TA-113-SAT-004

The Army Training System (TATS) Courseware

Systems Approach to Training Workshop

Student Guide/References

Prepared by
Directorate of Training
Staff and Faculty Development Branch
Fort Gordon, GA 30905
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INTRODUCTION

Purpose:

The purpose of this guide is to aid Training Developers and Instructor Writers in the SAT model and training development documents. This guide is NOT to be used as regulatory guidance but as a tool to minimize the need to remember what you are suppose to do.

Training Support:

This training guide does away with the need for you to undergo lengthy training during which you would attempt to learn everything you need to know to perform on the job. Instead, Staff and Faculty has developed a two week training course for Army Officers, Non-commissioned officers, and civilians assuming Training Developer and Instructor Writer positions in TRADOC schools.

Using the Systems Approach to Training

All TRADOC schoolhouse training is developed and implemented using the Systems Approach to Training (SAT) process. SAT provides a process to determine:

1. What to train.
2. Where to train.
3. When to train.
4. How to train.
5. Who to train.
6. How well to train.

We determine the above through a systematic process including analysis, design, development, implementation, and evaluation of training needs and requirements.

1. Analysis: Identifies and describes collective and individual tasks and determines what needs to be trained.
2. Design: Plans training. Translates analysis data into a structure or blueprint for training.
3. Development: Produces the individual and collective resident and non-resident training, programs, materials, and products.
4. Implementation: Conducts training using the developed materials to produce trained personnel and units.
5. Evaluation: Produces an assessment of the quality of training, tests, and materials in terms of their ability to prepare soldiers to perform their jobs and contribute to the readiness of the Army. Evaluation is a continuing process. It permeates every phase.

DOTMLPF

The soldier is the Army's most vulnerable asset and is susceptible to almost every threat known on the battlefield. The primary consideration for any analysis of the Army's present soldier capabilities will be based on the threat to the individual soldier. Each area of the DOTMLPF is analyzed. We will use concept of operation and tactical vignettes, based on potential "real world" scenarios, to facilitate analysis. This type of analysis begins with identification of collective and individual soldier tasks, and identifying those tasks that will evaluate the soldier's ability to accomplish the assigned mission. These tasks and functions form the construct of an operational architecture.

Doctrine Evaluation of soldier tasks, functions, and associated tactics, techniques and procedures may provide a solution or change in the way we fight, based on an enemy threat. With the changes brought about from new or improved materiel solutions, expect new or modified doctrinal procedures. This will result in required revision of field manuals, technical manuals, regulations etc. thus modifying our training strategies.

Organizations At the soldier level, organizational changes do not apply. However, they do affect the soldier in the manner in which they conduct tasks and functions. Reorganization of unit personnel, as an example, may require soldiers to perform more tasks and functions than previously required. This would impact other areas in the DOTMLPF assessment such as training, leadership and education, and doctrine to name a few. However, the potential exists for modification of organizational structure with the advent of new capabilities.

Training The goal is to train anywhere, any time, which means the Army will take training with them. Technology has matured to a level that supports these requirements. Embedded Training (ET) is the user's primary option for SaaS training in all training domains-institution, home station, and deployed, including Army CTCs and the Joint National Training Center. Separate training devices will be built only for those tasks that are unaffordable, unreasonable, or unsafe in an ET environment. The SaaS process will ensure ET development as an integral part of the SaaS architecture, not as a set of add-ons and software applications.

Materiel Materiel solutions greatly impact the soldier. To ensure soldiers gain maximum capability from the new equipment, they must receive new equipment training. In addition, training considerations must be given to the training base, institutional training requirements, and common task training. New materiel solutions also affect leadership and education. Leaders must learn how to properly operate, maintain, train, and employ the new equipment. New materiel solutions affect personnel and soldier load. New materiel solutions must strive for interoperability with other systems, draw from the same power source (connectivity), and be compatible with other equipment in the soldier's load.

Leadership and Education Leader development and education applies to officers, noncommissioned officers and soldiers. Officers and noncommissioned officers can better train their soldiers through the use of training in new solutions, using live, virtual, and constructive simulation techniques. At any time, individual soldiers may find themselves in a situation where they become leaders. Soldier as a System facilitates ease of transition to leadership

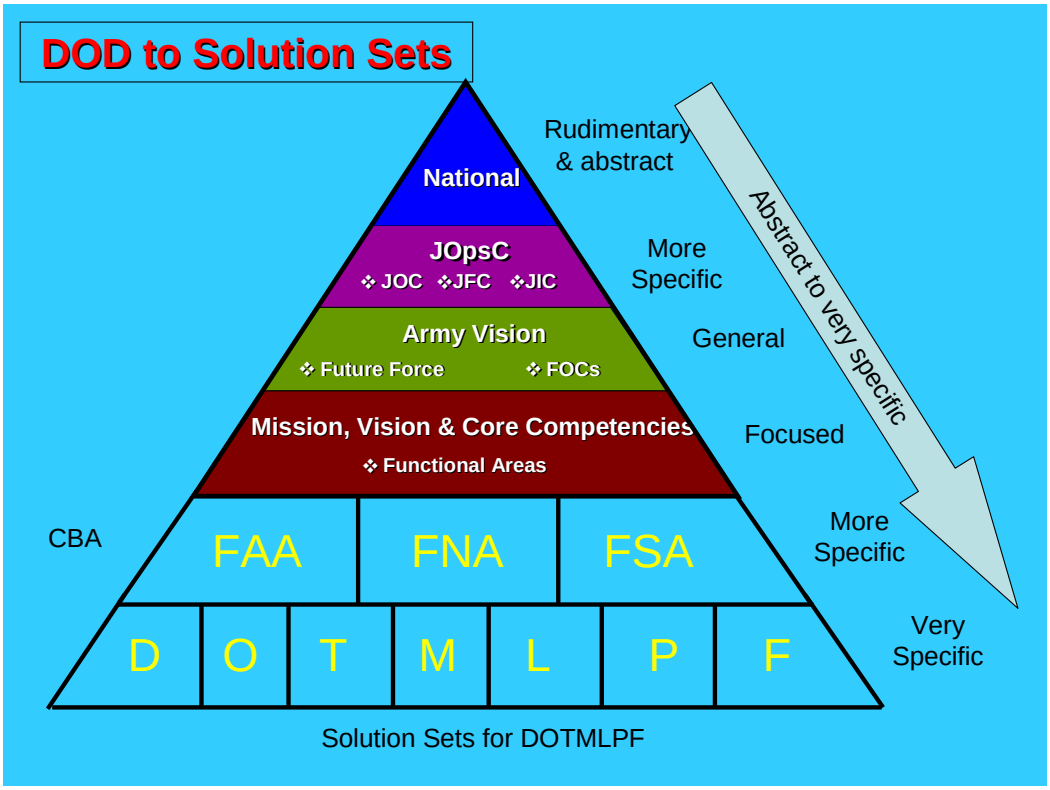
responsibilities due to the integration, interoperability, connectivity, and compatibility of future Soldier systems.

Personnel Soldiers are the Army's most important resource for accomplishing missions and winning wars. The highly complex and sophisticated nature of the digitized battlefield will require multi-trained soldiers, capable of executing an array of interrelated tasks, previously performed by someone else, or brought about by advanced technologies.

As a result, soldiers must excel at critical thinking and be able to adapt to a variety of situations. Soldiers must maintain a high level of proficiency with their basic combat skills, yet be able to leverage the technologies that increase our lethality on the battlefield. They must also possess higher-order cognitive skills that enable them to adjust and adapt to rapidly changing operational situations and conditions.

Facilities New materiel solutions directly impact facilities. As new equipment is fielded, soldiers need a place to store and maintain the equipment. This also causes leadership concerns with soldier responsibility, accountability, and security of sensitive or expensive items.

New equipment costs mandate that we provide better soldier equipment facilities for storage, security, maintenance, management, and deployment capability. Facilities currently under construction must be modified to accommodate the fielding of new equipment to soldiers and units. These facilities must provide adequate and secure storage, provide workspace, and serve as a secure marshalling and deployment area for our soldiers, while protecting them from the elements.



ADULT LEARNING THEORY

Learning can be defined formally as the act, process, or experience of gaining knowledge or skills. In contrast, memory can define the capacity of storing, retrieving, and acting on that knowledge. Learning helps us move from novices to experts and allows us to gain new knowledge and abilities.

Domains of Learning

There are three basic domains of learning: Cognitive, Affective and Psychomotor. These domains of learning are used to classify learning. These classifications allow instructors to be better able to organize instruction and therefore provide better structure and improve clarity. Students will be better able to achieve success if they more clearly understand the structure of the instruction provided.

Cognitive Domain This domain deals with the recall or recognition of knowledge and the development of intellectual abilities and skills. This is the domain in which most of the work in curriculum development has taken place. The clearest definitions of instructional objectives phrased as descriptions of student behavior occur within this domain.

Cognitive Student Behaviors

Knowledge: Remembering, recalling, memorizing, recognizing.
Comprehension: Interpreting, translating from one medium to another, describing in one's own words.
Application: Problem-solving, applying information to produce some result.
Analysis: Breaking something down to show how it is put together (and being able to put it back together!), finding an underlying structure, identifying motives.
Synthesis: Creating a unique, original product that may be concrete or abstract.
Evaluation: Making value decisions about issues, resolving controversies or differences of opinion.

Affective Domain This domain is that area which concerns attitudes, beliefs, and the entire spectrum of values and value systems. This area is often considered the more difficult domain in which to structure instruction.

Affective Student Behaviors

Receiving: Students *receive*s and then *focuses* their attention upon a message or other form of stimuli.
Responding: Students *engage* in activities that relate to receiving the message.
Valuing: Learners internalize the concept of "worth". This level is exhibited by the individual as a *deliberate* behavior and not simply as a willingness to conform to rules or standards.
Organization: As learner's experiences broaden, they begin to *classify* and *order* their values, beliefs, and attitudes. Students take a values-based position and can defend it if necessary.

Characterization: The highest level of the affective domain. Students are committed to their values, and are *identified* or characterized based upon their affective behaviors.

Psychomotor Domain This domain attempts to classify the coordination aspects that are associated with movement and to integrate the cognitive and affective consequences with bodily performances.

Psychomotor Student Behaviors

Generic movement: Those movements or processes which facilitate the development of characteristic and effective motor patterns. They are typically exploratory operations in which the learner receives or "takes in" data as she or he moves. *Awareness* of the movement and body movements as well as *patterning* are experienced or demonstrated.

Ordinative movement: Learners are able to organize and process skillful movements. They are able to *adapt* and *refine* skillful movements in order to be able *to solve* particular tasks or performance requirements.

Creative movement: The highest level of the psychomotor domain. Students are able to *create* or *invent* movement that will serve the individual (personal) purposes of the learner.

BLOOMS TAXONOMY

In 1956, Benjamin Bloom headed a group of educational psychologists who developed a classification of levels of intellectual behavior important in learning. Bloom found that over 95% of the test questions students encounter require them to think only at the lowest possible level...the recall of information.

Bloom identified six levels within the cognitive domain, from the simple recall or recognition of facts, as the lowest level, through increasingly more complex and abstract mental levels, to the highest order which is classified as evaluation.

Bloom's Taxonomv

Bloom's Taxonomy

Cognitive domain The cognitive domain is demonstrated by knowledge recall and the intellectual skills: comprehending information, organizing ideas, analyzing and synthesizing data, applying knowledge, choosing among alternatives in problem solving, and evaluating ideas or actions. This domain is broken down into six (6) levels from the simplest to the most complex skills. TRADOC Pam 350-70-5 suggests using Bloom's Taxonomy to check the level of testing with the level of learning that the objective requires.

Competency	Skills Demonstrated	Objective Examples
Knowledge Ability to recall information	• Observation and recall of information and facts • Knowledge of dates, events, places, and common terms • Knowledge or major ideas, concepts, and principles • Mastery of subject matter	Students will list the seasons in order. Name 5 U.S. coins minted in 1995.
Comprehension Ability to grasp the meaning of material	• Understanding of information and facts • Justification of methods and procedures • Translation of knowledge into new context • Interpretation of facts, charts, and graphs; compare, contrast • Ordering, grouping, inferring causes • Predicting future consequences	Students will define "justice" in their own words. Tell what portion of a dollar each U.S. coin represents.
Analysis Ability to break down materials into its component parts so that its structure may be understood	• Seeing patterns • Organization of parts • Recognition of logical fallacies in reasoning • Identification of components • Evaluation of relevancy of data	Students will reorder the sentences to form a proper paragraph. Fifty dollars and 16 cents ($50.16) can be broken down into what U.S. coin denominations?
Synthesis Ability to put parts together to form a new whole	• Using old ideas to create new ones • Generalization from given facts • Relating knowledge from several areas • Predicting, drawing conclusions	Students will construct a hypothesis that explains the observed phenomenon. With a stack of varying denominations of U.S. coins, construct the total deposit.

Evaluation Ability to judge value	• Compare and discriminate between ideas • Assess value of theories, presentations • Make choices based on reasoned argument • Verify value of evidence • Recognize subjectivity	Students will criticize a poem using accepted criteria. Given 5 proposals, evaluate those plans and choose the best one to implement.

Psychomotor Domain The psychomotor domain is demonstrated by physical skills; coordination, dexterity, manipulation, grace, strength, speed; actions which demonstrate the fine motor skills such as use of precision instruments or tools, or actions which evidence gross motor skills such as the use of the body in dance or athletic performance.

