

Navy ILE Content Developer's Handbook



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Introduction

This handbook provides the philosophical principles underlying Integrated Learning Environment (ILE) policy, and fundamental guidance to develop, deliver, manage, maintain, and evaluate content. This handbook is consistent with, and based on, the more detailed ILE content guidance provided at <https://www.netc.navy.mil/ile>.



This handbook does not address the acquisition process. For information on acquisition, please visit the [Defense Information Systems Agency](#) web site. The Department of Defense (DoD) Joint Technical Architecture mandates the standards and guidelines to acquire all DoD systems that produce, use, or exchange information.

Note

Also, review [OPNAVINST 1500.76A Naval Training System Requirements, Acquisition, and Management](#) and [DODINST 1322.26 Development, Management, and Delivery of Distributed Learning](#).

ILE Program Participants

The following participants may be involved in developing and supporting ILE content. The size and responsibilities of the organization will determine if some of these roles are combined or omitted.

Navy eLearning (NeL) Support Team

The NeL Support Team is the Navy's enterprise team that provides technical support for and administers the Learning Management System (LMS), Learning Content Management System (LCMS), and deploys content to NeL Ashore, Afloat, SIPR, and Disconnected environments.

ILE Government Sponsor

The ILE Government Sponsor serves as the approval authority for the ILE content. The ILE Government Sponsor is responsible for overseeing life cycle maintenance of the content through new development or revision. The sponsor may perform the following:

- Monitor milestones for ILE content development and revision efforts. Track ILE content circulation and implementation.
- Exercise control and approval authority. Specifically, review and route Training Project Plans (TPPs) and other course planning materials to the appropriate staff for funding and staffing approval.
- Coordinate with other organizations to eliminate ILE content duplication, foster standardization, and facilitate improved efficiencies.
- Utilize the Navy eLearning (NeL) Content Announcement and Submission process.

Project Manager

The ILE Project Manager is that individual, assigned by the ILE Government Sponsor, responsible for developing and maintaining ILE content. The ILE Project Manager initiates training material development and modification, conducts reviews and analyzes feedback, maintains audit trail documentation, and develops and approves changes. The ILE Project Manager normally functions as the developer for Navy in-house developed ILE content.

Content Development Activity

The ILE Content Development Activity (CDA) is responsible for developing, and sometimes for maintaining, specified ILE content. This activity may perform the following:

- Prepare and submit TPPs and other training support documents as specified in the contract, or as assigned by the ILE Government Sponsor
- Develop or revise ILE content and training materials for the designated course curriculum.
- Distribute all cognizant ILE content.
- Work with Material Support Agency representatives or contractor personnel, when assigned, to produce training materials.
- Liaison with the Corporate Enterprise Training Activity Resource System (CETARS)

- Coordinator.
- Ensure developed and modified instructional materials address mission needs.
- Liaison with all training activities that will be teaching courses under development/revision to ensure site considerations are addressed in TPPs and other course documents.
- Ensure that ILE content is aligned with Navy Learning Objective Statements (NLOS).
- Report on ILE content development and revision activities to the ILE Government Sponsor.

The procedures for developing and managing ILE content include five interrelated phases:

- Plan the Project
- Assemble Resources
- Develop Content
- Deploy Content
- Manage Content

Plan the Project

Appendix A provides a Checklist for the Plan the Project Phase.

A Front-End Analysis (FEA) helps to identify the costs, target audience, content, Navy Learning Objective Statements (NLOS), and optimal delivery method(s).

Depending on the scope and magnitude of the curriculum development effort, perform the following steps during this phase:

- Identify Training Requirements
- Request Course Identification Number
- Construct Navy Learning Objective Statements
- Sequence Navy Learning Objective Statements
- Develop Assessment Strategy
- Determine Training Delivery Method
- Search Existing Material
- Create Course Outline of Instruction
- Determine Evaluation Plan
- Develop Project Plan

Identify Training Requirements

There are several ways to identify the need to develop or revise content. These include periodic training gap analyses, review of changes to operational or maintenance requirements, and monitoring of changes to equipment or systems.

Regardless of how the need to develop or revise content is identified, the foundation is Job Duty Task Analysis (JDTA) data.

Navy Job Duty Task Analysis



Glossary

Occupational skills data exists for most enlisted jobs performed in the Navy. This information is captured in what is known as Navy Job Duty Task Analysis (JDTA). This data provides detailed descriptions of the work performed by Sailors.

The key steps in the JDTA process are collection, review, validation, and approval. Learning Centers obtain JDTA data from a variety of sources. These sources include stakeholder recommendations, and operational and maintenance requirements. The Navy Manpower Analysis Center (NAVMAC) and cognizant Learning Center validates the data by Fleet survey. This validated and approved JDTA data can be made accessible through the [Content Planning Module \(CPM\)](#).

Because Learning Centers cannot continuously update JDTA data, they will probably have more current data collected and reviewed in-house awaiting validation and approval. Even though this proposed JDTA data may more accurately reflect the work the Fleet performs, be aware that developing content based on this data may result in content that is not perfectly aligned with the approved data.

Key JDTA data elements are defined in Table 1.

Table 1: Key JDTA Elements

Elements	Definition
Job	Is made up of duties and tasks. A job can be determined from either a top down approach or a bottom up approach where the tasks and duties are analyzed to determine what the job is. A listing of Enlisted Occupational Jobs are contained within NAVPERS 18068F which may provide some insight in you job selection criteria.
Duty	<ul style="list-style-type: none"> • Is a major part of a job. • A collection of duties make up a job. • Occupies a major part of the work time. • Occurs often in the work cycle. • Clusters of Duties constitute a Job. • Must be observable and measurable. • Involves a group of closely-related tasks.
Task	<ul style="list-style-type: none"> • Is a major part of a duty - clusters of tasks make up a duty. • Is performed in a relatively short period of time. • Must be observable and measurable. • Each task is an independent part of the job; it is independent of other tasks. Tasks are NOT components of a procedure.

Training Gap Analysis

Each Learning Center has established procedures for periodically reviewing existing courses. These reviews should compare the training delivered to the work reflected in their community's JDTA data. This comparison is a training gap analysis and can reveal the need to revise the content to better align with the JDTA data (i.e., the work performed by the Fleet).

Requirement Revision

Because operational and maintenance requirements are a source of JDTA data, any changes to these requirements may require modification of the JDTA data, subsequently requiring a revision to associated learning content. Additionally, there are mandatory training topics that may not be reflected in the JDTA data.

Systems Development

Training may be required due to acquiring a new system or revising an existing system. The initiating program office conducts a training analysis for the system and determines the required training and training devices. All stakeholders review this analysis, and the result is an approved Navy Training System Plan (NTSP). The NTSP is the Navy's training requirements document used to justify the Manpower, Personnel, Training & Education (MPT&E) program, budget submissions, and to initiate programming actions throughout the acquisition process. Depending on the magnitude of the impact to the Fleet, this analysis may result in identifying additions or modifications to existing JDTA data. [OPNAVINST 1500.76A Naval Training System Requirements, Acquisition, and Management](#) provides a more detailed description.

Prior to the content development effort, review the following documents:

- Training Systems Requirements Analyses (TSRA) - The TSRA describes the training platform type, equipment, system, subsystems, and training, location, and performance requirements.
- Training Device Decision Coordinating Paper (TDDCP) - Provides a technical assessment of potential training systems in support of the training media selection process.
- Military Characteristics (MC) - The MC document defines the physical and functional baseline characteristics that a training device or simulator must have to meet the specified training objectives addressed by that component of the instructional system.

The [Content Planning Module](#) is an ILE application that can be used to view JDTA data if the data has been imported into the module. The procedure is available in the [Content Planning Module User Manual](#).

Request Course Identification Number

A Course Identification Number (CIN) is an alphanumeric combination that uniquely identifies a course in training databases such as the [Navy Total Manpower System \(NTMPS\)](#), the [Navy eLearning Learning Management System \(LMS\)](#), and the [Corporate Enterprise Training and Reporting System \(CETARS\)](#).

The Learning Center initiates the request using a CIN Request Form. Appendix B provides a Sample.

Construct Navy Learning Objective Statements

Navy Learning Objective Statements (NLOS) are founded on JDTA data and describe what the learner must achieve to successfully complete the course of instruction. NLOS consist of three elements:

- Behavior
- Condition
- Standard

When possible, write the Condition, followed by the Behavior, then the Standard.

Behavior: The Behavior describes what the learner should achieve to complete instruction. The behavior element includes a subject, a verb, and an object.

- The learner is always the subject unless otherwise stated.
- Use one verb to state what the learner must perform.
- The behavior must be observable and measurable given available assessment methods.

To narrow your selection, determine the learning outcome: cognitive, affective, or psychomotor. These outcomes categorize "the learned capabilities." That is, following instruction the learner should have acquired a cognitive, affective, or psychomotor outcome.

- Cognitive: Mental capabilities
- Affective: Attitudinal capabilities
- Psychomotor: Physical capabilities

These outcomes are further differentiated from the most to the least complex as outlined in Table 2.

Table 2: Outcome Categories (listed in decreasing complexity)

Cognitive	Affective	Psychomotor
Evaluation	Characterizing by a Value or Value Complex	Naturalization
Synthesis	Organizing	Articulation
Analysis	Valuing	Precision
Application	Responding	Manipulation
Comprehension	Receiving	Imitation
Knowledge		

Once the desired level of complexity for the appropriate learning outcome is established, use the verb list found in [Navy ILE Learning Objective Statements: Specifications and Guidance](#).

Behavior Example



CALCULATE the length of the third side of the triangle

In this example, the subject is the learner, the verb is "calculate," and the object is "length of the third side of the triangle."

