		10. Work Unit No. (TRAIS)	
		11. Contract or Grant No.	
12. Sponsoring Agency Name and Address		13. Type or Report and Period Covered	
		14. Sponsoring Agency Code	
15. Supplementary Notes			
Abstract			
Key Words		Distribution Statement	
Security Classif. (of this report)	20. Security Classif. (of this page)	21. No. of Pages	22. Price

Form DOT F 1700.7 (8-72)

Reproduction of completed page authorized

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Appendix F: Metric Conversion Factors

(Include this table in training materials if relevant.)

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SI* (MODERN METRIC) CONVERSION FACTORS				
APPROXIMATE CONVERSIONS TO SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
in	inches	25.4	millimeters	mm
ft	feet	0.305	meters	m
yd	yards	0.914	meters	m
mi	miles	1.61	kilometers	km
AREA				
in ²	square inches	645.2	square millimeters	mm ²
ft ²	square feet	0.093	square meters	m ²
yd ²	square yard	0.836	square meters	m ²
ac	acres	0.405	hectares	ha
mi ²	square miles	2.59	square kilometers	km ²
VOLUME				
fl oz	fluid ounces	29.57	milliliters	mL
gal	gallons	3.785	liters	L
ft ³	cubic feet	0.028	cubic meters	m ³
yd ³	cubic yards	0.765	cubic meters	m ³
NOTE: volumes greater than 1000 L shall be shown in m ³				
MASS				
oz	ounces	28.35	grams	g
lb	pounds	0.454	kilograms	kg
T	short tons (2000 lb)	0.907	megagrams (or "metric ton")	Mg (or "t")
TEMPERATURE (exact degrees)				
°F	Fahrenheit	5 (F-32)/9 or (F-32)/1.8	Celsius	°C
ILLUMINATION				
fc	foot-candles	10.76	lux	lx
fl	foot-Lamberts	3.426	candela/m ²	cd/m ²
FORCE and PRESSURE or STRESS				
lbf	poundforce	4.45	newtons	N
lbf/in ²	poundforce per square inch	6.89	kilopascals	kPa
APPROXIMATE CONVERSIONS FROM SI UNITS				
Symbol	When You Know	Multiply By	To Find	Symbol
LENGTH				
mm	millimeters	0.039	inches	in
m	meters	3.28	feet	ft
m	meters	1.09	yards	yd
km	kilometers	0.621	miles	mi
AREA				
mm ²	square millimeters	0.0016	square inches	in ²
m ²	square meters	10.764	square feet	ft ²
m ²	square meters	1.195	square yards	yd ²
ha	hectares	2.47	acres	ac
km ²	square kilometers	0.386	square miles	mi ²
VOLUME				
mL	milliliters	0.034	fluid ounces	fl oz
L	liters	0.264	gallons	gal
m ³	cubic meters	35.314	cubic feet	ft ³
m ³	cubic meters	1.307	cubic yards	yd ³
MASS				
g	grams	0.035	ounces	oz
kg	kilograms	2.202	pounds	lb
Mg (or "t")	megagrams (or "metric ton")	1.103	short tons (2000 lb)	T
TEMPERATURE (exact degrees)				
°C	Celsius	1.8C+32	Fahrenheit	°F
ILLUMINATION				
lx	lux	0.0929	foot-candles	fc
cd/m ²	candela/m ²	0.2919	foot-Lamberts	fl
FORCE and PRESSURE or STRESS				
N	newtons	0.225	poundforce	lbf
kPa	kilopascals	0.145	poundforce per square inch	lbf/in ²

*SI is the symbol for the International System of Units. Appropriate rounding should be made to comply with Section 4 of ASTM E380. (Revised March 2003)