Competency	Skills Demonstrated	Objective Example
Reflex Movements	• Reflexes	The child will turn his or her head toward a loud sound.
Fundamental Moves	• Changes location • Moves in space while remaining in one place • Moves extremities in coordinated fashion	The child will crawl on hands and knees.
Perceptual Abilities	• Discriminates visually • Discriminates auditory • Discriminates kinesthetically • Discriminates tactually • Coordinates 2+ perceptual abilities	The child will walk a balance beam.
Physical Abilities	• Exerts tension • Moves quickly • Stops immediately • Endures fatigue	The learner will catch a volleyball that is thrown.
Skilled Movements	• Changes or modifies basic body movement patterns • Uses a tool or implement in adaptive or skilled manner	The learner will dance a demonstrated routine.
Skilled Movements	• Changes or modifies basic body movement patterns • Uses a tool or implement in adaptive or skilled manner	The learner will dance a demonstrated routine.
Nondiscursive Communication	• Moves expressively • Moves interpretatively • Communicates emotions • Communicates esthetically • Expresses joy	The learner will pantomime a work given to him or her by the teacher.
Skilled Movements	• Changes or modifies basic body movement patterns • Uses a tool or implement in adaptive or skilled manner	The learner will dance a demonstrated routine.

Affective domain The affective domain is demonstrated by behaviors indicating attitudes of awareness, interest, attention, concern, and responsibility, ability to listen and respond in interactions with others, and ability to demonstrate those attitudinal characteristics or values that are appropriate to the test situation and the field of study. This domain relates to emotions, attitudes, appreciations, and values, such as enjoying, conserving, respecting, and supporting.

Competency	Skills Demonstrated	Objective Example
Receiving Student's willingness to attend to classroom activity Getting, holding, and directing students' attention	• Listens attentively • Shows awareness of the importance of learning • Attends closely to the classroom activities	The student will show awareness of class proceedings. Listen for and remember the name of newly introduced people.
Responding Active participation on the part of the student	• Completes assigned homework • Participates in class discussion • Volunteers for tasks • Shows interest in subject • Enjoys helping others	The student will willingly answer questions. Questions new ideals, concepts, models, etc. in order to fully understand them.
Valuing The worth or value a student attaches to a particular object or behavior	• Demonstrates beliefs in the democratic process • Shows concern for the welfare of others • Demonstrates problem solving attitude • Demonstrates commitment to social improvement	Is sensitive towards individual and cultural differences. The student will express strong opinions on issues under consideration

Verbs According to Bloom's Taxonomy					
Knowledge	**Comprehension**	**Application**	**Analysis**	**Synthesis**	**Evaluation**
Acquire	Add	Acquire	Analyze	Abstract	Appraise
Attend	Approximate	Adapt	Appraise	Alter	Argue
Choose	Arrange	Allocate	Audit	Animate	Assess
Cite	Articulate	Apply	Blueprint	Arrange	Compare
Collect	Associate	Ascertain	Breakdown	Assemble	Conclude
Complete	Categorize	Assign	Categorize	Budget	Consider
Copy	Change	Attain	Characterize	Calculate	Contrast
Define	Characterize	Avoid	Classify	Categorize	Counsel
Describe	Cite	Back up	Combine	Change	Criticize
Differentiate	Circle	Calculate	Compare	Classify	Critique
Distinguish	Clarify	Capture	Conclude	Code	Decide
Draw	Classify	Change	Contrast	Combine	Defend
Duplicate	Compare	Choose	Correlate	Compile	Describe
Enumerate	Compile	Classify	Criticize	Compose	Determine
Find	Compute	Complete	Deduce	Conduct	Discriminate
Identify	Conclude	Compute	Defend	Constitute	Estimate
Imitate	Conduct	Conduct	Detect	Construct	Evaluate
Index	Contrast	Construct	Diagnose	Create	Explain
Indicate	Convert	Customize	Diagram	Cultivate	Grade
Isolate	Defend	Demonstrate	Differentiate	Debug	Hire
Label	Demonstrate	Depreciate	Discriminate	Deduce	Interpret
List	Detail	Derive	Dissect	Depict	Judge
Mark	Determine	Determine	Distinguish	Derive	Justify
Match	Diagram	Develop	Document	Design	Measure
Name	Differentiate	Diminish	Ensure	Develop	Predict
Order	Discuss	Discover	Evaluate	Devise	Prescribe
Outline	Distinguish	Draw	Examine	Dictate	Rank
Place	Document	Employ	Explain	Discover	Recommend
Point	Draw	Examine	Explore	Discuss	Relate
Quote	Edit	Exercise	Figure Out	Document	Release
Read	Elaborate	Explore	File	Enhance	Select
Recall	Estimate	Expose	Formulate	Expand	Standardize
Recognize	Explain	Express	Generate	Explain	Summarize
Record	Express	Factor	Group	Facilitate	Support
Repeat	Extend	Figure	Identify	Format	Test
Reproduce	Extrapolate	Generalize	Illustrate	Formulate	Validate
Review	Factor	Graph	Induce	Generalize	Verify
Select	Fill in	Handle	Infer	Generate	
State	Follow	Illustrate	Interrupt	Handle	
Study	Formulate	Interconvert	Inventory	Import	
Tabulate	Gather	Investigate	Investigate	Improve	
Trace	Generalize Give	Manipulate	Lay Out	Incorporate	

Underline Write	example Give in own words Illustrate Infer Interact Interpolate Interpret Itemize Locate Make Observe Organize Paraphrase Predict Prepare Quote Read Rearrange Record Relate Reorder Rephrase Represent Restate Rewrite Review Subtract Summarize Translate Update Visualize	Modify Operate Organize Personalize Plot Practice Predict Prepare Price Process Produce Project Protect Provide Relate Restructure Round Off Sequence Show Simulate Sketch Solve Subscribe Tabulate Transcribe Transfer Translate Use Utilize	Manage Maximize Minimize Optimize Order Outline Paraphrase Plan Point out Present Prioritize Proofread Query Question Recognize Relate Save Select Separate Shorten Size Up Structure Subdivide Summarize Train Transform	Integrate Join Lecture Model Modify Network Organize Originate Outline Overhaul Paraphrase Plan Portray Predict Prepare Prescribe Produce Program Proposed Rearrange Reconstruct Refer Relate Reorganize Revise Rewrite Signify Simplify Specify Summarize Systemize Tell Transmit Write	

<table>
<tr><td>PURPOSE</td><td>To apply Bloom's theory of developing higher levels of thought processes to everyday classroom reading.</td></tr>
<tr><td>EXPLANATION</td><td>Many students are directed to read narrative or expository selections for classroom assignments for the purpose of answering factual questions. This type of reading for literal comprehension is often emphasized because of the ease and equity of evaluation.
The emphasis is limiting because many students do not develop a personal attachment to books they read. They do not see reading as a bridge to their imaginations, a way to understand how others live their lives, or a method to gain self-understanding and evaluation.
Questions that instructors ask can direct the students to the realization that reading has a greater and more diverse purpose than just the simple recall of facts. If this can be accomplished, it is likely that students will place a higher value on reading, continue to turn to it for pleasure and as a resource, and will establish it as a life-long habit.</td></tr>
<tr><td>PROCEDURE</td><td>For any assigned reading selection, develop questions that reflect the progression of thinking and responding from the literal level to the evaluative. Not all levels need to be developed for every selection. Consider a range that will lead the student to the greater purpose of reading.
Each level of Bloom's original taxonomy has been restated for clarity and simplification. Examples of appropriate questions or directives are given to illustrate each level. The story of Goldilocks and the Three Bears was used for general understanding.
<table>
<tr><td>Knowledge</td><td>the recall of specific information

Who was Goldilocks?
Where did she live? With whom?
What did her mother tell her not to do?</td></tr>
<tr><td>Comprehension</td><td>an understanding of what was read

This story was about _____. (Topic)
The story tells us _____. (Main Idea)
Why didn't her mother want her to go to the forest?
What did Goldilocks look like?
What kind of girl was she?</td></tr>
<tr><td>Application</td><td>the converting of abstract content to concrete situations

How were the bears like real people?
Why did Goldilocks go into the little house?
Write a sign that should be placed near the edge of the forest.
Draw a picture of what the bear's house looked like.</td></tr>
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</td></tr>
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		Draw a map showing Goldilock's house, the path in the forest, the bear's house, etc. Show through action how Goldilocks sat in the chairs, ate the porridge, etc.
	Analysis	***the comparison and contrast of the content to personal experiences*** How did each bear react to what Goldilocks did? How would you react? Compare Goldilocks to any friend. Do you know any animals (pets) that act human? When did Goldilocks leave her real world for fantasy? How do you know?
	Synthesis	***the organization of thoughts, ideas, and information from the content*** List the events of the story in sequence. Point out the importance of time sequence words by asking: What happened after Goldilocks ate the Baby Bear's porridge? What happened before Goldilocks went into the forest? What is the first thing she did when she went into the house? Draw a cartoon or stories about bears. Do they all act like humans? Do you know any other stories about little girls or boys who escaped from danger? Make a puppet out of one of the characters. Using the puppet, act out his/her part in the story. Make a diagram of the bear's house and the forest.
	Evaluation	***the judgment and evaluation of characters, actions, outcome, etc., for personal reflection and understanding*** Why were the bear's angry with Goldilocks? Why was Goldilocks happy to get home? What do you think she learned by going into that house? Do you think she will listen to her mother’s warnings in the future? Why? Do parents have more experience and background than their children? Do you think this really happened to Goldilocks? Why? Why would a grown-up write this story for children to read?

Learning Theories

An organized set of statements that allow us to explain, predict, or control events. Three learning theories are: Behaviorism, Cognitivism, and Constructivism.

Behaviorism is a theory of human learning that only focuses on objectively observable behaviors and discounts mental activities. Behavior theorists define learning as acquisition of new behavior.

Experiments by behaviorists identify **conditioning** as a universal learning process. There are two different types of conditioning, each yielding a different behavioral pattern:

1. **Classic conditioning** occurs when a natural reflex responds to a stimulus. The most popular example is Pavlov's observation that dogs salivate when they eat or even see food. Essentially, animals and people are biologically "wired" so that a certain stimulus will produce a specific response.
2. **Behavioral** or **operant conditioning** occurs when a response to a stimulus is reinforced. Basically, operant conditioning is a simple feedback system: If a reward or reinforcement follows the response to a stimulus, then the response becomes more probable in the future. For example, leading behaviorist B.F. Skinner used reinforcement techniques to teach pigeons to dance and bowl a ball in a mini-alley.

There have been many criticisms of behaviorism, including the following:

1. Behaviorism does not account for all kinds of learning, since it disregards the activities of the mind.
2. Behaviorism does not explain some learning--such as the recognition of new language patterns by young children--for which there is no reinforcement mechanism.
3. Research has shown that animals adapt their reinforced patterns to new information. For instance, a rat can shift its behavior to respond to changes in the layout of a maze it had previously mastered through reinforcements.

How Behaviorism Impacts Learning

This theory is relatively simple to understand because it relies only on observable behavior and describes several universal laws of behavior. Its positive and negative reinforcement techniques can be very effective when used by teachers, who reward or punish student behaviors.

Cognitivism (Brain-based Learning) is based on the structure and function of the brain. As long as the brain is not prohibited from fulfilling its normal processes, learning will occur.

People often say that everyone **can** learn. Yet the reality is that everyone **does** learn. Every person is born with a brain that functions as an immensely powerful processor. Traditional schooling can inhibit learning by discouraging, ignoring, or punishing the brain's natural learning processes.

The core principles of brain-based learning state that:

1. The brain is a parallel processor, meaning it can perform several activities at once, like tasting and smelling.

2. Learning engages the whole physiology.
3. The search for meaning is innate.
4. The search for meaning comes through patterning.
5. Emotions are critical to patterning.
6. The brain processes wholes and parts simultaneously.
7. Learning involves both focused attention and peripheral perception.
8. Learning involves both conscious and unconscious processes.
9. We have two types of memory: spatial and rote.
10. We understand best when facts are embedded in natural, spatial memory.
11. Learning is enhanced by challenge and inhibited by threat.
12. Each brain is unique.

The three instructional techniques associated with brain-based learning are:

1. **Orchestrate dimmersion**--Creating learning environments that fully immerse students in an educational experience
2. **Relaxed alertness**--Trying to eliminate fear in learners, while maintaining a highly challenging environment
3. **Active processing**--Allowing the learner to consolidate and internalize information by actively processing it

How Brain-Based Learning Impacts Training Development

Curriculum--Developers must design learning around student interests and make learning contextual.

Instruction--Instructors let students learn in teams and use peripheral learning. Lessons are structured around real problems, encouraging students to also learn in settings outside the classroom.

Assessment--Since all students are learning, their assessment should allow them to understand their own learning styles and preferences. This way, students monitor and enhance their own learning process.

What Brain-Based Learning Suggests

How the brain works has a significant impact on what kinds of learning activities are most effective. Training developers and instructors need to help students have appropriate experiences and capitalize on those experiences.

- Instructors must immerse learners in complex, interactive experiences that are both rich and real. One excellent example is relating instruction with real life situations. Instructors must take advantage of the brain's ability to parallel process.
- Students must have a personally meaningful challenge. Such challenges stimulate a student's mind to the desired state of alertness.
- In order for a student to gain insight about a problem, there must be intensive analysis of the different ways to approach it, and about learning in general. This is what's known as the "active processing of experience."