Note

REPLACE the oil filter

In this example, the subject is the learner, the verb is "replace," and the object is "oil filter."

Condition: The Condition states the circumstances under which the Behavior is performed.

The condition should list the tools, references, and other aids provided or denied. When including references avoid excessive detail because it may be difficult to maintain references to them current; details about publications should be included in the metadata for the learning object.



Glossary

Metadata is “data about data.” It provides additional information on the context and characteristics of information items. It can describe the source of data, both human and machine, as well as time-sensitive issues like expiration of approval or legal standing. In addition, it can describe how to use the data, and key business processes involved.

When writing NLOS, assume that the learner is to perform the behavior under normal instructional conditions, such as Instructor-Led Training (ILT) or Interactive Multimedia Instruction (IMI). Therefore, a condition such as “given paper, pencil, and appropriate instruction” or “when given a computer-delivered exam” is NOT stated in the NLOS. Include only meaningful conditions.

Condition Example



Given the Pythagorean Theorem, a slide rule, and the lengths of two sides of a right triangle, calculate the length of the third side.

Note

Given the shop manual and a filter wrench, replace the oil filter.

Standard: The Standard describes how well the learner should perform the behavior.

Standard Example



Given the Pythagorean Theorem, a slide rule, and the lengths of two sides of a right triangle, calculate the length of the third side **within ten percent accuracy.**

Note

Given the shop manual and a filter wrench, replace the oil filter **within an hour.**

Terminal and Enabling Objective Statements

There are two types of NLOS: the Terminal Objective Statement (TOS) and the Enabling Objective Statement (EOS). Both serve a distinct purpose in ILE content development. Remember, JDTA data is the foundation of NLOS.

- It is acceptable for a TOS to address one learning outcome (i.e., Cognitive, Affective, or Psychomotor) and its supporting EOS to address another.
- EOS supporting a TOS should contain a verb of equal or lesser complexity than the supported TOS.
- One TOS covers approximately one hour of instruction.
- One EOS covers approximately 15 to 20 minutes of instruction.

The following are examples of a TOS and supporting EOS:

“Given applicable manuals and common shop tools, tune an automotive engine to within manufacturer's specifications.”

An EOS derived from this task might be:

"Given a timing light and a distributor wrench, adjust the ignition timing to within one degree of manufacturer's specification."



This example is for instructional purposes only.

Note

The [Content Planning Module](#) is an ILE application that can be used to construct NLOS. The procedure is available in the [Content Planning Module User Manual](#).

Sequence Navy Learning Objective Statements

Once the NLOS are constructed, sequence them using one of the following strategies:

Chronological Order: Sequence NLOS in the order that the associated subject matter occurs in time, that is World War I material is presented before World War II material.

Comparative Sequence: Sequence NLOS such that familiar subject matter is presented before unfamiliar subject matter, that is material on U.S. submarines is presented before material on foreign submarines.

Critical Sequence: Sequence NLOS such that more important subject matter is presented before less important subject matter, that is material on equipment safety is presented before material on equipment operations.

Dependent Relationship Sequence: Sequence NLOS such that prerequisite subject matter is presented first, that is material on mathematical operations is presented before material on algebra.

Job Performance Order: Sequence NLOS in the order the subject matter is performed, that is material on loading a weapon is presented before material on firing the weapon.

Simple to Complex: Sequence NLOS such that less complex subject matter is presented before more complex subject matter, that is material on arithmetic is presented before material on geometry.

Supportive Relationship Sequence: Sequence NLOS such that conceptually similar subject matter is presented in close proximity, that is material on the works of Leonardo da Vinci is presented in close proximity to that of Michelangelo.

Depending on the subject matter, it might be appropriate to reverse the order in any of the above sequencing strategies.



Note

In some cases, it might be helpful to consider the training delivery method before NLOS sequencing, as delivery method can influence the sequence. See the section on Determining the Training Delivery Method to learn more.

Use the [Content Planning Module](#) to sequence NLOS. The procedure is available in the [Content Planning Module User Manual](#).

Determine Assessment Strategy

The manner in which the NLOS will be assessed should be determined shortly after NLOS construction. This should be a high level design that captures how embedded, pre- and post-assessments will be employed. This high-level design is the Assessment Strategy.

Determine Training Delivery Method

To maximize training effectiveness and optimize resource utilization, content developed should be founded upon JDTA data and leverage instructional delivery methods and technologies (e.g., computer-based, web-based, video, performance support systems). A training delivery analysis includes review of the NLOS, identification and evaluation of available delivery options, and selection of the optimum delivery means. The Training Delivery Analysis Report captures this process, and the selected delivery methods recorded in CPM.

The Training Delivery Analysis Report shall be in accordance with the [Instructional Media Requirements Document, DI-SESS-81519B](#), and tailored to meet ILE specifications. The Training Delivery Analysis Report template of Appendix C is available to formalize project planning.

It might also be worthwhile to identify the level of interactivity desired for content delivery. Table 3 provides a description of the levels of interactivity.

Table 3: Interactivity Levels

Interactivity Level	Description
1	Passive - The student acts solely as a receiver of information.
2	Limited participation - The student makes simple responses to instructional cues.
3	Complex participation - The student makes a variety of responses using varied techniques in response to instructional cues.
4	Real-time participation - The student is directly involved in a life-like set of complex cues and responses.

Search Existing Material

"The DoD Components shall share training resources to the maximum extent possible."
-DoD Instruction 1322.26

Your ILE content should be developed so that it can be used throughout the DoD as often as practical. If it is anticipated that the subject matter supporting the NLOS is present in existing materials, this material should be evaluated for potential Reuse, Repurposing, or Referencing (R3):

- Redeploy: Running the same content, without modification, in multiple LMSs.
- Rearrange: Reordering the same content for new uses or new contexts.
- Repurpose: Using the same piece of content in new contexts or in different ways.
- Rewrite: Taking relevant materials and changing the examples, imagery, or writing style, or removing irrelevant information.

Such material may be available at the Advanced Distributed Learning-Registry ([ADL Registry](#)).

Create Course Outline of Instruction

Once you have determined the training delivery method to employ for each NLOS, construct the Course Outline of Instruction (COI). The COI contains the presentation sequence, and is documented in a Training Course Control Document (TCCD) in [Authoring Instructional Materials \(AIM\)](#).

If the focus of the content development effort is limited to a portion of a course, you need only create or modify that section of the COI.



When you develop the COI, you will create titles to identify lessons and sections. These titles should be descriptive. To maximize reuse in different training scenarios, avoid hierarchical words and numerical sequences such as course, phase, module, and lesson, which could confuse the learners when accessing content via the Learning Management System (LMS).

Note

Descriptive Lesson Titles

Theory of Hydraulics
Ship's Service Hydraulic System

Non-Descriptive Lesson Titles

Section 1 of 4
Module 2

Use the [Content Planning Module](#) to document the COI. The procedure is available in the [Content Planning Module User Manual](#).

[Authoring Instructional Materials \(AIM\)](#) is a government-managed system used by the Navy and other agencies to develop, update, manage, and integrate training content. Use AIM to document the COI in the TCCD

Determine Evaluation Plan

Evaluation of instructional effectiveness must be a consideration from the beginning of the project. These evaluations may include content reviews during the development process through training effectiveness reviews following delivery. Early selection of the evaluation strategy enables you to ensure the required resources are in place when needed.

The Evaluation Plan shall be developed in accordance with [Training Evaluation Document Data Item Description, DI-SESS-81524B](#), tailored to meet ILE specifications. Appendix D provides a template to standardize planning.

Develop Project Plan

Develop the project management plan as soon as practical after deciding to develop content.

Training Project Plan

The Training Project Plan (TPP) is the overarching course management document that identifies all training requirements including instructor resources, classrooms, and training devices. A TPP can be developed using AIM. When revising a course that was managed in Authoring Instructional Materials (AIM) I or AIM II, consider upgrading to AIM Learning Object Module (LOM), which is compatible with its predecessors and provides enhanced ILE capabilities. Generate the TPP early, with the understanding that the first draft will not necessarily have all the required information.

Once you have developed your project plan, you may need to present it for prioritization and funding from the Naval Education and Training Command (NETC).

Learning Center projects may be prioritized using the following information:

- Training requirements

- Quality of supporting JDTA data
- Availability of reusable content
- Established performance requirements
- Maturity of COI, IMP, IMS, and evaluation plan
- Status and sequence of NLOS
- Determination of training delivery method
- Estimated project cost and return on investment
- Cross-center and -service applicability



Note

Organizations developing content, external to Manpower, Personnel, Training, and Education (MPT&E), such as Naval Sea Systems Command (SYSCOM), may not be required to perform all the steps presented in the "Plan the Project" phase.

The [Content Planning Module](#) can be used to capture project management information, and assist in developing the TPP found in AIM. The procedure is available in the [Content Planning Module User Manual](#).

Plan the Project Summary

Table 4 provides a listing of the activities of this phase, if applicable, and the responsibilities of the members involved.

Table 4. Plan the Project Summary

Activity	ILE Content Development Activity	ILE Project Manager	ILE Content Sponsor
Review NJA data in CPM	Review	Review	Approve
Request CIN		Submit	Approve
Construct NLOS in CPM	Review ¹	Review	Approve
Sequence NLOS in CPM	Sequence	Review	Approve
Document Assessment Strategy	Document	Review	Approve
Document Training Delivery Analysis plan	Document	Review	Approve
Assemble GFI	Gather	Review	Approve
Document COI	Document	Review	Approve
Document ILE Content Evaluation Plan	Document	Review	Approve
Document TPP	Document	Review	Approve

Applications/Web Sites:

[Content Planning Module](#)

[Advanced Distributed Learning-Registry](#)

[Authoring Instructional Materials \(AIM\)](#)

Documents/References:

Instructional Media Requirements Document, DI-SESS-81519B

[1322.26 DoD Instruction on Development, Management, and Delivery of Distributed Learning](#)

Training Evaluation Document Data Item Description, DI-SESS-81524B

Templates/Appendices:

Plan the Project Checklist – Appendix A

CIN Request Form – Appendix B

Training Delivery Analysis Report/Worksheet – Appendix C

Evaluation Plan – Appendix D

¹ Depending upon the Statement of Work the Content Development Activity may be involved in NLOS construction.

Assemble Resources

Following approval and prioritization of the ILE content development project, how you proceed will depend on the available resources and required team members, which may include contractor support.

Perform the following, tailored by the scope and magnitude of the content development effort:

- Prepare Acquisition / Production Package
- Kick Off the Project
- Hold Navy Learning Objective Statement Conference
- Announce Delivery Dates
- Create Instructional Media Design Package
- Create Test Package

If you decide to perform the work in-house, you will be able to move ahead with the Training Project Plan (TPP) as your guiding document. If your content development effort requires contractor support, a Statement of Work (SOW) will be required.

Appendix F provides a checklist for the Assemble Resources phase.

Prepare Acquisition / Production Package

Perform the following for ILE projects that require the procurement of services in accordance with Learning Center or Naval Sea Systems Command (SYSCOM) internal procurement practices:

- Solicitation plan development
- Source selection
- Contract award
- Contract management
- Contract closeout

Statement of Work

If a contractor is required, you will need to write a SOW, the purpose of which is to identify in clear, understandable terms the requirements and deliverables for the project. The NeL Support Team will assist by reviewing drafts of the SOW.

A [Statement of Work template](#) is available for ILE curriculum development efforts.

Request for Proposal

After SOW approval, the Contracting Officer, Learning Center, or SYSCOM will solicit contractor proposals by posting a Request for Proposal. The ILE Content Sponsor will have the opportunity to perform a technical review of each proposal.

Selecting the Team

Table 5 lists key ILE content development roles and responsibilities, which may be combined when appropriate.

Table 5. Selecting the Team

Team Member	Responsibilities
Configuration Manager	Plans, supervises, and coordinates Configuration Management (CM) activities to identify, control, and manage all assets.
Courseware Developer	Authors and programs ILE content.
Courseware Programmer	Develops software to analyze, design, program, and document ILE content.
Graphic Artist	Develops and advises on the use of graphics and other visual conventions.
ILE Project Manager	Oversees the project, ensuring that the content developed meets Fleet requirements and complies with all requirements.
Information Technology (IT) Specialist	Establishes project policy regarding the use of software programs, programming languages, and infrastructure requirements.
Instructional Designer / Educational Technologist	Designs, creates, and evaluates instructional and assessment strategies to be employed for the project.
Media Production Specialist	Develops and coordinates the use of audio, still-frame, and motion sequences.
Quality Assurance Officer	Coordinates and supervises Quality Assurance (QA) activities to include verification and testing of ILE content.
Subject Matter Expert (SME)	Reviews ILE content to ensure technical accuracy.

The [Content Planning Module](#) can be used to record team members in an ILE Content Development project. The procedure is available in the [Content Planning Module User Manual](#).

Kick Off the Project

Convene the kick off meeting shortly after contract award. This meeting provides the contractor a forum to brief their plan to complete the project. A typical agenda for a kick off meeting includes:

- Roles, responsibilities, and points of contact
- Review of the contractual requirements of the effort
- Review of a risk management plan
- Review of proposed security classification protocol

- Review of existing Government Furnished Information (GFI)



Tip

Critical at this point is identification of additional GFI and GFE for the project. Since ordering and receiving publications within the Navy can be a lengthy process, it is best to start acquiring the resources as soon as possible after the kick off meeting if they have not already been obtained.

Hold Navy Learning Objective Statement Conference

The goal of the Navy Learning Objective Statement (NLOS) Conference is to review and approve the NLOS, ensuring that they are founded upon JDTA data as appropriate, adhere to the tenets of instructional design, and comply with ILE guidance.

The typical NLOS Conference agenda will include:

- Review of the vision for the project
- Review of existing JDTA data
- Review of course structure (i.e., course, module, lesson, topic)
- Review of proposed NLOS, to include training delivery method and level of interactivity

Evaluate the NLOS using the following guidelines:

- Founded upon JDTA data
- Include a condition, behavior, and standard
- Identify appropriate training delivery method

Refer to [Navy ILE Learning Objective Statements: Specifications and Guidance](#).

The [Content Planning Module](#) can be used to construct and view NLOS for an ILE Content Development project. The procedure is available in the [Content Planning Module User Manual](#).

Announce Delivery Dates

The ILE Project Manager establishes the project milestones. Submit projected delivery dates to the [Content Forecasting Service](#) as soon as identified to allow the NeL Support Team to ensure adequate infrastructure exists, and to establish the channels of communication. To gain access, you must create an account at the ILE Content Support web site or contact the ILE Government Sponsor at the Learning Center to request that they announce the project.

Create Instructional Media Design Package

An Instructional Media Design Package (IMDP) provides the blueprint to standardize instructional processes and conventions during production of the ILE content. Describe every detail of the learning environment so that the ILE Content Development Team can efficiently produce the content using a planned instructional approach. At the end of the project, the IMDP will contain the instructional design for lessons, storyboards, flowcharts, and tests. Submit the IMDP to the ILE Project Manager for review and approval.

- **Course Strategy.** Consider the following when developing the Course Strategy:
 - Course completion criteria
 - Assessment criteria
 - Course duration

- **Lesson Design Strategy.** Consider the following in the Lesson Design Strategy:
 - Instructional strategies
 - Lesson format guidelines
 - Metadata specifications

- **Test Design Strategy.** The Test Design Strategy provides a description of test scenarios, presentation sequence, appropriate learning types and levels, test frequency, test interface, remediation options, and performance tracking. Plan and develop your Test Design Strategy early. Consider the following:
 - Assessment level: module, course, lesson
 - Pre- and Post assessment plans
 - Remediation and feedback plan
 - Re-assessment plan
 - Item analysis data collection



Note

Sharable Content Object Reference Model (SCORM) 2004 implements sequencing and navigation. The logic flow diagrams should present the detailed activity tree. The activity tree should include:

- Navigation within the lesson
- Navigation within the LMS
- Tailored navigation based on the user profile

The IMDP shall be developed in accordance with Instructional Media Design Package Data Item Description, DI-SESS-81520B, tailored to meet ILE specifications.

The IMDP template, Appendix F, provides a consistent method to formalize a project’s instructional design, tailored to meet ILE specifications. The IMDP establishes an instructional design agreement between the ILE Content Sponsor and ILE Content Development Activity.

Create Test Package

A Test Package provides a detailed description of NLOS assessment, and includes the following:

- Test items
- Test(s)
- Test administration materials
- Test plan
- Test administration data
- Test notices
- Test interoperability
- Test item cross-reference chart

Test Design Strategy versus Test Package?



The Test Design Strategy provides a description of test scenarios, presentation sequence, appropriate learning types and levels, test frequency, test interface, remediation options, and performance tracking.

Tip

The Test Package contains all necessary information for assessment development, to include test banks.

The Test Package shall be developed in accordance with [Test Package Data Item Description, DI-SESS-81525B](#), tailored to meet the requirements of ILE specifications. Additional guidance regarding assessment development is found in [Navy ILE Guidance on Assessment Development](#).

The Test Package template, Appendix G, provides a consistent method to formalize the assessment plan, tailored to meet ILE specifications.

Assemble Resources Summary

Table 6 provides a listing of the activities of this phase, if applicable, and the responsibilities of the members involved.

Table 6. Assemble Resource Summary

Activity	ILE Content Development Activity	ILE Project Manager	ILE Content Sponsor	NeL Support Team
Prepare Acquisition / Production Package		Prepare	Approve	Review
Make team selection		Select	Approve	
Hold kick off meeting		Organize	Approve	
Hold NLOS Conference		Organize	Approve	
Announce delivery dates	Announce	Review	Approve	Review
Document Instructional Media Design Package	Document	Review	Approve	
Generate Test Package	Document	Review	Approve	

Applications/Web Sites:

[Content Forecasting Service](#)

[Content Planning Module](#)

Documents/References:

[Navy ILE Learning Objective Statements: Specifications and Guidance](#)

Instructional Media Design Package Data Item Description, DI-SESS-81520B

[Navy ILE Instructional Systems Design and Instructional Design Process](#)

[Navy ILE Instructional Content Style Guide: Interactive Multimedia Instruction & Instructor-Led](#)

[Navy ILE Guidance on Assessment Development](#)

Test Package Data Item Description, DI-SESS-81525B

Templates/Appendices:

Assemble Resources Checklist – Appendix E

[Statement of Work](#) - Interactive Multimedia Instruction

IMDP - Appendix F

Test Package - Appendix G

Create Content

The purpose of this phase is to produce the ILE content in support of the Navy Learning Objective Statements (NLOS). This phase ends with the development of the content for delivery in the Navy's Learning Management System (LMS), or for disconnected delivery.

Depending on the scope and magnitude of the curriculum development effort, perform the following steps:

- Prepare ILE Content Prototype
- Review ILE Content Prototype
- Design Interface and Controls
- Design for Accessibility
- Conform to SCORM
- Prepare Metadata
- Portion Mark Content
- Construct Assessments
- Develop Test Design
- Develop Storyboards, Lesson Plans, and Trainee Guides
- Construct Assets
- Construct Enabling Learning Objects (i.e., sections)
- Construct Terminal Learning Objects (i.e., lessons)
- Review and Accept Learning Objects

Content designed for delivery in the ILE must adhere to Navy Content Object Model (NCOM) guidelines. The NCOM establishes a standard to optimize reusability by providing specific data design rules that give meaning to ILE content such as Terminal Learning Objects (TLOs), Enabling Learning Objects (ELOs), and assets.