A few other tenets of brain-based learning include:

- Feedback is best when it comes from reality, rather than from an authority figure.
- People learn best when solving realistic problems.

- The big picture can't be separated from the details.
- Because every brain is different, trainers should allow students to customize their own environments.
- The best problem solvers are those that laugh!

Designers of educational tools **must be artistic** in their creation of brain-friendly environments. Instructors need to realize that the best way to learn is not through lecture, but by participation in realistic environments that let learners try new things safely.

Constructivism is a philosophy of learning founded on the premise that by reflecting on our experiences, we construct our own understanding of the world we live in. Each of us generates our own "rules" and "mental models," which we use to make sense of our experiences. Learning, therefore, is simply the process of adjusting our mental models to accommodate new experiences.

There are several guiding principles of constructivism:

1. Learning is a search for meaning. Therefore, learning must start with the issues around which students are actively trying to construct meaning.
2. Meaning requires understanding wholes as well as parts. And parts must be understood in the context of wholes. Therefore, the learning process focuses on primary concepts, not isolated facts.
3. In order to teach well, we must understand the mental models that students use to perceive the world and the assumptions they make to support those models.
4. The purpose of learning is for an individual to construct his or her own meaning, not just memorize the "right" answers and regurgitate someone else's meaning. Since learning is inherently interdisciplinary, the only valuable way to measure learning is to make the assessment part of the learning process, ensuring it provides students with information on the quality of their learning.

How Constructivism Impacts Learning

Curriculum--Constructivism calls for the elimination of a standardized curriculum. Instead, it promotes using curricula customized to the students' prior knowledge. Also, it emphasizes hands-on problem solving.

Instruction--Under the theory of constructivism, educators focus on making connections between facts and fostering new understanding in students. Instructors tailor their teaching strategies to student responses and encourage students to analyze, interpret, and predict information. Teachers also rely heavily on open-ended questions and promote extensive dialogue among students.

Assessment--Constructivism calls for the elimination of grades and standardized testing. Instead, assessment becomes part of the learning process so that students play a larger role in judging their own progress.

Learning Modalities

Learning modalities are the sensory channels or pathways through which individuals give, receive, and store information. Perception, memory, and sensation comprise the concept of modality. The modalities or senses include visual, auditory, tactile/kinesthetic, smell, and taste. Researchers have concluded that in a classroom, the students would be approximately:

- 25-30% visual
- 25-30% auditory
- 15% tactile/kinesthetic
- 25-30% mixed modalities

Therefore, only 30% of the students will remember most of what is said in a classroom lecture and another 30% will remember primarily what is seen.

Visual Learners
Those who learn by seeing. They need to see overheads, diagrams, and read text books, etc. to understand a concept.

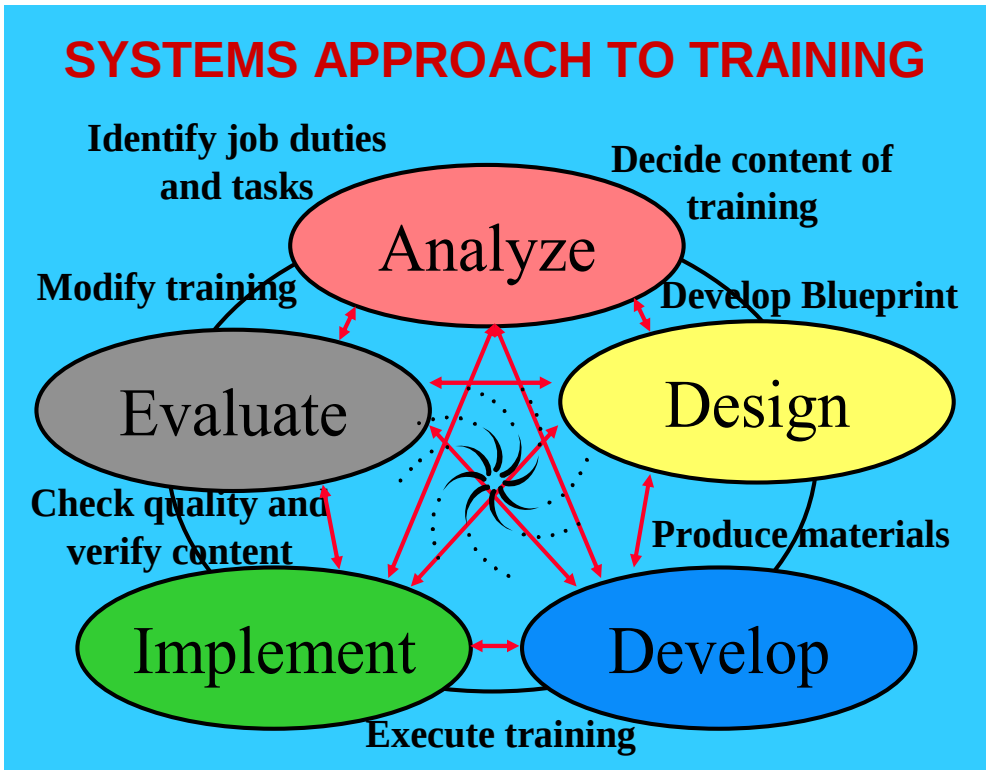
Auditory Learners
Those who must hear what they are learning to really understand it. They enjoy listening, but cannot wait to have a chance to talk themselves. These students respond well to lecture and discussion.

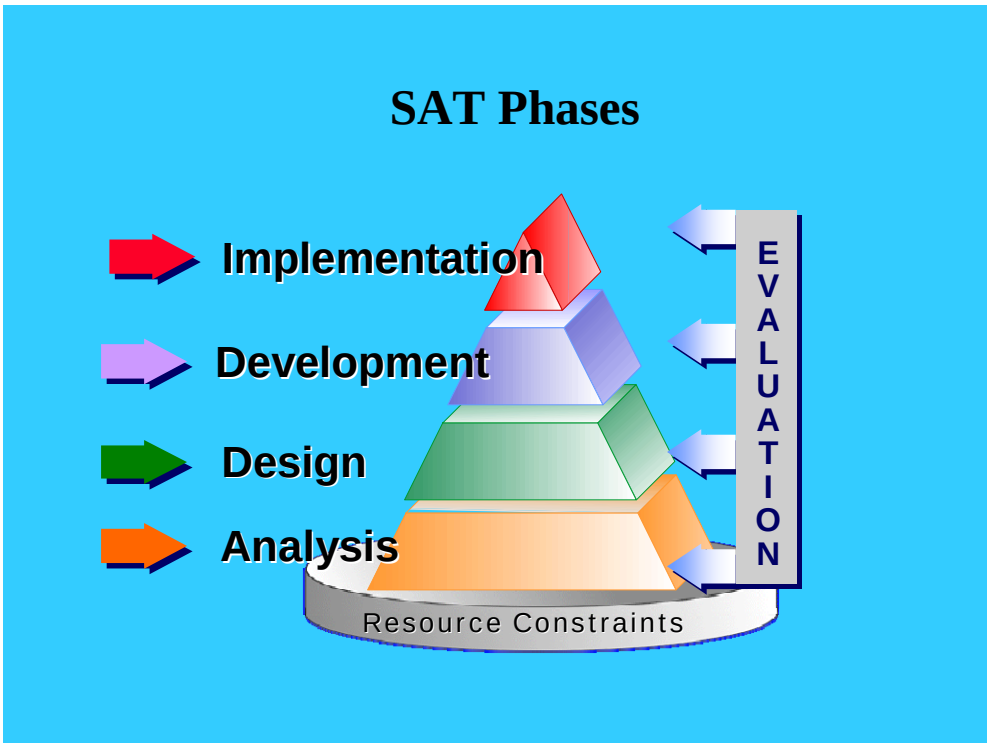
Tactile/kinesthetic Learners
Those that need to feel and touch to learn...these learners also learn better if movement is involved. Instruction geared to the visual or auditory learners can be a hindrance to these learners, causing them to fall behind. Students with a tactile strength learn with manipulatives such as games, the internet, and labs.

An effective means to reach all learners is modality-based instruction; this consists of organizing around the different modalities to accommodate the needs of all learners. Most students learn with all their modalities, but some students may have unusual strengths and weaknesses in particular modalities. For example, students strong in the visual modality will be frustrated or confused with just verbal explanations.

The following chart describes each modality and can help you determine your learning style; read the word in the left column and then answer the questions in the successive three columns to see how you respond to each situation. Your answers may fall into all three columns, but one column will likely contain the most answers. The dominant column indicates your primary learning style.

MODALITES….How do you Learn?			
When you..	**Visual**	**Auditory**	**Kinesthetic & Tactile**
Spell	Do you try to see the word?	Do you sound out the word or use a phonetic approach?	Do you write the word down to find if it feels right?
Talk	Do you sparingly but dislike listening for too long? Do you favor words such as *see, picture*, and *imagine*?	Do you enjoy listening but are impatient to talk? Do you use words such as *hear, tune*, and *think*?	Do you gesture and use expressive movements? Do you use words such as *feel, touch*, and *hold*?
Concentrate	Do you become distracted by untidiness or movement?	Do you become distracted by sounds or noises?	Do you become distracted by activity around you?
Meet someone again	Do you forget names but remember faces or remember where you met?	Do you forget faces but remember names or remember what you talked about?	Do you remember best what you did together?
Contact people on business	Do you prefer direct, face-to-face, personal meetings?	Do you prefer the telephone?	Do you talk with them while walking or participating in an activity?
Read	Do you like descriptive scenes or pause to imagine the actions?	Do you enjoy dialog and conversation or hear the characters talk?	Do you prefer action stories or are not a keen reader?
Do something new at work	Do you like to see demonstrations, diagrams, slides, or posters?	Do you prefer verbal instructions or talking about it with someone else?	Do you prefer to jump right in and try it?
Put something together	Do you look at the directions and the picture?		Do you ignore the directions and figure it out as you go along?
Need help with a computer application	Do you seek out pictures or diagrams?	Do you call the help desk, ask a neighbor, or growl at the computer?	Do you keep trying to do it or try it on another computer?


SYSTEMS APPROACH TO TRAINING
Identify job duties and tasks
Decide content of training
Analyze
Modify training
Develop Blueprint
Evaluate
Design
Check quality and verify content
Produce materials
Implement
Develop
Execute training


SAT Phases
Implementation
Development
Design
Analysis
EVALUATION
Resource Constraints

SYSTEMS APPROACH TO TRAINING

SAT is the Army's training development process. It is a disciplined, logical approach to making collective, individual, and self-development training decisions for the total Army. SAT determines whether or not training is needed; what will be trained; who will receive the training; how, how well, and where the training is presented; and the training support/resources required to produce, distribute, implement, and evaluate those products. SAT involves all five training related phases: analysis, design, development, implementation, and evaluation.

Training development is a vital component of TRADOC's mission to prepare the Army for war. As such, it is the responsibility of every civilian and soldier in management and training-related roles in the TRADOC headquarters, schools, field units, and supporting contractor offices. Management, at all levels, needs to have a working knowledge of the process, and ensure its efficient implementation. Doing so will save scarce resources: personnel, time, process, and unnecessary product development dollars.

SAT PROCESS: The Army's Systems Approach to Training (SAT) process is a flexible, efficient, and effective system engineering approach to developing education and training. It has been successfully used to design hard skill (technical, procedural) and soft skill (leadership, artistic, and management) training and education. Education/training provides the means to improve soldier and unit performance. Identifying and incorporating improvements to the SAT process and the management of that process is a continuous, on-going action.

a. The SAT model fully meets the need for training units and individuals (commanders and staff) as well as for developing training using automated development and delivery tools. It is restrictive where necessary yet provides the flexibility to use any method needed to provide efficient and effective education and training. When properly applied and managed, the SAT process provides exactly the types of information and data needed to develop education/training for the digital units and initial brigade force teams and to assist in the sustainment of unit readiness.

b. AR 350-1, Army Training and Leader Development, establishes the SAT as the Army's education and training development process. Appendix B provides an executive summary of this process.

c. The SAT process is delineated in TRADOC Regulation 350-70, Systems Approach to Training Management, Processes, and Products. The model identifies and defines collective and individual task(s) (with condition and standard) that the unit and Soldiers (including leader tasks) must perform in order to accomplish their missions. These tasks form the foundation for Army training/education. Resource requirements for implementing training are identified during the design phase.

SAT DEVELOPMENT BACKGROUND:

a. Research and studies on ways and methods for improving training and education are ongoing efforts in both the military and civilian communities. For example, in the 1960s, the civilian community proved the value of learning objectives, which were implemented in DoD service training. The Army Research Institute (ARI) and Navy have published a number of reports and books on education and training and appropriate information has been adopted, e.g.,

results of team training research has been added to the 1999 version of TR 350-70, Systems Approach to Training (SAT) Management, Process, and Products.

b. Florida State University (FSU) developed the ISD model (Inter-service Procedures for Instructional Systems Development) through an Army contract in the mid-70s. The ISD model was adopted by the DoD and implemented in all the services. In this model, training development information is used in follow-on phases (training analysis, design, development, implementation, and evaluation (quality assurance/quality control)) to ensure required, efficient, and effective training/education is provided when and where needed. It uses spiral development to speed up and improve the provided education/training.

c. In the early 80s, the Army modified the ISD model by including the identification of unit missions and the identification of collective and individual tasks that support mission accomplishment. This modification gave us collective to individual task linkages and the unit training products, e.g., training strategies, drills, and exercises. The result was today's SAT model.

d. In the 1991-1992 timeframe, TRADOC contracted to have an independent agent determine the most efficient and effective process for the Army to develop training and to produce a functional description (operational concept document) detailing that process. The contractor determined that the SAT process was the most efficient process for the Army to use and provided a detailed Automated Systems Approach to Training (ASAT) Functional Description. This ASAT functional description (Operational Concept Description) was adopted by the DOD led Automated-Training, Evaluation, Acquisition, and Management (A-TEAM) team as the foundation for automating training development across the services.

e. In 1995, TRADOC Regulation 350-70 was first published. This regulation consolidated 17 separate publications into one to eliminate confusion caused by duplicated, conflicting, and outdated policy as well as to identify and implement process improvement. This was a major undertaking involving workgroups and included input from all schools and affected organizations.