The NCOM hierarchy dictates that:

- A learning object aggregation is the top-level grouping of related content containing TLOs and ELOs.
- A TLO is an aggregation of one or more ELOs.
- An ELO is an aggregation of one or more assets.
- An asset is a single media element or a single text element.

Appendix H provides a checklist for the Create Content phase.

Prepare ILE Content Prototype

Before a large-scale development effort begins, it is important to evaluate and test a small sample of ILE content in the LMS.

The authoring software used to develop this sample should be the same as that intended for the full production activity. There are several authoring tools available for use. [Authoring](#)

[Instructional Materials \(AIM\) Learning Object Module \(LOM\)](#) is a government-managed system used by the Navy and other agencies to develop, update, manage, and integrate training content. Whatever software is used, the key is to ensure that it produces Sharable Content Object Reference Model (SCORM) 2004 conformant output and follows the [Navy ILE Technical Specifications and Guidelines](#). The prototype should contain a representative sample of all assets.

The ILE Content Development Activity should submit a content prototype for preliminary ILE interoperability testing (i.e., a lesson or topic). The NeL Support Team will approve access to the [ILE Developer Testing](#) web site, where a preliminary version of the ILE content can be viewed.

Any government contractor requiring access to the [ILE Developer Testing](#) web site must obtain approval through the ILE Government Sponsor. In special circumstances, ILE Content Development Activities can resolve questions in advance or request assistance with troubleshooting content integration issues from the NeL Support Team. It is important to note, however, that this support will be provided only as a means of validating the technical interoperability of the ILE content and should not be viewed as a means of exercising a quality control process that would normally be the responsibility of the ILE Content Development Activity.



Note

For Instructor-Led Training (ILT), the ILE Content Development Team may want to test a prototype of the Electronic Classroom Integration Software (ECIS) and instructional materials.

Obtain an ILE Content Developer Prototype Testing Account by visiting the [Content Forecasting Service](#).

Review ILE Content Prototype

The goal of the ILE Content Prototype review is to approve the proposed interface design, navigation strategy, and asset types to be used in the finished product before full content production.

The ILE content prototype should:

- Comply with [Section 508](#) standards, unless exempt.
- Conform to SCORM 2004 requirements.
- Contain required metadata
- Adhere to the [NETCINST 5510.1 Content Segmentation and Classification Guide](#).

Design Interface and Controls

All lessons should be compatible with the Navy Marine Corps Intranet (NMCI) Core Build specifications and follow [Navy ILE Presentation Standards](#), which outlines specifications for visual presentation including window delivery size, page elements, color conventions, navigation, and web accessibility for Interactive Multimedia Instruction (IMI).

In addition to the NMCI requirements, it is important that the visual design be consistent with enterprise and domain standards to improve reuse of ILE content.



Note

The Instructional Media Design Package (IMDP) contains a description and visual representation of the interface. Refer to it during this phase.

Design for Accessibility

The Department of the Navy is committed to making all content accessible to the largest audience possible, with policy and guidance provided in [Section 508](#).



Note

ILE content may be EXEMPT from Section 508 standards if the content involves:

- National Security
- Command and Control of Military Forces
- Weaponry
- Intelligence
- Cryptologic Activities

Conform to SCORM

All Navy ILE content must be SCORM 2004 conformant. The SCORM specification can be found at the [Advanced Distributed Learning](#) web site.

"DoD-developed or acquired distributed learning content and systems shall conform to SCORM."

-DoD Instruction 1322.26



Note

SCORM conformance helps to ensure that:

- Content is organized to facilitate its combination into different lessons.
- Instructions are included in a manifest that describes delivery.
- A metadata catalog is included that provides details for search and retrieval operations.

Prepare Metadata

Metadata is frequently referred to as "data about data," allowing it to be cataloged by content, context, and structure.

- Content: Data that describes the learning object's subject matter, which facilitates searching.
- Context: Data that describes why and where the learning object exists, and how and by whom it was created. This helps to manage the learning object.
- Structure: Data that describes the relationship between learning objects, which facilitates searching and object assembly.

There are eight Navy metadata schema categories that include:

1. General
2. LifeCycle
3. MetaMetadata
4. Technical
5. Educational
6. Rights
7. Classification
8. Relation



Tip

You should develop a metadata plan as part of the Instructional Media Design Package (IMDP). This plan identifies mandatory and default metadata values that can be implemented across topics, lessons, and assets. For example, if all lessons will be presented in U.S. English, a default value for the **Language** container is **en-US**.

The [ILE Developer Testing](#) site includes a metadata editor that can be used to populate and validate lesson metadata entries.

Portion Mark Content

All ILE content shall have the appropriate classification markings, and shall follow all applicable Department of Navy instructions.

The [NETCINST 5510.1 Content Segmentation and Classification Guide](#) provides additional guidance.

Important points from the guide:

- Secret Internet Protocol Routing Network (SIPRNET) ILE hosts classified content up to SECRET NOFORN. The ILE Government Sponsor submitting the content is responsible for ensuring that all hosted content is properly marked.
- All content developed will contain paragraph and object markings to allow unencumbered migration to SIPRNET.

- ILE Government Sponsors will submit classified content segmentation and access restriction requirements to the NeL Support Team . The NeL Support Team will be responsible for the configuration of content within the LMS.
- All assessment items shall be clearly marked.
- All graphics, video, animation, and audio shall include embedded classification markings. On video, classification markings should be displayed as long as necessary to ensure readability.
- The first page of the lesson and each section shall meet "face of the document" requirements.
- Navigation buttons need not be portion marked.
- Titles and menu items should normally be unclassified. Lesson and section titles shall always be unclassified such that the titles can be listed in the ILE catalog on unclassified and classified web sites. The classification marking, (U), shall follow the title.

Additional references include:

- SECNAVINST 5510.36A (06 Oct 2006)
- SECNAVINST 5510.30B (06 Oct 2006)
- OPNAV INSTRUCTION 5513.1F (7 Dec 2005)

Construct Assessments

The process of constructing assessments begins with review of the Test Strategy in the Instructional Media Design Package (IMDP) and the Test Package. This will provide guidance for grouping assessment items and providing feedback and remediation.

Develop Test Design

Examine the NLOS. The NLOS will indicate the desired learning outcome (i.e., cognitive, psychomotor, or affective) and thus the appropriate manner of assessment. Considerations when creating assessments include personnel and equipment safety, and the use of actual equipment.

Additional information regarding assessments can be found in the [Navy ILE Guidance on Assessment Development](#).

Develop Storyboards, Lesson Plans, and Trainee Guides

Training product standardization serves three main purposes:

- To minimize the number of schemas that must be learned.
- To allow the uniform implementation of "best practices."
- To maximize reusability.

Storyboards

Storyboards outline the flow of the instructional delivery for IMI and provide a description of each asset and its associated metadata. Develop and submit storyboards to support a phased lesson development strategy.

Lesson Plans and Instructor Guides

Unless details are provided elsewhere (e.g., graphic presentations, video), Lesson Plans (LPs) and Instructor Guides (IGs) shall contain all required technical information. Instructor personalization of the LP/IG should be limited to tailoring it to the instructor's presentation style.



Note

IMI Topics do not require IG personalization beyond the material the instructor will use to introduce the topic and motivate learners.

You should be familiar with the storyboard, Lesson Plan, and Trainee Guide guidance provided in [Navy ILE Instructional Content Style Guide: Interactive Multimedia Instruction & Instructor-Led](#).

[Authoring Instructional Materials \(AIM\)](#) is the government-managed system that is used by the Navy and other agencies to develop, update, manage, and integrate training content, including LPs, and IGs.

Trainee Guides

A Trainee Guide is a compilation of Instruction Sheets that are designed to be used by the trainee to increase the effectiveness of the instruction.

Construct Assets

Assets are the building blocks for Enabling Learning Objects (ELOs), just as ELOs are for Terminal Learning Objects (TLOs).

When constructing assets, ELOs, and TLOs, take into account their potential for reusability.



Note

Review the SCORM / Navy Content Object Model (NCOM) / JDTA organization for an example of how SCORM, NCOM, and JDTA align.

The [U.S. Navy Style Guide](#) may be helpful when writing content.

Construct Enabling Learning Objects

An ELO (i.e., section) is a collection of assets with instructional treatment applied to satisfy an Enabling Objective Statement (EOS).

The following steps outline the process to create ELOs:

- Receive tasking to develop an ELO.
- Categorize the ELO based on instructional intent (i.e., fact, concept, principle, process, or procedure).
- Follow the guidance of the [Navy ILE Instructional Content Style Guide: Interactive Multimedia Instruction & Instructor-Led](#) and the [Navy ILE Presentation Standards](#).
- Include resources such as media, reference publications, Interactive Electronic Technical Manual (IETM) links, equipment, and tools required to support the ELO.
- Complete the metadata.
- Perform subject matter, instructional design, and quality assurance checks.
- Submit final ELO for ILE Project Manager approval.

Construct Terminal Learning Objects

A TLO (i.e., lesson) is a collection of ELOs that satisfy a Terminal Objective Statement (TOS) and supporting Enabling Objective Statements (EOS).

The following steps outline the process to create TLOs:

- Develop a lesson overview and summary to include additional resources (if applicable) not captured in the individual sections.
- Assemble ELOs.
- Review content for technical and instructional accuracy.
- Submit TLO for ILE Project Manager approval.

Review and Accept Learning Objects

The internal review, also called the technical accuracy review, is the first step of the validation process. This review identifies inaccuracies and weaknesses in the subject matter. If possible, and when applicable, conduct internal reviews each time content is developed, updated, or revised.

The review process helps to ensure that ILE content is accurate and consistent instructionally, functionally, technically, and editorially before it is delivered on the Navy LMS.

The team performing the review should consist of members with expertise in the following domains: instructional design, software design, ILE requirements and specifications, and subject matter. Each team member will contribute to the review by evaluating the content based on their area of expertise.

After the internal review, the reviewers should:

- Discuss the findings with the ILE Project Manager.

- Identify required changes and propose to the ILE Project Manager a recommended prioritized listing.
- Be available to verify the approved changes were properly made.



Tip

The reviewers should not be personnel involved in the development of the content. This will help to ensure an objective review.



Note

This review does not replace Government Content Acceptance Testing (GCAT). GCAT must still occur prior to the government contractually accepting material. See the section Hosting Content for more details.

The next step is to pilot the content. The purpose of the pilot is to evaluate the content's effectiveness prior to finalizing the courseware.

The audience for the pilot should be similar to the audience of the final courseware. Before conducting the pilot, learners need to know:

- The purpose of the pilot.
- Their role in the pilot.
- The objective of the evaluation.
- That feedback is necessary in determining adequacy of the instruction and material.

During the pilot, reviewers, typically both instructional system designers and subject matter experts, should:

- Closely observe learners as they use the material.
- Make careful note of where learners seem to have problems or uncertainties.
- Give assistance to learners only when it is essential to their progress.
- Analyze post-pilot data and make necessary change.

In most cases, several pilots should be conducted before making any significant revisions or changes to the instruction or materials.

When significant revisions or changes are required, conduct additional pilots in order to determine if the problem was solved.

Create Content Summary

Table 7 provides a listing of the activities of this phase, if applicable, and the responsibilities of the members involved.

Table 7. Create Content Summary

Activity	ILE Content Development Activity	ILE Project Manager	ILE Content Sponsor	NeL Support Team
Prepare ILE content prototype	Prepare	Review	Approve	Review
Construct tests for measurement	Develop	Review	Approve	
Develop storyboards, lesson plans, and trainee guides	Develop	Review	Approve	
Review and approve learning objects	Review	Review	Approve	Review

Applications/Web Sites:

[Content Forecasting Service](#)

[Authoring Instructional Materials \(AIM\)](#)

Documents/References:

[Navy Marine Corps Intranet \(NMCI\) Core Build specifications](#)

[Navy ILE Presentation Standards](#)

[Section 508](#)

[NETCINST 5510.1 Content Segmentation and Classification Guide](#)

SECNAVINST 5510.36A (06 Oct 2006)

SECNAVINST 5510.30B (06 Oct 2006)

OPNAV INSTRUCTION 5513.1F (7 Dec 2005)

Templates/Appendices:

Create Content Checklist – Appendix H

Deploy Content

The purpose of this phase is to deploy the content on the Navy's Learning Management System (LMS). The steps in this phase may vary for Instructor-Led Training (ILT) and other content not delivered via the LMS.

The typical steps are:

- Perform Government Content Acceptance Testing (GCAT)
- Finalize Training Course Control Document (TCCD)
- Submit and deploy content on the Navy's LMS

Appendix J provides a checklist for the Deploy Content phase.

Perform Government Content Acceptance Test

The ILE Government Sponsor submits the ILE Content Submission Form prior to hosting any content. Once submitted, the ILE Project Manager will provide the final content package, content assets and associated source files (unlocked, with layers, and creation software identified), and any other data used during design, development, display, delivery, or management. The ILE Project Manager and ILE Government Sponsor review the final content package before deployment.

The [Content Forecasting Service](#) is an ILE application used to prepare for GCAT and provides both the content announcement and submission forms.

Finalize Training Course Control Document

The Training Course Control Document (TCCD) supplements the Training Project Plan (TPP) as the course matures. The TCCD is a collection of products that summarizes the structure, content, and essential management information for a course, much of which was included in the TPP.

[Authoring Instructional Materials \(AIM\)](#) supports TCCD preparation.

Submit and Deploy Content on the Navy's LMS

Navy ILE content will be accessible via Navy Knowledge Online (NKO or NKO-SIPRNET). Once the content is on the delivery server and registered in the Navy LMS, the ILE Government Sponsor is notified. The ILE Government Sponsor may also determine what ILE content will be available for automatic download for onboard training.

[Navy ILE Technical Specifications and Guidelines](#) provides additional information.

Prepare and deliver content for Navy LMS deployment using the [Content Forecasting Service](#).

Deploy Content Summary

Table 8 provides a listing of the activities of this phase, if applicable, and the responsibilities of the members involved in the development, review, and approval of ILE content.

Table 8. Deploy Content Summary

Activity	ILE Content Development Activity	ILE Project Manager	ILE Content Sponsor	NeL Support Team
Perform GCAT	Perform	Review	Approve	Perform
Prepare TCCD	Prepare	Review	Approve	
Deploy Project				Deploy

Applications/Web Sites:

[Content Forecasting Service](#)

[Content Planning Module](#)

[Authoring Instructional Materials \(AIM\)](#)

Documents/References:

[Navy ILE Technical Specifications and Guidelines](#)

Templates/Appendices:

Deploy Content Checklist – Appendix I

Manage Content

The purpose of this phase is to identify changes required to approved ILE learning content, to manage those changes, and to track changes using the configuration management process. Changes to content may be required because the existing content is outdated, there are errors in the content, or the current content does not meet current training requirements.

Depending on the scope and magnitude of the curriculum management effort, perform the following steps:

- Review ILE content
- Revise content
- Perform applicable steps of the Deploy Content phase

Appendix K provides a checklist for the Manage Content phase.

Review ILE Content

Once the content has been approved, it then falls under the ILE Government Sponsor's content management program. This program will include a periodic review of all courses and content under the ILE Government Sponsor's cognizance. To conduct an effective review, several conditions must apply:

The initial version of the content has been registered as a configuration item at the [Content Forecasting Service](#).



Note

Changes to content are typically initiated through the content change request process. Hosted content can be returned to the ILE Government Sponsor. Use the [ILE Cybrarian Inquiry](#) form to initiate a request for content.

Revise Content

Initiate changes to content through the Content Change Request Process. When content requires only minor changes as part of configuration management, the Level 1 Content Change Process is used.

Learning content changes designated as Level 1:

- Require minor graphic changes, and/or
- Changes do not exceed 15% of total content, and/or
- Require little or no Instructional Systems Design (ISD) or Subject Matter Expert (SME) support

When content requires significant changes as part of configuration management, the Level 2 Content Change Process is used.

The Level 2 Content Change Process is supported by:

- An ILE Government Sponsor who requests and approves learning content changes
- The ILE Cybrarian who makes the copies of the source content available
- An ILE Content Development Activity who makes the requested changes
- The NeL Support Team who updates the delivery environment with the changed content

Learning Content changes designated as Level 2:

- Require moderate graphic changes, and/or
- Changes exceed 15% of total content, and/or
- Require ISD or SME support

Once the content is reviewed to determine the level of change required, the content change process is initiated. Level 1 and 2 changes are performed by an ILE content developer. In order to perform these changes, the content will be loaded into the Learning Content Management System (LCMS) or delivered to the developer.



Note

AIM provides the capability to run a “Change Impact Report” which can greatly reduce the amount of time it takes to review the significance of changes to content due to revision of technical data.

Perform Applicable Steps of Deploy Content Phase

Once the changes are completed, the content submission process is implemented, as discussed in the Deploy Content phase.

Manage Content Summary

Table 9 provides a listing of the activities of this phase, if applicable, and the responsibilities of the members involved in the development, review, and approval of ILE content.

Table 9. Manage Content Summary

Activity	Training Facility	ILE Content Development Activity	ILE Project Manager	ILE Content Sponsor	ILE Cybrarian	NeL Support Team
Periodic Project Review	Review		Review	Request and approve		
Update content		Make requested changes	Review	Request and approve	Make content available	Updates delivery

Applications/Web Sites:

[Authoring Instructional Materials \(AIM\)](#)

[Content Forecasting Service](#)

[ILE Cybrarian Inquiry](#) form

Templates/Appendices:

Manage Content Checklist – Appendix J

Glossary

Term	Description
ACE	American Council on Education
ACO	Administrative Contracting Officer
ADL	Advanced Distributed Learning
ADL-R	Advanced Distributed Learning-Registry
AIM LO Module	Authoring Instructional Materials Learning Object Module is a government-managed system used by the Navy and other agencies to develop, update, manage, and integrate ILE content.
ALO	Accreditation Liaison Officer
ASW	Anti-Submarine Warfare
ATDLL	Applied Technologies Distributive Learning Laboratory.
C	Confidential
CDP	Course Data Processing
CDRL	Contract Data Requirements List is provided with the SOW to a contractor for ILE content development.
CeTARS	Corporate Enterprise Training Activity Resource Systems
CIN	Course Identification Number
CM	Configuration Management
CMS	Course Master Schedule
CO	Contracting Officer
COI	ILE Content Outline of Instruction
CPS	Content Planning System is used to plan a Navy ILE project from Job Task Analysis data.
DoD	Department of Defense
ECIS	Electronic Classroom Integration Software
ELO	Enabling Learning Object
en-US	United States English
EOS	Enabling Objective Statement
FEA	Front-End Analysis
GCAT	Government Content Acceptance Test
GFE	Government Furnished Equipment
GFI	Government Furnished Information
IEEE	Institute of Electrical and Electronics Engineering
IETM	Interactive Electronic Technical Manual
IG	Instructor Guide
ILE	Integrated Learning Environment provides the technical and administrative infrastructure for the acquisition, development, storage, maintenance, and distribution of learning content for the Navy.
ILE Content Development Team	Contractor or government employees who develop content for the ILE.
ILE Government Sponsor	An organization or person that is the Navy Learning Center's or SYSCOM's program manager for a content development effort.
ILE Cybrarian	Cyber Librarian who provides support for the cataloging and distribution of electronic content.
ILEEDE	Integrated Learning Environment Enterprise Data Environment
ILT	Instructor-Led Training
IMDP	Instructional Media Design Package
IMI	Interactive Multimedia Instruction
IMP	Integrated Master Plan
IMRD	Instructional Media Requirements Document
IMS	Integrated Master Schedule
INST	Instructional