TRAINING ANALYSIS PROCESS OVERVIEW

The analysis process provides information for the design and development of education/training that, in turn, is used to produce units that can accomplish their missions, and soldiers capable of performing their tasks and duties. Training analysis—

- Identifies valid training and nontraining solutions to unit and individual performance deficiencies.
- Determines what is trained in the form of critical, collective, and individual tasks, and supporting skills and knowledge.
- Provides an accurate description of identified critical tasks—data that is the basis for all subsequent TD activities.
- Provides a definitive performance standard that describes what constitutes successful unit and individual performance of the task.
- Establishes TD requirements.

Training Developer Requirements

Analysis

- Identify performance problems
- Perform mission analysis
- Perform collective task analysis
- Perform job analysis
- Perform individual task analysis
- Conduct CTSSB
- Write STRAP

Design

- Write ITP
- Write CAD
- Write POI
- Write objectives
- Prepare environmental risk assessment
- Conduct risk assessment
- Design tests
- Validate tests
- Select training site(s)
- Select methods and media of training
- Sequence and structure the training

Development

- Plan instructor training and certification
- Develop training materials
- Develop training that minimizes risk to the environment
- Prepare input for new systems documents
- Validate course materials and training products

Implementation

- Monitor implementation
- Provide or undergo instructor training & certification
- Minimize impact of training on environment
- Maximize safety and manage risk.

Evaluation

- Perform internal evaluation
- Perform external evaluation

ANALYSIS

Ref: TRADOC Reg 350-70 Sec IV-0
TRADOC Pam 350-70-6

Analysis is one of the five phases in the TD (SAT) process. Analysis provides information used to determine—

- If training is required.
- Who (soldiers/units) needs training.
- The critical tasks and supporting skills and knowledge soldiers are required to perform for survival on the battlefield.
- The identification of standards, conditions, performance measures, and other specifications needed to perform each task.

Task:
- Has identifiable start and stop points
- Is observable
- Is measurable
- Is performed for its own sake

Example:
Right - *Restore a RJ-524 radio*
Wrong – *Understand battle tactics*

Collective Task:
- Requires more than one soldier to complete
- Has identifiable start and end points
- Results in a measurable, observable product or accomplishment

Example: *Operate a M105 Howitzer*

Individual Task:
- Lowest behavioral level that is performed for its own sake
- Supports a collective task or another individual task

Example: *Load a M105 Howitzer*

Analysis determines the nature and content of the training requirement, identifies the target audience, and provides information to facilitate rational decisions concerning development of training programs. Analysis involves observation, research, data/materials collection, weighing variables, and making decisions.

A top-down analysis ensures the identification of unit missions, based on the unit TOE or TDA, task force organization, and other considerations. Analysis should consider both stated and implied missions, and collective tasks necessary for units to accomplish their missions.

Analysis is partly a linear process, but it is also an iterative, spiral process—that is:

- It is applied prior to other phases of the SAT process, but the analysis is updated and adjusted as the need is identified. Identify this need at any time. For example, an SME may identify a changed procedure when designing the product, and the analysis is updated.

- Evaluation, as well as change, both drive analysis. For example, deficiencies noted during an evaluation are indicators to review the analysis.

Quality analysis ensures the Army identifies what really needs training and ensures training programs provide education and training that will produce—

- Soldiers capable of performing their tasks and duties.
- Units that can successfully accomplish their mission

Analysis is part of an iterative process; therefore, you may return to the analysis phase many times. Evaluation and change both drive analysis. For example, deficiencies noted during an evaluation are indicators to relook the analysis. Changes in the way the Army does business, through its doctrine, equipment, unit/occupational structure, or training technology, also may signal the need for analysis.

Types of Analysis

There are five types of analyses conducted in the SAT, identified in TRADOC Reg 350-70. This pamphlet focuses on these five types of analysis: needs analysis, mission analysis, collective critical task analysis, job analysis, and individual critical task analysis.

1. Needs Analysis

Conduct needs analysis to identify valid TD and training requirements. Applying this process identifies valid TD requirements and nontraining solutions to performance deficiencies. The needs analysis process does NOT drive or ensure the procurement of required resources. A needs analysis addresses soldier performance deficiencies and future capabilities that require changes in the way the Army does business. This chapter provides how-to guidance on performing needs analysis, to include needs analysis description, needs analysis requirements, and identifying TD/training requirements.

Needs analysis is a vital process required for analyzing performance deficiencies. No TD effort should begin without a needs analysis.

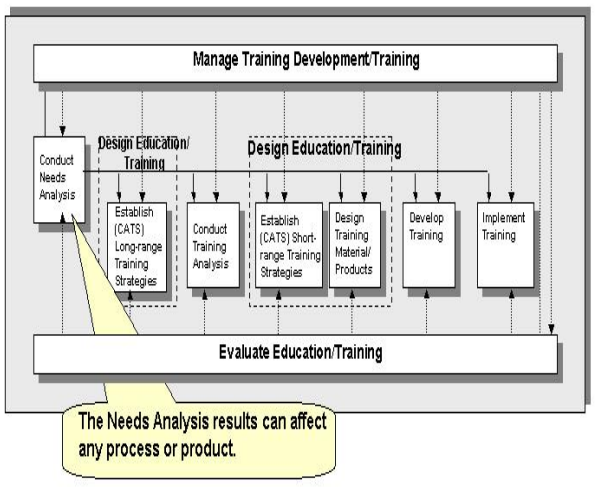
Triggering Circumstances - The needs analysis starts with the receipt of a triggering circumstance (an actual or perceived performance deficiency.) The triggering circumstance may originate from a wide variety of sources, such as:

-Evaluation findings	-Field/Other inputs
-Directed training	-Doctrine Changes
-Requirements	-Training improvements/Determinations constraints

Needs Analysis Process - The needs analysis process is a systematic method for determining true TD/training requirements. It serves to control the creation of products, or elimination of education/training, that is either not required, or distracts from training the units and soldiers what is really needed. Needs analysis identifies performance shortfalls, and identifies training and non training solutions to the shortfalls. The needs analysis enables identification of any gaps between desired and actual performance. That is, the delta between what exists now and what is required, or identifying capabilities required for meeting future contingencies that may result in changes in the Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF). This process includes:

- Reviewing the literature.
- Identifying the true performance deficiency(ies).
- Identifying the major causes of performance problems.
- Collecting supporting data for training deficiencies.
- Identifying those responsible for correcting the problem.
- Identifying and analyzing courses of action.
- Recommending the best alternative.

The needs analysis process affects the entire education/TD process. The output of a needs analysis could dictate the modification or the creation of a new product, or how the material is presented. The figure below depicts this relationship to the SAT process. Only produce or revise an education/training product that a valid needs analysis, or a short-range training strategy, identifies as a TD requirement.



Before performing a needs analysis, obtain a thorough knowledge of all factors that impact on the performance problem, or that the solution to the performance deficiency could affect. Acquire and thoroughly study the existing literature and performance data, which should provide the knowledge required to enable isolating the real problem(s) from the apparent or assumed problem(s). Locate and obtain any additional copies of documentation that provides information or data useful in the definition/clarification of the performance deficiency(ies). Collate the

information into a logical order or groupings before continuing the study. Review all appropriate literature, including:

- Operational concepts.
- Capability issues.
- Threat/doctrine.
- Materiel acquisition.
- TOE/TDA.
- Lessons learned (including CALL data).
- Regulations and how-to pamphlets.
- Evaluation reports.
- Command directives and documents.
- Education/training products and materials.

2. Mission Analysis

Use the mission analysis process to identify all the specified, implied, and supporting missions that a unit and its subordinate units, direct support units, and habitually attached units should perform; and the collective tasks to perform to accomplish those missions. Conduct a mission analysis on all proponent-type units. These are primarily TOE units, but may be conducted for TDA units as well, to ensure mission accomplishment.

Mission Analysis Process - Revising a mission analysis is more likely than conducting one for a new type unit. This approach is cheaper and faster to accomplish than conducting a new mission analysis. It is the usual approach when there is a significant unit performance requirement change or occurrences in—

- An operational concept and employment doctrine.
- The mission, tasks, or capabilities of an existing unit.
- Threat, weapon systems, other military hardware, or personnel requirements in an existing unit that affect the performance of collective tasks.

The mission analysis team should follow the process below when conducting their work. The level of detail will vary, depending on whether a new mission analysis is conducted or an existing mission and/or critical collective task list is updated.

- Identify unit for analysis.
- Conduct detailed unit research.
- Identify missions.
- Identify collective tasks.
- Assign collective task numbers to approved critical collective tasks.
- Identify supporting individual tasks.

3. Collective Task Analysis

Critical collective task analysis is the process used to provide the task performance detail needed to develop efficient and effective unit training. A task analysis is conducted for each critical collective task to identify all task performance specifications for that specific task. These specifications are concerned with how the task is actually performed, under what conditions it is performed, or how well the unit must perform it. Task analysis data for critical tasks serve as the foundation for development of all subsequent collective training products. It provides the detail to design and develop efficient and effective training. Task proponents should conduct a collective task analysis for critical collective tasks only.

The collective task analysis process - The Army must provide the right training to a unit if they are to win and survive on the battlefield. The first step in accomplishing this is the identification of the critical collective tasks when conducting mission analysis. The second, and just as vital, step is to decompose (analyze) each identified collective critical task and identify the details and other factors that affect how that task is performed. Conduct a new, or update an existing, collective task analysis before the production of collective training products:

Perform a new collective task analysis if there are new critical tasks identified or there is a change in how a collective task is performed. This requirement is indicated by such factors as:

- Publication of a new/updated collective critical task.
- New/updated unit TOE/TDA.
- New revised task reference material, for example, FMs, safety/environmental notices.
- Evaluation feedback.
- Any other sources of data.

Review and update mission analysis when needs analysis identifies a change in the tasks a unit performs, resulting from such items as:

- Unit feedback.
- New/revised doctrine (for example, tactics, techniques, and procedures (TTP)).
- New/improved systems/equipment operation procedures.
- Lessons learned data from the CALL.
- Evaluation feedback.

4. Job Analysis

Job analysis is the process used to identify all the individual critical tasks (including leader tasks) jobholders perform to accomplish their missions and duties and survive. A job analysis is conducted on all new and existing jobs in Army TOE and TDA positions.

Job Analysis Process - To ensure that the Army is providing the right education/training to the soldiers, conduct a new or update an existing job analysis before the development of individual education/training products.

Perform a new job analysis if there are major changes in the job structure or content of the tasks performed as part of the job, indicated by:

- New/updated mission and collective task analysis data.
- New/updated contractor-produced analysis data/information.
- A new job initiated by reorganization or consolidation.
- Evaluation feedback.
- Any other sources of data.

Review and update job analysis when needs analysis identifies a change in the tasks performed in a job resulting from:

- Unit feedback.
- New doctrine.
- New/improved systems/equipment.
- Lessons learned data from the CALL.
- Evaluation feedback.

5. Individual Task Analysis

Use the critical individual task analysis process to provide the task performance detail needed to develop efficient and effective individual training. An individual task analysis is conducted for each critical individual task to identify all task performance specifications for that specific task. These specifications are concerned with how the task is actually performed, under what conditions it is performed, or how well the soldier should perform it. Task analysis data for critical tasks serve as the foundation for development of all subsequent individual education/training products. It provides the detail to design and develop efficient and effective education/training.

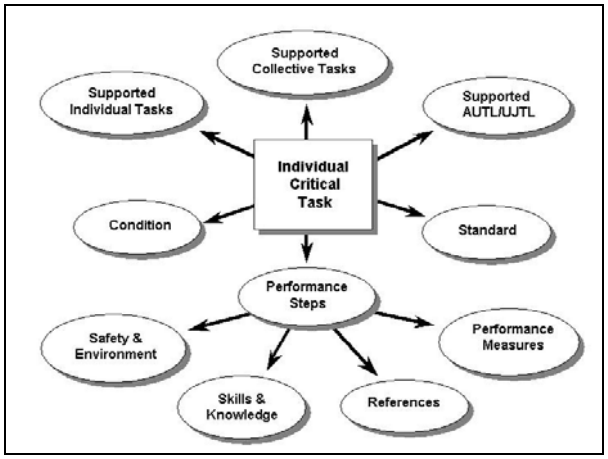
The Individual Task Analysis Process - The Army must provide the right education/training to soldiers if they are to win and survive on the battlefield. The first step in accomplishing this was the identification of the critical individual tasks when conducting the job analysis. The second and just as vital step is to decompose (analyze) each identified individual critical task and identify the details and other factors that affect how that task is performed. Conduct a new, or update an existing, individual task analysis before the production of individual education/training products.