Interactive	Motivates the learner to react to content, thus improving the learner's ability and readiness to perform effectively. Examples of interactivity include answering questions, selecting, navigating, and manipulating objects during instruction.
IPR	In-Process Review
JDTA	Job Duty Task Analysis
LCMS	Learning Content Management System manages the components that make up a lesson.
LMS	Learning Management System manages learners taking lessons.
LOS	Learning Objective Statement
LP	Lesson Plan
MPT&E	Manpower, Personnel, Training and Education
Medium	A delivery method such as text, audio, or video.
NCOM	Navy Content Object Model
NeL Support Team	Team who supports the registration and deployment of ILE content.
NETC	Naval Education and Training Command
NETPDTC	Navy Education and Training Professional Development Technology Center
NITRAS	Navy Integrated Training Resources and Administration System
NKO	Navy Knowledge Online
NMCI	Navy Marine Corps Intranet
NOFORN	Not Releasable to Foreign Nationals
OPNAV	Office of the Chief of Naval Operations
POA&M	Plan of Action and Milestones
QA	Quality Assurance
RRL	Resource Requirements List
S	Secret
SCO	Sharable Content Object
SCORM	Sharable Content Object Reference Model
SECNAVINST	Secretary of the Navy Instruction
SIPRNET	Secret Internet Protocol Router Network
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SOW	Statement of Work
STASS	Standard Training Activity Support System is a module in CETARS
Subtask	A group of concrete actions needed to accomplish a task. For example, if the task is "change a car engine's oil", the subtask would be "drain old oil from engine".
SWEDE	Sea Warrior Enterprise Data Environment
SYSCOM	Systems Command
Task	A duty that is essential and critical to the performance of the job.
TCCD	Training Course Control Document
TCO	Termination Contracting Officer
TF	Training Facility
TLO	Terminal Learning Object
TOS	Terminal Objective Statement
TPOC	Technical Point of Contact
TPP	Training Project Plan
U	Unclassified
W3C	World Wide Web Consortium
XML	eXtensible Markup is a standard way to markup documents using a specification



Appendix A - Plan the Project Checklist

General Information

Title: _____

Organization: _____

Created By: _____

Date: _____

Phone/Extension: _____

Checklist

Identified training requirements? _____

Requested Course Identification Number? _____

Constructed Navy Learning Objective Statements? _____

Sequenced Navy Learning Objective Statements? _____

Developed assessment strategy? _____

Determined training delivery method? _____

Searched for existing material? _____

Created Course Outline of Instruction? _____

Determined Evaluation Plan? _____

Developed Project Plan? _____

Appendix B (Example 1) - SLC CIN Request Form

FROM/UIC:		DATE:
PREPARED BY:		PHONE:
CIN SKILLS DEFENSE GROUP: (MIDDLE TWO/THREE DIGITS OF CIN)	COURSE SHORT TITLE:	
LONG TITLE OF COURSE:		
TYPE COURSE:	STUDENT REPORTING TYPE:	COURSE AND STUDENT SECURITY:
INTERSERVICE TRAINING REVIEW ORGANIZATION:		
LEARNING CENTER:		
EFFECTIVE DATE:		SKILL AWARD:
PREREQUISITES:		
COURSE LENGTH:		
I =	THEORY =	LAB =
PURPOSE (FOR CANTRAC):		
SCOPE (FOR CANTRAC):		
FUNCTIONAL COMMANDER:		
ACTIVITY NAME/UIC:		
TRAINING DELIVERY METHOD:		FY PLAN:
SLC APPROVAL:		

Appendix B (Example 2) - CSCS CIN Request Form

These data elements are the minimum required to ensure proper documentation of CIN and CDP data. Sample data is in red font and may be overwritten.

1. Skill Defense Group (middle two/three characters of CIN): **A-XXX-XXXX**
2. Short Title (50 characters maximum including spaces): **SSDS CDCTT**
3. Long Title (200 characters maximum including spaces): **SSDS Combat Direction Center Team Training**
4. Type Course: **F1/F2**
5. Curriculum Classification: **Secret/NOFORN**
6. Learning Center for course: **Center for Surface Combat Systems**
7. Purpose of course (for CANTRAC): **This course provides the knowledge and skills required to enable all members of the CDC team to efficiently perform the duties and responsibilities of their assigned watch stations while operating in a multi-threat environment. Training is approximately 20 percent classroom and 80 percent hands-on console/watchstation training.**
8. Scope of Course (for CANTRAC): **The content of this course covers most facets of SSDS CDC Operations. It provides shore based team training for crews on SSDS equipped ships. Ship's Training Officers are encouraged to contact the training activity to arrange schedules that best meet its specific team training requirements. For maximum benefit for CDC team training, team should be composed of not less than 25 and no more than 45 personnel, with 30 - 35 personnel being optimum.**
9. Prerequisites:
 - a. **Clearance: Secret**
 - b. **PCO/PXO/Staff Officer course**
 - c. **SSDS Advanced Operator course**
 - d. **SCAC course**
 - e. **AIC course**
10. Skill Award: **N/A**
11. Resource Sponsor (usually an OPNAV Code): **OPNAV 7661**
12. Functional Commander. **CSCS Det Wallops Island**
13. Course Curriculum Model Manager: **CSCS Det Wallops Island**
14. Number of Instructional Days: **10 days**
15. Course Theory hours: **20 hours**
16. Course Lab hours: **80 hours**
17. Program Manager: **CSCS N7**
18. Curriculum Development Standard: **NAVEDTRA 131 using AIM 1**

CDP (Location) Data

19. Training Activity Name/Student UIC: **CSCS Det Wallops Island/41968**
20. Student Security Clearance level: **Secret**
21. Date course is expected to be first: **20 Feb 06 (Technical Pilot)**
22. Training Delivery Method: **Formal Classroom and lab**
23. Training activity Department and Division (not codes, noun names please): **CSCS Det Wallops Island.**
24. Course Learning Method: **Instructor led in both classroom and lab.**
25. Course Management Method: **Instructor Managed.**
26. Student to Instructor Ratios with Instructor types (Mil, Civ, Contr) and contact periods for each. Do not provide bottleneck ratios. (i.e. 12:1 (4:1) should be provided as 12:1 vice 4:1). The student value and max class size from capacity should always be equal:
Classroom 45:1 Lab 21:21 For both military and civilian instructors
27. Capacity Data. Max Class Size, Max Convenes per FY, Max # shifts. Each should be based individually on Personnel, Equipment, and Space:
Class Size: 25 and no more than 45 personnel, with 30 - 35 personnel being optimum
 - a. **FY 06 = Five convenings.**
 - b. **FY 07 = Four convenings.**
 - c. **FY 08 = Four convenings.**
 - d. **FY 09 = Three convenings.**
 - e. **FY 10 = Three convenings.**
28. Other CDPs instructors are cross utilized with:
 - a. **790B S-102-0045 - Battle Force Electronic Warfare Trainer Integrated Operations**
 - b. **756U S-104-9800 - Cooperative Engagement Capability (CEC) Tactical Operations**
 - c. **785F S-221-0017 - AEGIS CIC Team Training Fundamentals (Precommissioning)**
 - d. **962A S-221-0023 - AEGIS CIC Team (Precommissioning) Training**
 - e. **3215 S-221-0028 - Combat Information Center Training Team (CIC TT) (Shipboard)**
 - f. **775K S-221-4005 - BFTT Operator Processor Console (BOPC) Course**
29. FY Plan. Number of students expected to be taught in the initial FY and each of 4 out-years:
 - f. **FY 06 = 225 students max.**
 - g. **FY 07 = 180 students max.**
 - h. **FY 08 = 180 students max.**
 - i. **FY 09 = 135 students max.**
 - j. **FY 10 = 135 students max.**
30. Quota Control Activity, type of quotas controlled and % share:
 - a. **Individual training unit – 50%**
 - b. **PERS 402 Sea Special Projects – 50%**
31. FY schedules:
For FY 06 COI will be taught on demand. When we have information on new construction then we can determine a schedule for the next five years.

Appendix C - Training Delivery Analysis Report



REVISION: XXX
DATE: XXX

PREPARED FOR:

Insert Name
Insert Address

Prepared By: [Authorizing Signature]_____

Date: _____

Insert Name
Insert Address

GENERAL USER INSTRUCTIONS

1. Use this template as a starting point and tailor to fit your program needs.

DOCUMENT CHANGE HISTORY

Paragraph	Description of Change	Date	Authorized By

Training Delivery Method Analysis
For (Approved Name of
Training System Program)

Introduction

The introduction should provide a brief overview of the training evaluation document.

Media Selection Model Specifications Data

The model data shall describe the procedures to be used to identify media for each Learning Objective Statement (LOS) and shall include:

- a. Methodology for identifying the sensory stimulus requirements of the LOSs.
- b. Method for identifying the sensory stimulus of the media.
- c. Procedure for consideration of LOSs presentation sequence in the selection of media.
- d. The hardware and software specifications if the model is automated.
- e. Special proprietary license requirements, if any.
- g. A flow chart which shows the questions asked, the decision points, and the sequence of events for media selection.
- h. Media selection model.