Perform a new individual task analysis if there is a new critical task identified or there is a change in how an individual task is performed. This requirement is indicated by such factors as:

- Publication of a new/updated individual critical task
- New/updated Logistics Support Analysis Report
- New/revised task reference material, for example, FMs, TMs, technical bulletins, and safety and environmental notices.
- Evaluation feedback.
- Any other sources of data.

Review and update job analysis when needs analysis identifies a change in the tasks performed in a job resulting from such items as:

- Unit feedback.
- New/revised doctrine.
- New/improved systems/equipment.
- Lessons learned data from the CALL.
- Evaluation feedback.



Task performance specifications relationships

Individual Task Action Statements (Ref: TR 350-70 Sec VI-2-3)

The Action statement

- Describes a task that a soldier must be capable of performing **in the field**
- Is performance oriented
- Begins with a single action verb (TR 350-70 Appendix D)
- Must be observable, measurable, and expressive behavior that is as concrete and overt as possible

Example: *Maintain an M16-Series Rifle*

Individual Task Condition Statements (TR 350-70 Sec VI-2-4)

The individual task condition statement describes the field (on-the-job) conditions under which the individual critical task is performed. It expands on information in the task title. Ensure it is well written and fully understandable to the individuals performing the task. This is accomplished by writing in the language of the performer.

The individual task condition statement:

- Sets the stage for task performance.

- Identifies the boundaries for task performance.
- Identifies all pertinent influences on task performance.

A condition statement has two parts--

(1) Cue - A word, situation, or other signal for action. An initiating cue is a signal for an individual to begin performing an individual task or task performance step. An internal cue is a signal to go from one element of a task to another. A terminating cue indicates individual task completion.

(2)Descriptive data - Information that identifies—

(a)When the individual task is performed.
(b)Why the individual task is performed.
(c) Where the individual task is performed.
(d) What resources (materials, personnel, and equipment) are required to perform the individual task.

Example: *Given an M16-series rifle, magazine, 5.56 mm ammunition, small-arms maintenance equipment case, and lubricating instructions. You have the following cleaning materials: swabs, pipe cleaner, cleaner lubricant preservative (CLP). You also have lubricating oil, semifluid, weapons; lubricating oil, arctic weapons; and rifle bore cleaner.*

Individual Task Standard Statements **(TR 350-70 Sec VI-2-5)**

The individual task standard defines the ultimate outcome criteria for performing the individual task. It is the prescriptive measuring stick against which an individual's task performance is measured. It describes the criteria to which the task must be performed, **in the field,** to successfully accomplish the supported mission. The function of an individual task standard statement is to describe how well, completely, and/or accurately the task must be performed under the prescribed conditions. The individual task standard—

Describes the minimum acceptable level of performance required of a soldier to ensure successful completion of the individual task. The task standard is written in present tense and is used to measure individual task performance.

Must be—

-Objective	-Valid
-Reliable	-Usable
-Comprehensive	-Discriminating

May include, but is not limited to—

-Accuracy	-Quantity
-Speed	-Quality

Examples:
Must score 80% or better... (**Accuracy**)
Block 10 of the form must have the following information...(**Completeness**)
No less than 40 words per minute... (**Rate**)
The initial adjustment must occur within one minute... (**Timeliness**)
The turret power switch must be off...(**Sequence**)

Example: *The standard is met when the weapon is cleaned, inspected, and lubricated the rifle and magazine so they functioned correctly. Cleaned and inspected the ammunition. Turned in any unserviceable ammunition.*

Identify individual task performance steps **(TR 350-70 Sec VI-2-6)**

An individual task performance step is a single, discrete operation, movement, or action that comprises part of a task. It is your responsibility to identify and list all individual task performance steps in performance sequence order. An individual performance step is a major action an individual must accomplish, in order to perform an individual critical task to standard. They—

(1) Describe the action the task performer must take to perform the task in operational conditions.
(2) Provide sufficient information for a task performer to perform the action. The accuracy and completeness of your decomposition (analysis) of the task and performance steps establish the content quality of the follow-on education/training.

The performance steps and supporting steps, as a whole entity, identify all the actions that an individual must take to perform the task. This decomposition provides the detail needed to design and develop the follow-on education/training. The task performance steps are written in an outline format. The level of decomposition depends upon the complexity of the performance step.

The following guidelines and tips are for writing task performance steps. Remember the soldier, the task performer, must understand precisely what to do. When writing performance steps—

Start them with a verb. Use present tense, and write as if you are personally telling the soldier what to do.

Write each step in language appropriate for the task performer.

Sequence steps in a logical, sensible order.

Performance Steps

1. Clear the rifle.
   a. Remove the magazine from the rifle if there is one present.
   b. Cock the rifle.
   c. Turn the selector to SAFE
   d. Dock the bolt open
      (1) Pull the charging handle rearward.
      (2) Press the bottom of the bolt catch.
      (3) Allow the bolt to move forward until it engages the bolt catch.
      (4) Return the charging handle to the forward position.
      (5) Ensure the selector is on SAFE.
   e. Inspect the receiver and chamber to ensure they do not contain ammunition
   f. Allow the bolt to go forward by pressing the upper portion of the bolt catch

Identify the skills and knowledge required to perform each step

It is critical, detailed work to identify all of the skills and knowledge required to perform the individual task step you are analyzing, since the task performer must possess these skills and knowledge.

To accomplish this work, you must have a thorough knowledge of exactly what the terms "skill" and "knowledge" represent. This is especially important since the term "skill" is used in a number of different ways, with different meanings.

Skill: The ability to perform a job related activity, which contributes to the effective performance of a task performance step. These are physical (psychomotor), mental (cognitive), and affective domain skills. Examples:

- Solder two pieces of copper wire together.
- Clean the barrel of a rifle.
- Select a defensive position.
- Select a course of action.
- Treat people equally.

Knowledge: Information, or fact, required to perform a skill or performance step. Examples:

- Know the composition of solder.
- Know what a clean rifle barrel looks like.
- Know the factors that provide for a good defensive position.

Establish individual task performance measures **(TR 350-70 Sec VI-2-7)**

Performance measures are used to determine if a soldier performed the individual critical task to the established standard. Performance measures—

- Are actions (behaviors, products, and characteristics) objectively observed and measured to determine if a task performer performed the task to the prescribed standard.
- Are derived from the task performance steps during task analysis and may cover one step, more than one step, or part of a step.
- Start with a past tense verb.
- Are measured as "GO" or "NO GO." This is an absolute measure. The task performer either–
- Performed or did not perform the action described in the performance measure.
- Met or did not meet the performance measure criteria.
- Serve as a checklist to determine if the soldier actually performed the task to the established standard.
- Include criteria for measuring the steps covered.
- Support the individual task standard.

A performance measure has two parts—

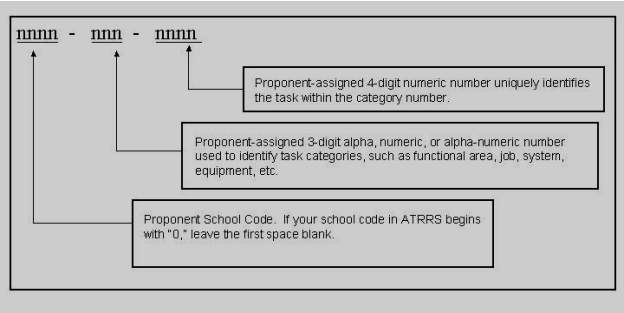
(1) An action that identifies what the individual was to do.
(2) The performance criteria that establish how well the step covered must be performed.

Performance Measures	**GO**	**NO GO**
1. Cleared the rifle. a. Removed the magazine from the rifle if there is one present. b. Cocked the rifle. c. Turned the selector to SAFE d. Docked the bolt open e. Inspected the receiver and chamber to ensure they do not contain ammunition f. Allowed the bolt to go forward by pressing the upper portion of the bolt catch	_____	_____

Assign a permanent individual task number **(TR 350-70 Sec VI-2-8)**

The critical individual task number positively identifies an individual task. Assign every individual task a unique number following the individual task numbering guidance.

The standardized number format for all Army individual critical tasks includes enlisted, warrant officer, commissioned officer, and DA civilian tasks.



Critical Task Site Selection Board (CTSSB) **(USASC&FG Reg 350-7)**

The collective task analysis process identifies all task performance specifications for a specific critical collective task. The task performance specifications identified during this process serve as the foundation for subsequently developed unit-training products. Collective task analysis is a minimum essential requirement before development of unit training products. Collective task analysis results in the identification of collective task performance specifications and task summaries, as well as individual tasks performed as part of the collective task.

The approved critical tasks developed by a majority of the CTSSB members are the culmination of the job analysis phase of training development. The training developer/analyst presents job analysis data collected from surveys, interviews, and site visits to the board to facilitate the establishment of individual critical tasks for the MOS, AOC, or FA being boarded. The schools will retain the job survey data.

Job analysis is the process used to identify individual tasks (including leader tasks) that a job incumbent must perform to successfully accomplish his/her mission and duties as well as survive on the battlefield. Job analysis is the most critical phase of the systems approach to training (SAT) process; it is a minimum essential requirement before the development of individual training products. A new job analysis begins when needs analysis identifies a training development requirement to create a new job or merge, divide, or consolidate jobs. A job analysis revision begins when needs analysis resulting from unit feedback, new doctrine, new or improved equipment, new systems, or lessons learned identify a change in tasks performed in a job.

Individual task analysis is the process used to identify how the task is actually performed, under what conditions it is performed on the job, and how well the individual must perform it. It provides the detail to design and develop efficient and effective individual training. A new individual task analysis starts on receipt of a new individual task or when there is a significant change in how a task is performed. An individual task analysis revision begins when needs analysis identifies that a training/training development requirement is the solution. A task analysis of each individual task will identify all the performance specifications needed to establish a training strategy and to design and develop follow-on training.

- Purpose
  - Review the total task inventory
  - Job performance data
  - Recommend changes to the Critical Task List
  - Review and recommend Action, Conditions, and Standards associated with each task
  - Determine training site
- Regulation
  - USASC&FG Reg 350-7

Conditions for convening a board

- Analysis performed on new equipment reveals that jobholders must now perform tasks previously unknown.
- The merger of MOSs/AOCs changes the job performance requirements of soldiers in the field.
- A major doctrinal change that causes a change in what the jobholder will do in the field.
- A major shift in training philosophy affecting the training site location.
- Changes in the collective mission may yield new individual tasks.
- When a Logistical Support Analysis Report (LSAR) reflects a change in task support during the Requirements Determination Process.
- A new MOS or AOC is created as a result of fielding a new weapon system and/or a change in doctrine.

Responsibilities:

The Commanding General or designated representative will approve all CTSSB actions and results.

The DOT will:

- Provide assistance upon request in the development of recommended tasks to ensure compliance with TR 350-70.
- Consolidate MOS/AOC CTSSB projections submitted by the 15th Regimental Signal Brigade (RSB), Leader College for Information Technology, (LCIT), and the Regimental Noncommissioned Officer Academy (RNCOA).
- Coordinate with the 15th RSB, LCIT, and the RNCOA to assist in resolving any issues.

- Provide collective task(s) to the training developer/analyst.
- Provide a list of AOC/MOS approved, inactive and archived individual tasks to the training developer/analyst.
- Perform individual task management functions.
- Serve as proponent for this regulation.

The Office Chief of Signal (OCOS) will:

- Provide personnel profile for the MOS/AOC being boarded.
- Provide assistance to the 15th RSB, LCIT, and the RNCOA in determining major equipment and unit information that will best service the needs of the CTSSB.

The 15th RSB, LCIT, and the RNCOA (convening authority) will:

- At the beginning of each fiscal year, project CTSSB requirements two years out and provide DOT with a copy, including funding requirements to:
    - Support analysis (preparing and mailing surveys, video teleconferencing (VTC), personal interviews, use of automated survey generator (AUTOGEN) software provided and analysis program software.)
    - Bring subject matter experts (SMEs) from operational units to serve on the CTSSB.

- Coordinate with Personnel Command (US Army) (PERSCOM), National Guard Bureau (NGB), USAR, and The Army School System (TASS) battalions to obtain SMEs to serve on the board, based on school's input. This should be accomplished a minimum of six months prior to scheduled board date.
- Prepare a memorandum for DOT's signature to United States Forces Command (FORSCOM) six months prior to the scheduled board date requesting SME support.
- Consolidate budget documentation (to include cost of analysis and bringing SMEs from operational units) and project funding for CTSSBs, preparing unfinanced requirements as necessary.
- Confirm CTSSB scheduled for current year; notify DOT of intent.
- Coordinate with Directorate of Combat Developments (DCD) and identify TRADOC System Manager (TSM) as needed.
- Approve milestone schedule.
- In coordination with OCOS, appoint board members.
- Chair a committee of representatives from all local organizations participating in the particular CTSSB with the mission to ensure milestones are met and all available information is collected, properly analyzed, and included in preparing task summaries.
- Prepare and forward TDY orders to selected individuals serving on the CTSSB from units outside Fort Gordon, or coordinate with the Directorate of Resource Management (DRM) to ensure fund cites are provided to units preparing their own orders.
- Appoint Chairman of the CTSSB.
- Ensure analysis of new tasks is conducted and draft task summaries are developed.

- Ensure assembly and distribution of the read-ahead package contents.
- Convene the CTSSB.
- Staff the board report and submit to the Commanding General or designated representative for approval.

Preparation for the Board

Board composition

Nonvoting members.
- Chairman. Votes only to break ties.
- Recorder.
- Training Developer/Analyst.
- Directorate of Training (DOT) Program Manager.
- Office Chief of Signal (OCOS) representative.

Voting members.
- All voting members of the CTSSB will be from operational units of each of the following components as applicable: FORSCOM, US Army Reserve (USAR), and Army National Guard (ARNG).
- At least one ARNG member holding the specific MOS/AOC or specialty under review or currently holds a capper MOS and formerly held the MOS under review prior to promotion, if available.
- At least one USAR member holding the specific MOS/AOC or specialty under review or currently holds a capper MOS and formerly held the MOS under review prior to promotion, if available.

Board member qualifications

SMEs.
- Should be one skill level higher than the MOS/AOC/FA for which the tasks are being recommended.
- Representative of a good cross section of the job being analyzed.

Chairman
- Civilians: GS-12 or higher with knowledge of the MOS/AOC being boarded.
- Military: E-8 or higher for enlisted/noncommissioned officer (NCO) MOSs; 04 or higher for Officers; WO2 or above for Warrant Officers.
- Must have completed the SAT course.
- Cannot be in the supervisory chain of any voting board member.

Recorder: Should be from the school holding the CTSSB.

Training Developer/Analyst: Should be from the school holding the CTSSB.

Preliminary actions - At least eight months prior to a scheduled board, the convening authority (Commander, 15th RSB; Commandant, LCIT; or Commandant, RNCOA) will appoint the Recorder and Training Developer/Analyst for the board. These individuals will perform the following preliminary actions.

- Develop a milestone schedule. Coordination with affected training elements is essential in developing a workable schedule. Submit the milestone schedule to the convening authority for approval.
- Coordinate with OCOS to ensure that the overall board composition represents distribution of the MOS/AOC/FA throughout the entire force.
- Prepare a memorandum to PERSCOM requesting personnel support for the board, based on the results of the above analysis. The memorandum will be prepared for DOT's signature and must arrive at PERSCOM at least six months prior to the scheduled board date. Attached to the memorandum should be an enclosure from OCOS that includes a list of units that will best serve the needs of the CTSSB based on assignment-oriented training (AOT) and other factors.
- Review system training plans (STRAPs) and other new equipment documentation for new tasks.
- Review field manuals (FMs), technical manuals (TMs), and other doctrinal materials for new tasks.
- Review task summaries of all current tasks.
- Review feedback in the form of course critiques, internal and external evaluations, and comments received from field commanders concerning the effectiveness of current training programs.
- Review the individual training plan (ITP) for the MOS/AOC or specialty under review.
- Coordinate with capper MOS.
- Obtain a list of MOS/AOC unique tasks, shared tasks, and common tasks from the DOT Task Manager.
- Coordinate with DOT for preparing and distributing an MOS survey, which includes all tasks on the current critical task list and those found during review of new equipment and doctrinal materials. The survey will also include a question that asks the respondent to submit additional tasks for consideration. Use of a web-based survey is highly encouraged. The survey results should be available at least two months prior to the board date in order to allow proper analysis. It is recommended that students from ROA and RNCOA be used to complete surveys when possible.
- Review survey results and prepare a complete proposed task inventory. As a minimum, the inventory will contain proposed task titles for all tasks. Every effort will be made, through coordination with SMEs, to develop task conditions and task performance standards prior to preparing the read-ahead packet. Once all conditions and standards are developed, task performance steps and performance measures will be developed.
- Review results of collective analysis to identify individual tasks that may have been noted during the collective board process.
- Coordinate with the OCOS force structure on equipment density issues
- Review new equipment training plans.

- Research regulatory guidance, including TMs, manufacturers' manuals, Army regulations (ARs) to determine the "how to" of task performance.
- Prepare a read-ahead packet for distribution to board members.
    - The read-ahead packet will be sent to all board members at least 30 days prior to the scheduled date of the board. If at all possible, transmission will be by email.
    - In the event new board members are named after initial distribution of the packet, the read-ahead packet will be sent to these new members as soon as possible.
    - The read-ahead packet will also be posted on the University of Information Technology (UIT) Resource Center web site.
- The read ahead packet will include:
    - Proposed new tasks with task summaries (conditions and standards minimum).
    - Current task inventory.
    - Current soldier training publication (STP), officer foundation standard (OFS), MOS training plan or an extract (only when the manual is not available); or if applicable, the uniform resource locator (URL) of the web site where the soldier's manual/trainer guide (SM/TG) is located.
    - Job duties from DA Pamphlet 611-21.
    - USASC&FG Regulation 350-7.
    - Training and Doctrine Command (Army) (TRADOC) standard verb list.
    - Agenda for the CTSSB, to include location, dates, time, and a point of contact (POC) with phone number.
    - Survey data relating to "percent performing, learning difficulty, and/or training emphasis" for the tasks under consideration and any analysis data acquired from any other source.
- Arrange for a facility in which to conduct the board. The facility must be available for five consecutive working days. Prepare the facility for the board.
- Coordinate for funding of TDY for personnel tasked by PERSCOM and for USAR and ARNG representatives, as necessary. Ensure fund cite information is given to the appropriate orders authority, or coordination is made between the local DRM and the DRM at the distant site to transfer funds.
- If necessary, prepare tasking memorandum to Fort Gordon Central Tasking Office for local board members (OCOS, DOT, etc), in order to ensure proper tasking credit is given. Prior coordination with the tasked agencies is encouraged.
- Ensure adequate supplies are available to conduct the board.

Selecting a board Chairman - The responsibility for selecting the board Chairman rests with the convening authority of the organization that is the proponent for the MOS or AOC being reviewed. In order to minimize TDY costs, the Chairman should be selected from a unit on Fort Gordon. Early selection will allow the Chairman to properly perform his/her duties.

Actions by the Chairman - Prior to convening the board, the Chairman will perform the following tasks.

- Schedule a meeting with the convening authority to receive any specific guidance concerning the board.
- Coordinate the preparation of a briefing that identifies and reviews the following subjects for the board members.

    - Ensure board members understand that during the conduct of the board their primary duty is the board.
    - Purpose of the board.
    - Methodology for task development.
    - Voting procedures.
    - Purpose for completing Fort Gordon Form 6885 (Task Board Member Nonconcur Form, 1 August 1995).
- Review paragraphs VI-1 through VI-3 and Appendix D in TR 350-70 and USASC&FG Regulation 350-7 prior to convening the CTSSB.
- Coordinate with school training developer/analyst holding the CTSSB to obtain documentation on the process used to develop proposed task inventory. This document will be maintained as part of the record of proceedings of the CTSSB and will include:
    - Analysis package documentation.
    - New doctrine or equipment information.
    - Field surveys.
    - Supervisory guidance.

Actions by board members - Prior to convening the CTSSB, all board members will review the read-ahead packet. The purpose of the review is to identify obsolete tasks, determine if there are any other tasks that should be included, and determine if any existing tasks require revision. Board members should understand that during the conduct of the board, their primary duty is the board. Prior coordination will be made to cover their normal responsibilities during the board.

Conducting the Task Selection Board

The board Chairman will convene the task selection board. The task selection process will be completed prior to selecting training sites. The following actions will take place prior to the task selection process.

- The convening authority, or a designated representative, will welcome the board and provide general guidance for conducting the board.
- The Chairman will address the board to provide general guidance on conducting CTSSBs and the selection of tasks.
- The OCOS representative will address the board to discuss any proponent actions that may impact on the selection of tasks.

Task selection process

- The following references will be used if available:
    - Survey data
    - Mission guidance
    - Threat information
    - Target population demographics
    - Appropriate references
    - All relevant collective task analysis that is available. Each board member should ask the question, "What collective task does this proposed task support?" If no

collective task is identified, coordination should be made to develop a new collective task or the task should be deleted. This will also aid in the automated systems approach to training (ASAT) linking process (individual tasks to collective).
    - Task analysis.
- The following should be accomplished during the selection of the critical tasks:
    - Edit the task titles
    - Edit the conditions statements
    - Edit the standards statements
    - Identify the performance measures (If time permits)
    - Identify the performance steps (If time permits)
    - Identify the skills and knowledge (If time permits)
- The Chairman will read the title of the task under consideration.
- As board members work through the list, they will make a professional judgment concerning the value of each task. Experience of the board members will help ensure the tasks selected are critical to job performance, and the tasks must be trained.
- All tasks selected must be performed by jobholders at a given skill/specialty level. The board will identify the performance level.
- The Chairman facilitates and guides discussion toward the goal of reaching total consensus. It may be necessary at some point for the Chairman to table the actions in order to obtain new and/or additional information. The Recorder captures the essence of the discussion for inclusion in the minutes.
- The Chairman calls for a vote once he or she feels that further discussion will not affect the vote.
- If after voting any member still dissents from the majority position of the board, FG Form 6885 (Statement of Nonconcurrence) will be completed by that board member. FG Form 6885 will be turned in to the Recorder and becomes part of the official minutes. Both voting and nonvoting members may submit nonconcurrence forms.
- For tasks not selected as critical, a rationale for non-selection will be recorded in the official minutes of the CTSSB.
- Board members may propose additional tasks not on the proposed task inventory. These tasks may be added to the list and selected as critical, provided a majority of the board members concur.
- To ensure that tasks selected are indeed tasks, consider the following questions as criteria for selecting tasks.
    - Is this task a single unit of work?
    - Does it have an identifiable start and stop point?
    - Is it directly observable or an otherwise measurable process?
    - Will it result in a measurable, observable product accomplishment?
    - Is it performed for it's own sake? (Does not depend on other tasks.)

Daily activities - On each day of the board, the following actions will take place.

- The Chairman will convene the session.
- The Chairman will ensure a quorum is present for the board proceedings (at least four out of six of the voting members).

- The Chairman will function as the moderator, facilitator, and mediator.
- The Recorder will distribute the minutes of the prior day's activities for review and comment by the members. Corrections will be noted. Once all corrections are made, the daily minutes will become part of the official board report.
- Discussion will commence at the point of the prior day's adjournment.
- The Recorder will capture the major discussion points of the board members as accurately as possible. Record voting of the members and include the results of the official minutes. Use of a tape Recorder is encouraged, but not required.
- At an appropriate time, the board will adjourn for the day. Breaks and lunch are at the discretion of the Chairman.
- The Recorder will prepare the daily minutes for presentation the following morning. Nonconcurrence forms will be enclosed with the daily minutes.

Concluding the task selection board - Once all tasks have been considered and voted on and all nonconcurrence forms have been collected, the Chairman will ask for any final discussion on the task list. Once all issues are resolved, the Chairman will adjourn the task selection board. If time remains in the workday, he or she may immediately convene the training site selection board.

Conducting the Training Site Selection Board

Upon conclusion of the task selection board, the training site selection process may begin. The training site selection board will consist of the same members as the task selection board and will be convened immediately following the adjournment of that board, unless adjournment occurs at the end of a business day.

Training sites - TR 350-70 defines four distinct "training sites."

- Resident training. Training presented, managed, and controlled by an instructor, facilitator, small group leader, or otherwise designated trainer in a formal school environment.
- Unit training. Training (individual, collective, and joint or combined) that takes place outside the Army's institutional base.
- Distance learning (DL). This is the delivery of standardized individual, collective, and self-development training to soldiers and units at the right time and place through the application of multiple means and technologies. DL may involve both synchronous and asynchronous student instructor interaction. It may also involve self-paced instruction without benefit of access to an instructor.
- Self development. This is training that the soldier must get "on his/her own." It may include college courses, technical courses provided by commercial vendors, or training from other sources, Army and non-Army.

Site selection considerations - Items to consider when making site selection decisions are:

- Where/how can task be trained. Of the four training sites, which is most suitable for training the task. Consider restrictions that may make training difficult in the various environments.
- Availability of equipment or simulators to the soldier, or in the unit, to be used for training. Lack of equipment availability in all units may make resident training the only reasonable choice.
- Availability of extension training material (ETM) or the ability to produce this material. If such material is widely available and effective, DL may be the best mode.
- Percentage of soldiers performing the task. Is this task widely performed or required only in special assignments? Tasks performed in only a few units are better suited to unit training.
- Time between training and utilization (learning decay rate). Does the ability to perform the task decay rapidly if the task is not routinely performed? If so, then training is best conducted as close in time to actual job performance as possible. Resident training may not be the best option in this case.
- Frequency of performance. Tasks that are frequently performed do not normally decay rapidly. They may usually be taught in any environment. Tasks less frequently performed are better taught where practice time is available, in order to reinforce the task performance. Resident training may be the best choice for infrequently performed tasks.
- Task complexity. How hard is the task to learn? More complex tasks are usually better trained in a structured training environment, such as a school or unit.
- Task similarity. If a task is similar to another task also on the list, it is probably best if both tasks are taught in the same environment. This leads to training efficiencies.
- Training supervision requirements. Are NCOs normally available at the training site to conduct the training? If a member of a small team normally performs the task at a remote location, the requisite NCO skills may not be available to conduct unit training. Consider other sites.
- The optimum instructional setting for a task is the setting that provides the most effective and efficient training to those who require the training, at the point in time when the training is most needed.

Site selection process - The site selection board will use the recommended list of critical tasks from the task selection board procedures above.