Media Selection Analysis Data

The media selection analysis data shall provide descriptions of the source of the instructional media requirements, and the results of the media selection and allocation process.

Instructional Media Requirements Source Data

The data shall include a summary of the historical background of the training requirements analysis, a description of the operational system, and a discussion of the scope, magnitude, and constraints of the analysis. The data shall also include a summary description with a justification for the proposed media as follows:

- a. A description of the purpose and function of the operational system.
- b. A description of unique knowledge, skills, and attitudes required for the operational system. Identify existing applicable training systems and their shortfalls. Provide rationale (e.g., safety, non-availability, cost) for use or non-use of operational equipment for training.
- c. A description of significant events and source documents (e.g., training concept document, training plan) that detail the training requirement and training deficiency, and the resulting evolution of the training requirement.

Instructional Delivery System Selection

This data shall include the following:

- a. A description of resources and constraints impacting media selection.
- b. A list of sensory stimulus requirements (e.g., sound, visual, motion, color) required for each training task, LOS, or learning event, and degree of realism required.

- c. Primary and alternate instructional delivery systems (e.g., paper-based materials, films, IMI, simulator, Internet, intranet) capable of providing sensory stimulus for each training task, LOS, and learning event.
- d. A summary of the media features analysis including man-machine interface devices, visual output features, audio output, and motion features shall be provided in matrix or narrative format with the following content:
 - (1) Identification of critical features and their relationship to LOSs.
 - (2) Identification of applicability of features to LOSs.
 - (3) Identification of the frequency of application to LOSs.

Recommendations

The recommendations data shall contain:

- a. Justification for the selected media.
- b. A recommendation for the media features (hardware and software) which includes the rationale for each feature based on LOSs.
- c. A recommendation identifying the best suited instructional delivery system.
- d. A summary of the following:
 - (1) Instructional delivery system capability needed.
 - (2) Purpose of the instructional delivery system.
 - (3) Proposed location(s).
 - (4) Program milestone schedule.
 - (5) Alternative training solutions considered.
 - (6) Cost effectiveness analysis.
 - (7) Adverse impact if instructional delivery system is not provided.
 - (8) For distributed learning, a description of requirements for Course Management System (CMS), Learning Management System (LMS), communication tools, reference resources, and student station hardware and software requirements.

Appendix D - Evaluation Plan



REVISION: XXX
DATE: XXX

PREPARED FOR:

Insert Name
Insert Address

Prepared By: [Authorizing Signature]_____

Date: _____

Insert Name
Insert Address

GENERAL USER INSTRUCTIONS

1. Use this template as a starting point and tailor to fit your program needs.

DOCUMENT CHANGE HISTORY

Paragraph	Description of Change	Date	Authorized By

Evaluation Plan
For (Approved Name of
Training System Program)

Introduction

The introduction should provide a brief overview of the training evaluation document.

Training Evaluation Planning Data

The training evaluation planning data shall include the following:

- Purpose of the planned evaluation, or validation.
- Scope of the evaluation (e.g., learning objectives, critical standards).
- Type of planned evaluation (e.g., summative, formative, training effectiveness, training capabilities, cost-effectiveness, test items, course or materials review).
- Method of evaluation (e.g., empirical, analytic, internal, external).
- Types of information to be collected (e.g., opinion, observation, performance).
- Procedures to be used for collecting information as follows:
 - Criteria to select size and composition of target population sample.
 - Criteria for site selection.
 - Methods for collection of information about student target population sample participants.
 - Criteria for selection of instructors.
 - Methods for collection of information about instructor participants.
 - Methods to be used to prepare facilities and equipment prior to conduct of evaluation.
 - Methods to be used to prepare students and instructors to participate in the evaluation.
 - Methods for administration of the evaluation.
 - Methods for collection of student reactions to the training during the presentation.
 - Methods for observation of the presentation of training.
 - Methods for collection of student and instructor comments at the conclusion of training.
 - Methods for the recording of data.
 - Methods for the conduct of interviews.
 - Methods for participants to provide additional data following the completion of the actual evaluation.
 - Methods for determining validity and reliability of the evaluation.
 - Methods for conducting individual trials.
 - Methods for conducting small group trials.
 - Methods for conducting operational trials.
 - Methods for conducting test validation.
 - Methods for conducting content validation.
 - Methods for correcting training materials.
 - Methods for revising training materials.
 - Methods for conducting tests.
 - Methods for correcting tests.
 - Methods for revising tests.

- Methods for validating corrected materials.
 - Methods for validating corrected tests.
- Procedures to be used for data analysis as follows:
 - Criteria for assessing performance.
 - Criteria and procedures for validation of the evaluation.
 - Analytical treatment of data (e.g., statistical treatment).
 - Criteria and procedures for estimating criticality of deficiencies.
 - Criteria for accepting tests as validated.
 - Criteria for accepting training materials as validated.
 - Criteria and procedures for demonstrating impact on cost effectiveness and Return On Investment (ROI).
- Procedures to be used for reporting the findings.
- Procedures to be used for reporting the conclusions.
- Procedures to be used for reporting the recommendations.
- Procedures used to report changes required based on trials.
- The data collection instruments to be used (e.g., tests, checklists, questionnaires).
- Schedule for data collection and performing the evaluations and validation trials.
- A description of resource requirements (e.g., personnel, materials, special equipment, travel funds, facilities) for each evaluation or validation trial.
- Responsibility for testing and responsibility for conducting the evaluations and validation trials.
- Roles and responsibilities of all personnel to be involved (e.g., command, students, evaluators, graduates, supervisors of graduates) in each evaluation and validation trial.
- Identification of the agencies and decision authorities who will receive the report.
- Listing of the proposed evaluation sites.

Training Evaluation Results Data

This data shall provide a description of the purpose, scope and intended use of the training evaluation results, and shall include the following:

Introduction.

The introduction shall describe the following:

- Method of evaluation.
- Types of information collected.
- Procedures and instruments used for collecting information.
- Procedures for data analysis.
- Background paragraph that explains history and circumstances requiring evaluation.
- Background paragraph that explains history and circumstances requiring validation.
- Problem paragraph that provides a statement of any problem or deficiency discovered by the evaluation.
- Problem paragraph that provides a statement of any problem or deficiency discovered by the validation.
- Data collection deficiencies.
- Results of individual trials.
- Results of small group validation trials.

- Results of operational validation trials.
- Results of test validation.
- Changes made to training materials as a result of previous validation trials.
- Results of cost effectiveness and Return On Investment (ROI) analyses.

Summary of Findings

The summary shall provide a description of the data collected during the evaluation.

Conclusion and Recommendations

Conclusions and recommendations shall include:

- A description of whether or not the product met the established validation criteria and is acceptable for training. If the product did not meet the criteria, this data shall provide specific recommendations for correcting product deficiencies and its impact on the delivery schedule. In the case of test and training material validation trials, this data shall provide descriptions of changes made to test and training materials after each validation performed.
- A description of the cost effectiveness and Return On Investment (ROI) benefits of the training.

Appendices

The following appendices shall be included:

Appendix A: Provide a description of resources used, to include:

- The time required to conduct each evaluation or validation trial and analyze the data.
- The facilities and equipment used.
- A summary of the demographic data for participating students.
- A summary of the staffing requirements for participating instructors and support personnel.
- Criteria used to determine master versus non-master.

Appendix B: Provide a listing of the participating organizations and the evaluation responsibilities performed by each organization.

Appendix C: Shall include copies of all data collection instruments used during the evaluation.

Appendix E: Shall show the schedule of all evaluation, trials, and validation events.

Appendix F: Shall provide a summary of any literature reviews of the relevant findings of any previous research on this or similar training products, or addressing this or similar training products, or addressing this or similar training deficiencies.

Appendix G: Shall provide a learning objectives paragraph which describes the specific determinations made, and which specifies the essential elements of analysis that were addressed in accomplishing each learning objective and associated test item.



Appendix E - Assemble Resources Checklist

General Information

Title:

Organization:

Created By:

Date:

Phone/Extension:

Checklist

Prepared Acquisition / Production Package? (if applicable)

Kicked off the project?

Held Navy Learning Objective Statement Conference?

Announced delivery dates?

Created Instructional Media Design Package?

Created Test Package?

Appendix F - Instructional Media Design Package



REVISION: XXX
DATE: XXX

PREPARED FOR:

Insert Name
Insert Address

Prepared By: [Authorizing Signature] _____

Date: _____

Insert Name
Insert Address

GENERAL USER INSTRUCTIONS

1. Use this template as a starting point and tailor to fit your program needs.

DOCUMENT CHANGE HISTORY

Paragraph	Description of Change	Date	Authorized By

IMDP
For (Approved Name of
Training System Program)

SUMMARY DESCRIPTION OF TRAINING

The training summary shall provide a brief description of training materials being developed. The summary shall include:

- a. Training program title, identifier, and version identifier.
- b. A brief description of the major topics.
- c. Number of instructional hours training materials will be used.
- d. A listing of the methodologies employed in the design, development, implementation, and presentation of the training program.
- e. A listing of the equipment being simulated in the training program.
- f. Location of the training sites.
- g. A description of the target audience to include occupational specialty and skill level.
- h. Developmental software product name(s), version, vendor name, and Government rights code.
- i. Operating system name, version, and additional software drivers required to operate the training program.
- j. Portability standards name and version identifier.
- k. Delivery system requirements description, if other than NMCI core build requirements, to include minimum free system memory, central processing unit type and speed, minimum hard drive storage space, number of disc drives and types, graphics adapter type, and input and output devices.
- l. Security requirements code.
- m. Security classification code and restrictions to distribution code.