- The Chairman will present a briefing on the types of sites and the criteria for selecting each site.
- The Chairman will then announce each task, in turn, for discussion and voting. The Chairman votes only to break ties.
- As board members work through the list, they will make a professional judgment concerning the best site for training each task. Selection of site will be based on all available criteria, information, and experience of each board member.
- The Chairman guides the discussion towards consensus. If significant questions cannot be resolved, the task will be tabled pending further research. Tabled tasks will be

reintroduced after completion of the remaining tasks. The Recorder captures the essence of the discussion for inclusion in the minutes.

- The Chairman calls for a vote once he or she feels that further discussion will not affect the vote.
- If, after voting, any member still dissents from the majority position of the board, that member will complete FG Form 6885 and turn it in to the Recorder for inclusion in the minutes.

Concluding the training site selection board Once all tasks have been considered and voted on and all nonconcurrence forms have been collected, the Chairman will ask for any final discussion on the task list. Once all issues are resolved, the Chairman will adjourn the training site selection board. If time remains in the workday, the board will begin the post board actions; otherwise they will begin on the following day.

Post Board Actions

Upon conclusion of the formal portion of the board, several other actions must take place in order to have the list approved.

Actions by the board members - Following final adjournment of the board, the members will participate in the following post board actions.

- Preparation of outbriefing. The Chairman will present a final outbriefing to the convening authority or designated representative, summarizing the results of the board. The outbriefing will include the number of tasks selected, and of those not selected. Any specific guidance given in the initial briefing will be addressed. All board members other than the Recorder will participate in the preparation of this briefing.
- Preparation of the board report. The Recorder will prepare the minutes of the final day's activities, and provide copies to the members for review and comment. Once the final day's minutes are approved, the Recorder will prepare a final board report. The report will be in the form of a memorandum from the Chairman to the convening authority. The following items will be enclosed.
    - The final recommended critical task list, to include skill level and training site recommendations.
    - The minutes from each day's proceedings.
    - All board member nonconcurrence forms.
    - A signature page for all board members, indicating that they have read the report and concur that it accurately reflects the board proceedings and recommendations. The signature on this page does not mean that each member agrees with all recommendations, only that the report is accurate.
- Outbriefing - Once the briefing has been prepared and the board report has been completed and signed, the board members will present a final outbriefing and report to the convening authority or designated representative. All board members must be present for this outbriefing in order to participate in any discussion generated by the briefing and report.

Actions by the convening authority - Upon completion of the outbriefing, the convening authority will release the board members to their units and begin staffing the board report.

- Internal review. The convening authority may conduct an internal review of the board report, utilizing any expertise from within his or her own organization. This review may be done formally, using FG Form 1203, or informally, at the convening authority's discretion, but must be completed within two weeks of the outbriefing.
- Staffing the results. The board report, along with any recommendations from the convening authority will be staffed within the Signal Center using FG Form 1203. Staffing will be concurrent in order to ensure prompt approval of the critical task list. As a minimum, the following agencies will be included in the staffing but others may be consulted, as the convening authority desires. The suspense for response should be at least two weeks, but not more than four weeks. A failure to respond by the suspense date will be considered a concurrence without comment.
    - OCOS
    - DOT
    - DCD
    - TSMs
    - USAR Component Office
    - ARNG Component Office
    - Training elements responsible for any courses affected by the recommended list.
- Submission for approval - Once the staffing is complete, the convening authority will review all nonconcurrences and comments and prepare responses to each. Based on the results of the staffing, the convening authority will formulate a final recommendation for the critical task list. The recommendation will be forwarded on FG Form 1203 through the DOT (for administrative review) to the Commanding General or designated representative for approval.

Actions following approval - Once the Commanding General or designated representative approves the critical task list, the following actions will be taken.

- The complete critical task list will be submitted to the DOT for assignment of task numbers to newly approved tasks. Once the tasks are identified as active in ASAT, they will be linked to the appropriate collective tasks by the convening organization.
- A list of previously approved tasks that were deleted will be sent to the DOT so that those tasks may be marked as inactive in ASAT.
- All new tasks will be entered into ASAT within six months of the conclusion of the CTSSB; this will facilitate the updating of Course Administrative Data (CADs) and Programs of Instructions (POIs), which have a six-month window for completion. STPs will be updated within 12 months of CTSSB conclusion.
- A complete copy of the approval will be forwarded to each board member.
- The new list will be posted on the UIT Resource Center web site, so that is available to all throughout the Army.
- The new list will be sent to the training development sections responsible for any affected courses so that training development for new tasks may begin.

- If there are no equipment constraints, training of new or revised tasks should be implemented immediately.

Systems Training Plan (STRAP) **(TR 350-70 Appendix J)**

A STRAP:

- Documents the results of early training analyses and training design
- Starts the planning process for courses, training products, and training support required for the system
- Sets milestones to ensure development of training and training support to permit testing and fielding of a total system
- Communicates training requirements and resource requirements

Soldier Training Publications (STPs) **(TR 350-70 Sec VI-5)**

STPs are Armywide Doctrinal and Training Literature Program (ADTLP) publications that contain critical tasks and other training information used to train soldiers and serve to standardize individual training for the whole Army; provide information and guidance in conducting individual training in the unit; and aid the soldier, officer, noncommissioned officer (NCO), and commander in training critical tasks. The consist of Soldiers Manuals (SM) and Soldier Manual/Training Guides (SM/TGs).

STPs are a minimum essential requirement if identified as a requirement during needs analysis or short-range individual training strategy development. STPs:

-Provide information and guidance in conducting individual training.

-Aid the trainer, trainee, and commander in training individual critical tasks.

DESIGN

Ref TRADOC Reg 350-70 Sec VI-6

This section provides training course design guidance for implementation once short-term training design strategies have determined the need for a training course. It includes policy for the design of training courses; lessons/lesson plans; correspondence subcourses; and courses/lessons using Video TeleTraining (VTT), Interactive Multimedia Instruction ([IMI) (e.g., Computer-based Instruction [CBI]) and Training Aids, Devices, Simulators, and Simulations [TADSS]. It covers media/method/site selection that helps ensure effective and cost-efficient training courses.

Total Army Training System (TATS) Course Design Requirements (TR 350-70 Sec VI-6)

TRADOC's mission is to train the Total Army (i.e., Active Army (both military and civilian), Army National Guard, and U.S. Army Reserve Forces) for the full continuum of military operations. To meet this challenge, training at proponent schools and TASS Training Battalions needs to ensure the training of all course critical tasks prepare the soldier to perform to task performance standard. TATS Courses will help meet this challenge, and the goal is for all courses to be considered for redesign as TATS courses and to eventually become TATS courses if feasible. In addition to the above training course design requirements, this paragraph contains guidance specific for TATS Course design and related issues.

A TATS Course is a single course designed to train the same MOS/AOC skill level, Skill Qualification Identifier (SQI), additional skill identifier (ASI), Language Identifier Code (LIC), and Skill Identifier (SI) within the Total Army. It also includes MOS qualification (MOSQ, i.e., reclassification), Army leadership, functional, professional development, and civilian courses. The course's Total Army structure (phases, modules, tracks**,** lessons, tests) and media ensure standardization by training all soldiers (regardless of component) on course critical tasks to task performance standard. Course lengths, but not academic hours, may vary due to such differences as Active Component (AC) and Reserve Component (RC) training day lengths.

Training Requirements Analysis System (TRAS) (TRADOC PAM 350-70-8)

The TRAS is a long and short-range planning and management process for the timely development of peacetime and mobilization individual training. The TRAS integrates the TD process with the Planning, Programming, Budgeting, and Execution System (PPBES) by documenting training strategies, courses, and related resource requirements. The TRAS ties together related acquisition systems for students, instructors, equipment and devices, ammunition, dollars and facilities.

Proponents prepare TRAS documents for courses developed by TRADOC and conducted by service schools, training centers, NCOA, RCTI, ROTC Cadet Command, troop schools and other training activities. Additionally, proponents prepare TRAS documents for Interservice Training Review Organization (ITRO) consolidated courses conducted at TRADOC schools and other service locations as required.

The TRAS uses three types of documents--the **Individual Training Plan (ITP), Course Administrative Data (CAD),** and **Program of Instruction (POI).**

Individual Training Plan

The ITP is the training strategy for an MOS. It is the individual long-range training strategy report for an occupational specialty or separate training program and prescribes the cradle to grave individual training requirements (resident and nonresident) for that specialty. It helps ensure the SAT process is integrated with the sources of training needs, the PPBES, evolving training initiatives, and related resource acquisition systems. The ITP is used to develop the Course Administrative Data (CAD) for new or revised course versions.

The ITP is the justification for:

- Initiating acquisition actions.
- Submitting resource acquisition documents should reference the ITP in which the resource requirements were identified and the process should be started as soon as the requirements have been approved by the proponent and coordinated with HQ TRADOC. Before submitting an ITP, the proponent must ensure the resource requirements identified in the ITP are coordinated at the installation level so they can be entered expeditiously into the appropriate resource acquisition systems.
- Developing individual training products.

The ITP addresses all resident, non-resident, and distance learning course versions or training programs directly supporting an occupational specialty, to include contractor-developed/conducted course versions, ITRO consolidated and collocated course versions, courses which award additional skill identifiers (ASI) or skill qualification identifiers (SQI), functional courses which are aligned with a Military Occupational Specialty (MOS), Branch, Area of Concentration (AOC), or functional area and professional development courses.

The ITP identifies:

- Changes in doctrine, materiel, organization, leader development strategies and/or training strategies/initiatives which impact on the specialty.
- Distance Learning products that support, or will be developed to support, the specialty.
- Changes planned for the training program, to include courses to be deleted, created or revised.
- Estimated dollar, ammunition, facility, and equipment/device requirements that are not currently available to the installation (e.g., not on the Table of Distribution and Allowances [TDA], not included in the Command Operating Budget [COB], not included in the Training Ammunition Management System [TAMS] or new construction not approved).

An ITP is prepared for each:

- Enlisted MOS. For capper MOS(s) (an MOS beginning above skill level 1 and being fed by lower skill level MOS(s) with a different number), a separate ITP may be submitted or

it may be included in the ITP of one of the feeder MOS(s). If the latter option is selected, the courses associated with the capper MOS(s) will be referenced in the other feeder MOS ITP, as appropriate, but without a course milestone schedule (CMS).

- Commissioned officer AOC, branch or functional area. Normally, commissioned officer ITP address all areas of concentration in a branch.
- Warrant officer MOS. When used with a particular MOS (four character), some special qualification identifiers (SQI) create a five-character MOS code (MOSC) which is essentially a separate MOS. If the proponent for this identifier is different from that of the four-character MOS, a separate ITP is required.
- Separate training program that does not relate to a specific MOS, and area of concentration or functional area.

Revisions

Changes to training strategies or courses usually generate a need for an ITP revision. Scheduled reviews may trigger the need for a revised ITP. If a review indicates no revision is needed, then no action is required.

Course Administrative Data

The CAD is prepared for each resident course version and is used to prepare the preface page of a POI. The CAD provides critical planning information about a resident course version which enables the recruiting, quota management, and personnel systems to take the actions needed to have students and instructors on-station in sufficient time to meet Army requirements. The CAD also establishes a basis for solicitation of individual training requirements (student input) through the Total Army Centralized Individual Training Solicitation (TACITS) for new and revised course versions for use during the Structured Manning Decision Review (SMDR) and the development of the Army Program for Individual Training (ARPRINT).

The proponent is the approval authority for all TRAS documents and constitutes authority to continue developing the training. Proponents must fully coordinate training start dates, optimum class sizes, course lengths, instructor contact hours, equipment and ammunition requirements with HQ TRADOC, ATTN: ATOM-P for each version of a course. A proponent's approval does not obligate TRADOC to resource the program.

A CAD is revised when there are significant changes projected in training strategy and course content or there are changes in CAD data fields and/or other course resource requirements (except for temporary deviations as indicated in paragraph II-6(b)).

CADs are submitted at least 36 months before the beginning of the FY in which the new or revised course version will be implemented. More than one CAD for the same course may be submitted representing administration data for different versions of the course. This situation commonly occurs with course revisions planned from year to year. When minor changes are required which will not affect enlistment contracts and which can be accommodated within existing resources, no CAD is required; instead, include such changes on the POI preface page when the POI is prepared or revised.

Program of Instruction

The POI is a Total Army Training System (TATS) requirements document prepared for all versions of courses developed by TRADOC and conducted by service schools, training centers, NCOA, RCTI, ROTC Cadet Command, troop schools and other training activities. Additionally, for ITRO collocated (Army unique) versions of courses conducted at other service locations and ITRO consolidated versions of courses conducted at TRADOC schools.

The POI lists resources required to conduct training for a specific version of a course, critical tasks and supporting skills and knowledge taught, including distance learning phases/modules of a version of the course.

The POI provides a general description of course content, duration of instruction, and methods of instruction and techniques for delivery for a particular version of a course.

The POI proponent is the approval authority for all TATS TRAS documents and constitutes authority to continue the SAT process. Proponents must fully coordinate training start dates, optimum class sizes, course lengths, instructor contact hours, equipment and ammunition requirements with FORSCOM, OCAR, NGB and HQ TRADOC. A proponent's approval does not obligate TRADOC to resource the program. A POI is revised when there are significant changes projected in training strategy and course content or over 30% of the course lessons require revision and/or resources are affected.