COURSE DESIGN STRATEGY

This data shall provide descriptions of elements required to design the courseware. The data shall also include over-teaching, integrated and isolated practices, front loading, prerequisite skills, combined task practices, media features, branching strategies, learning events, ratio of drill and practice, degree of simulation, and frequency of testing.

Conventions

This data shall identify the techniques, practices, principles, or procedures to be used throughout the design and presentation of the module or lesson. Conventions shall define the use of text (e.g., font size, type, color, background, placement), menus, warnings, cautions, procedures, tests, screen direction, placement of cues, touch areas, keys or other input devices, motion, stills, image source, audio configuration, and narration.

Course Title And Description

This data shall provide the title(s) and a brief description of the course(s).

Course Task Data

The data shall identify the specific Tasks and Subtasks being supported.

Specific Tasks. The data shall identify all tasks to be supported by the course and courseware. This information shall be provided as a narrative list and will provide the logical delivery sequence of the course.

Estimated Time To Complete. The data shall provide an estimated time required for an average trainee to complete each course component.

Recommendations. This data shall include the identification of specific technical requirements and source material to enhance the design effort.

References

This data shall include the complete title and number of all reference materials used in course or courseware design.

Safety, Hazard, Or Environmental Considerations

This data shall include all safety, hazard, or environmental considerations.

Interface Design And Controls

This data shall describe interfaces and controls which support the input and pacing of trainee performance.

Test Design Strategy

This data shall provide a description of test scenarios, applying test items, presentation sequence, appropriate learning types and levels, frequency, student interface, remediation options, and performance tracking.

Course Overview

This data shall identify each module or lesson of an instructional unit, and the recommended presentation sequence.

LESSON STRATEGY

Organization And Format

This data shall describe the organization and format of the lesson. A key shall be used to explain any symbology. This explanation shall be supported with one or more illustrative examples. The lesson strategy shall exhibit traceability to the courseware development process and shall include:

- a. A short title description of the subject to be covered.
- b. A list of Learning Objectives (LOs) covered.

Lesson Design Strategy

The lesson design strategies shall describe decision-making processes and strategies to be used in designing and implementing the presentation of material and testing student mastery of subject matter. Specific strategies shall include an instructional strategy for each lesson-learning phase, methods of interaction, procedures which assure testing at appropriate learning types and levels,

and remediation. Segments to be tested shall be identified and the method of testing defined. The lesson design strategy shall identify the conventional techniques, practices, principles, or procedures to be used throughout the design and development of the instructional media module or lesson.

A List Of The Metadata Tags

Provide plan for implementing a metadata schema.

The lesson design strategies shall describe decision-making processes and strategies to be used in designing and implementing the presentation of material and testing student mastery of subject matter. Specific strategies shall include an instructional strategy for each lesson-learning phase, methods of interaction, procedures which assure testing at appropriate learning types and levels, and remediation. Segments to be tested shall be identified and the method of testing defined. The lesson design strategy shall identify the conventional techniques, practices, principles, or procedures to be used throughout the design and development of the instructional media module or lesson.

Test Items

The test items shall include the type of test and the approach for feedback and remediation based on the lesson design strategy. A list of the test items to be used in measuring the student's knowledge shall be provided and include a statement of the minimum acceptable passing criteria for the lesson or segment. A list of examples and practice exercises to be used in support of the instruction shall also be provided.

Lesson Format Guide

The lesson format guide shall contain explanations of how each section of the lesson and segment specifications will be used during lesson authoring. Special instructions or additional information shall be provided to ensure accurate communication of the content for authors and artists. It shall contain a description of the following:

- a. Text and graphic layout conventions.
- b. Interpretation of lesson strategies.
- c. Data sources for expansion of lesson strategies.
- d. Learning strategy guidelines.
- e. Use of symbology.
- f. Titling.
- g. Figure numbering.
- h. Referencing conventions.
- i. Page numbering.

Prototype

The prototype will demonstrate how the format guide is to be used in conjunction with a lesson strategy to produce the required lessons.

Instructional Media Resource Requirements

The data shall contain a summary of required resources to include:

- a. An estimate of the visual and audio resources needed to support the course.
- b. A list of the material to be presented during the course.
- c. A list of any adjunctive materials required to support the course.
- d. A description of the types of personnel and their respective roles and responsibilities for lesson development.

Appendix G - Test Package



REVISION: XXX
DATE: XXX

PREPARED FOR:

Insert Name
Insert Address

Prepared By: [Authorizing Signature] _____

Date: _____

Insert Name
Insert Address

GENERAL USER INSTRUCTIONS

1. Use this template as a starting point and tailor to fit your program needs.

DOCUMENT CHANGE HISTORY

Paragraph	Description of Change	Date	Authorized By

Test Package
For (Approved Name of
Training System Program)

Test Items.

This data shall consist of the following:

- a. Individual test items.
- b. Test item identifier.
- c. A cross-reference list of test item identifiers and related Learning Objective Statements (LOSs) identifiers.
- d. Answers to individual test items with the supporting reference identifier.
- e. A description of test item criticality to:
 - (1) Safety.
 - (2) Overall measurement of trainee's ability to perform required tasks.
 - (3) Environmental considerations.
- f. A description of test item constraints (e.g., personnel, safety, environmental).
- g. A description of test item support materials (e.g., publications, equipment, software, and hardware requirements).
- h. Test item type (e.g., performance, prediction of performance).

Test(s).

This data shall consist of the following:

- a. Cover sheet.
- b. Instructions for taking the test.
- c. Safety considerations.
- d. Test items.
- e. Student response recording capability.
- f. A list of all materials required for test item administration and completion.
- g. Computer managed instruction interface capability.
- h. Storage and maintenance instructions and container/jacket.
- i. Random test generation capability.
- j. Test type (e.g., performance, prediction of performance).

Test Administration Materials.

This data shall consist of the following:

Testing Plan.

This data shall document the test strategy for individual courses and shall consist of the following:

- a. Minimum passing grade for the course and rationale.
- b. Schedule of tests administered in the course and learning objectives measured by each test.

- c. A description of the types of tests (e.g., adaptive test, aptitude test, achievement test, comparative test, criterion-referenced test, performance test, performance-based test, etc.) used to determine the trainee's grade, with rationale.
- d. A description of the grading method (e.g., normative, criterion referenced, grading criteria, weighting criteria, etc.) for evaluating student performance on the test, with rationale.
- e. A description of the method to be used to determine the trainee's final course grade.
- f. A description of the review, remediation, and retesting procedures.
- g. A description of the testing constraints which prevent testing of learning objectives as stated with work-around justification.
- h. A description of the method (e.g., rating scales, yes/no, SAT/UNSAT) used to assign grades to performance tests with supporting documentation for conversion to numerical grade.
- i. Rationale for courses which have SAT/UNSAT grading criteria.
- j. Rationale for test item and test placement within the structure of the course.
- k. A description of the methodology for generation of random tests.
- l. A description of the security measures for Web-based testing.

Test Administration Data.

This data shall contain the materials necessary for the test administrator to conduct individual tests. It shall consist of:

- a. Cover.
- b. Instructions to the individual conducting the tests shall include pre-test duties to be completed in preparation for the test, pre-test instructions to the individuals taking the test, test monitoring guidance, and post-test instructions.
- c. Test answer sheet to include data identifying location of response in supporting documentation.
- d. Answer key(s)/scoring templates.
- e. A description of test item criticality to:
 - (1) Safety.
 - (2) Overall measurement of trainee's ability to perform required tasks.
 - (3) Environmental considerations.
- f. A description of test item constraints (e.g., personnel, safety).
- g. A description of test item support materials (e.g., publications, equipment).
- h. Flow charts for computer-based tests which depict the placement of test and test items within the course and branching for remediation.
- i. Computer-based grade computation strategy.
- j. Test item selection criteria for computer generated test(s).
- k. Program documentation for computer generated test(s).
- l. Test supplements that contain information concerning special items required by the examinee during the test that will not be provided by the test administrator.
- m. Computer software for generation of multiple tests, by random selection of test items.
- n. Computer software for administration of tests (run-time version).

- o. A description of testing procedures and security considerations for administering tests on-line.

Test Notices.

This data shall contain information concerning test administration dates and the identity of study materials.

Test Interoperability.

This data shall contain information concerning the capability and structure of test and test items that support Sharable Content Objects (SCO), Course Structure Format (CSF), and Learning Management System (LMS).

Test Item Cross-Reference Chart.

This data shall include the following:

- a. A cross-reference chart showing the relationships among test item, lesson topic, learning objective, training task, and job task.
- b. A cross-reference chart showing the relationships among test item, course learning objective, topic learning objective, personnel performance profile, and training path system.



Appendix H - Create Content Checklist

General Information

Title: _____

Organization: _____ Created By: _____

Date: _____ Phone/Extension: _____

Checklist

Prepared ILE content prototype?	_____
Reviewed ILE content prototype?	_____
Designed interface and controls?	_____
Designed for accessibility?	_____
Conformed to SCORM?	_____
Prepared metadata?	_____
Portion marked content?	_____
Constructed assessments?	_____
Developed test design?	_____
Developed storyboards, lesson plans, trainee guides?	_____
Constructed assets?	_____
Constructed Enabling Learning Objects?	_____
Constructed Terminal Learning Objects?	_____
Reviewed and accepted learning objects?	_____



Appendix I - Deploy Content Checklist

General Information

Title: _____

Organization: _____ Created By: _____

Date: _____ Phone/Extension: _____

Checklist

Performed Government Content Acceptance Test? _____

Prepared Training Course Control Document? _____

Submit and Deploy content on Navy LMS? _____



Appendix J - Manage Content Checklist

General Information

Title:

Organization:

Created By:

Date:

Phone/Extension:

Checklist

Reviewed ILE content?

Revise content?

Perform applicable steps of Deploy Content checklist