POIs are submitted at least 6 months prior to implementation of a new or revised version of a course. Resource requirements not previously recognized by a timely CAD submission may not be resourced for 2 to 3 years, due to the nature of the budget cycle. When minor changes are required, which will not affect enlistment contracts, and which can be accommodated within existing resources, include such changes on the POI preface page when the POI is prepared or revised. For courses conducted by other services and for which the Army provides instructor or training developer support, provide Director, TOMA one copy of that service's POI equivalent document. Proponents will ensure that implementation is feasible for courses conducted at other than the proponent's location(s). Proponents coordinate ITP, CAD, and POI documents with those who conduct the training to enable them to acquire needed resources.

Write Learning Objectives **(TR 350-70 Sec VI-6-6)**

As discussed in the Analysis phase, soldiers perform Tasks in the field. Training developers and instructors use Learning Objectives

Learning Objective (LO) - A LO is a statement describing student performance required to demonstrate competency in the material being taught in a formal training environment. This behavior must be performed under specific conditions to prescribed standard. LO components may or may not be worded the same as task component statements (task title, condition, and standard). LOs are written in terms of student performance, NOT instructor performance. LOs

focus training development on what needs to be trained and focus student learning on what needs to be learned. They are performance oriented and ---

- Are derived from task performance specifications.
- Have three parts: Action, Condition, and Standard.

Terminal Learning Objective (TLO) - Describes exactly what the student must be capable of performing under the stated conditions to the prescribed standard on lesson completion.

- Is written for each lesson.
- Occurs only **one** time per lesson regardless of presentation method, media, or technique.
- Has only **one verb**.
- May ---
    - Be the same as the task it supports.
    - Support a part of a task (i.e., a performance step, skill or knowledge).
    - Support more than one task.

Enabling Learning Objective (ELO) - Supports student learning of the TLO.

- Supports student learning of the TLO.
- Is **optional** for lesson plans; is **required** for CBI lessons.
- Describes exactly what the student must be capable of performing under the stated conditions to the prescribed standard on completion of a part of the lesson.
- Has only **one verb**.

Learning objectives consist of three parts: Action, Condition, and Standard.

The Action Statement --- (TR 350-70 Sec VI-6-6)

- Describes exactly what the student must do after completing a specific part of the training.
- Is performance oriented.

Note: We should train as we fight. Training in the field and on equipment is the preferred training method. When this is not possible, training should simulate actions required in task performance.

- Begins with a single action verb.
- Should be observable, measurable, and expressive behavior that is as concrete and overt as possible.

Note: See TRADOC Reg 350-70 Appendix D, Standard Verb List.

Example: *Repair a Local Area Network (LAN)*

The Condition Statement --- (TR 350-70 Sec VI-6-6)

- Reflects training conditions and identifies anything that has pertinent influence upon performance of the objective, including environment, equipment, manuals, assistance, or required supervision.
- Is written to **training conditions**, **not actual wartime conditions**.
- Should relate to the action only.
- Should approximate projected operational environments to the closest extent possible.

Note: The condition statement can be written in paragraph or bullet format.

Example: *The student will be provided a malfunctioning LAN, LAN diagram, a Fluke DSP 4300 LAN analyzer, and a LAN toolkit.*

The Standard Statement --- (TR 350-70 Sec VI-6-6)

- May have multiple criteria. These can be written in paragraph or bullet format. The statement must reflect standards that ---
- Are observable and provide clear, measurable criteria for evaluating learning objective performance, which will be influenced by the training conditions.
- Describe the performance level students must achieve to satisfactorily complete the training.
- Minimize subjectivity during student evaluation.
- Are written in the present tense.
- Must be—
    - Objective Valid
    - Reliable Usable
    - Comprehensive Discriminating
- May include, but is not limited to—
    - Accuracy Quantity
    - Speed Quality

Example: *The student will repair all network deficiencies within 60 minutes.*

Contemporary Operating Environment (COE)

COE is a composite of the conditions, circumstances and influences that affect the employment of military forces and bear on the decisions of the unit commander. The nucleus of the common operational environment for training must be those critical factors that reside in all operational environments and have the greatest impact on military forces. Studies conclude that the variables that have the greatest impact on military operations are; the physical environment, the nature and stability of the state, the sociological demographics, regional and global relationships, existing military capabilities, information, technology, presence of external organizations, national will, time and economics.

The Physical Environment: The physical environment has always been a key factor in military operations. History has demonstrated that those forces able to obtain an advantage by using various aspects of the physical environment have a much higher probability of defeating their opponents, regardless of size and capability overmatch. Potential opponents clearly understand that less complex and open environments favor the U.S. with its standoff technology, PGMs and sophisticated ISR capability. For this reason, they will seek t use complex terrain and urban environments in confrontations with U.S. Forces.

The Nature and Stability of the State: Understanding the nature of the state involved in the conflict and its degree of stability is key in calculating the center of gravity, nature of the military campaign, and true end state. A state that must commit significant resources to maintain internal control represents less of a threat in conventional combat and more of a threat in stability and support operations. The question then becomes: is the real strength of the state the military, the police or the population?

The Sociological Demographics: The demographics and sociological aspects of the population provide significant complexity to military operations. Since there is a high likelihood in the future of failed states based on cultural, ethnic or opportunity issues, stopping the conflict, should that be the mission, will involve a much broader set of leader and unit competencies than are trained today. In addition, states with sophisticated military capability that are fractured as a result of these types of issues are normally much more aggressive and willing to resort to violence within their regions.

Regional and Global Relationships: Regional and global relationships of potential opponents serve to define the scale of military operations. They also give indication of escalation or limiting factors. In an unaligned world, these relationships are much more fluid and unpredictable. Alliances within a region may add significantly to the military capability of an opponent or globally broaden the area of operations (AO). This could occur in the middle of deployment or after the force has been introduced into the area of responsibility (AOR).

Military Capabilities: Existing military capabilities are without a doubt the most critical variable for military operations. Once fairly easy to define, this variable is rapidly becoming the most complex of all. Hybridization, rapid technological advancement, and capability developed as a result of asymmetrical concepts generate an environment of constant change.

Information: Sophisticated and unsophisticated opponents alike understand the value of information operations. Some argue that it will be the decisive factor in future conflicts. Most potential opponents feel this is the most productive avenue to take to offset U.S. conventional battlefield capabilities.

Technology: Advanced technology serves to level the playing field either symmetrically or by development of asymmetrical capabilities. The presence of sophisticated technology indicates where opponents expect to achieve the greatest advantage of perceive the greatest threat. The nature of the environment can change dramatically with the introduction of a new or advanced system.

External organizations: Increased globalization of individual economies and the development of world wide information systems are generating enhanced worldwide awareness. This has resulted in the increase of United Nations, regional, non-governmental and private organizations. In addition, these organizations are growing in influence and power as well as in willingness to become involved in crisis situation. In the past, many of these organizations have become actively involved in crisis areas and are having a growing impact on operations.

National Will: Clearly U.S. national will is viewed by most countries as its strategic center of gravity. The degree to which a state can attack its opponent's national will and still preserve its own represents to a large measure its ability to achieve favorable conflict resolution. In today's world of transparent military operations, this attack and defense of national will has tactical as well as strategic implications.

Time: Time is always a critical factor. It drives the operation. In most cases, opponents view time as being to their advantage. The longer the amount of time between crisis and response, the greater the opportunity for games of brinkmanship and adjusting the nature of conflict. Time is an operational factor and tool to manipulate tactical and strategic advantages.

Economics: Economic position represents a nation's ability to rapidly purchase military capabilities of to conduct sustained operations. It also gives indications of external relationships that could result in political or military assistance. Criminal elements will be looking to make a profit from the U.S. deployment through pilferage, contract manipulation and preying on local, national employees in the service of the U.S. corrupt officials will interfere with base support operations.

APPLYING THE VARIABLES

As has been shown, these variables relate to specific situations/scenarios as well as threat capabilities. They are not relevant to every echelon of command but are relevant to every military operation. While they do not dominate every environment, they are all present to a greater or lesser degree and require mechanisms for controlling or metering their impact on the operation. The training environment must therefore contain the most complex and difficult aspects of each of these variables to stress the mechanisms of control and facilitate full spectrum operations. All of the variables must be factors in every training environment all of the time.

The degree to which the variables would impact on the operation, however, will be adjusted so that different variables move to the forefront at different times. In this fashion, different variables would represent dominant characteristics of the environment in different training events. This allows for a variety of environments within the same training construct. In addition, it requires leaders to take a fresh look at each training event, it can be used to facilitate training in adaptive force packaging and it presents a dynamic and full spectrum environment.

COE Analysis

Implementing (COE) in a technical track/course can be judgmental; it depends on the need of the task being challenged.

- Look at the task: Schoolhouse VS field, think of what is your Operational Environment
- How can we integrate COE to accomplish COE Goals?

Perform Procedures for COE implementation

- ***Review*** Mission requirements
- ***Analyze*** Training history
- ***Study*** Training objectives
- ***Select*** applicable COE variables
- ***Weight*** and score each variable
- ***Prioritize*** COE variables IAW training need
- ***Build*** OPFOR IAW training objectives
- ***Evaluate*** decisions from every step of the process
- ***Document*** development process IAW unit SOP

Example #1

Example of an Infantry individual soldier task with and without COE in the Conditions and Standards

Without COE

Task: Employ the M203 Grenade Launcher

Condition: In a field or garrison environment, given a zeroed m203 grenade launcher mounted on a M16A1 or M16A2 rifle, enemy targets at engage able ranges, and sufficient ammunition.

Standard: Enemy targets are destroyed or disabled without causing injury or death to friendly personnel.

With COE

Task: Employ the M203 Grenade Launcher

Condition: In a field or garrison environment, given a zeroed m203 grenade launcher **mounted** on a M16A1 or M16A2 rifle, enemy targets at engage able ranges, and sufficient ammunition. **The Soldier has been provided guidance on the rules of engagement IROE) and/or rules of interaction (ROI). Condition forces and noncombatants (such as refugees, media, NGOs and/or contractor personnel) may be present in the operational area.**

Standard: Enemy targets are destroyed or disabled without causing injury or death to friendly, **coalition, and noncombatant personnel.**

Example #2

Section II. INTRODUCTION

Method of Instruction: Conference/Discussion Instructor to Student Ratio is: 1:20 Time of Instruction: 5 Minutes Media: Group-Paced Instruction

Motivator

As a Signal Soldier who works with radios, one of the most important tasks you will perform will be assembling and disassembling antennas. It is also the most dangerous tasks that you will have to do. It is important that you do these tasks properly because failure to do so can result in injury or death of another Soldier or even yourself. **Maintain vigilance with respect to the Contemporary Operating environment (COE) to include such factors as Improvised Explosive Devices and Mines which may be in your area of operations. Consider the Social, Political and Religious practices of the people where you are operating are a must.**

Terminal Learning Objective

Note: Inform the students of the following Terminal Learning Objective requirements.
At the Completion of this lesson, you [the student] will:

Action:	Assemble and Disassemble Antenna Mast Assemblies AB-1339 and AB-1373.
Conditions:	Given the AB-1339 Antenna; AB-1373 Antenna; all safety equipment, and access to TM 5985-394-13, TM 11-5985-384-12&P, Student Guide. **Established awareness of Contemporary Operating Environment factors such as Improvised Explosive Device and Mines which may be in a selected antenna field, and the Social, Political and Religious practice of the people that live where you are deployed.**
Standards:	Met when teams can correctly assemble and disassemble the AB-1339, and AB-1373 Antennas in accordance with the TM's, and **Student Guide, while maintaining COE awareness.**

Risk Management **(TR 350-70 Sec VI-6-8)**

Risk management as it applies to training development is ---

- The process used to identify task and training risks, set values on risk elements, compare risks against training benefits, and eliminate unnecessary risks.
- An expression of potential loss in terms of hazard severity, probability, risk level.
- Tightly tied to force protection.
- A useful tool to help make decisions about hazards causing the risks.

Five-step risk management process:

- Identify hazards
  - Identify all conceivable hazards prior to operation
  - Identify all conceivable hazards associated with performing a task or learning objective
- Assess hazards
  - Determine the impact of hazards on the training
  - Determine the probability of a hazards
- Develop controls and make a risk decision
  - Eliminate hazards or reduce its risk
  - As control measures are developed, re-evaluate until all risks are reduced to a level where benefits outweigh potential costs
  - Assign a risk assessment level to each lesson
- Implement Controls
  - Implement controls developed and established as a result of the previous steps
  - Included in this step is leader action to reduce or eliminate hazards
- Supervise and Evaluate
  - Follow up during and after After-Action-Report (AAR)
  - Re-evaluate the training or make adjustments as required

Risk Management, or Risk Assessment is broken into four categories:

- Low
- Moderate
- High
- Extremely High

Note: *All lesson plans must be approved by the Fort Gordon Safety Office.*

RISK ASSESSMENT MATRIX

SEVERITY	PROBABILITY: FREQUENT	LIKELY	OCCASIONAL	SELDOM	UNLIKELY
CATASTROPHIC	E	E	H	H	M
CRITICAL	E	H	H	M	L
MARGINAL	H	M	M	L	L
NEGLIGIBLE	M	L	L	L	L

METHODS of INSTRUCTION

Ref 350-70 Appendix H

Note: TRADOC schools are not restricted to the methods of instruction listed in the following table. When a school identifies another method of instruction, please provide TITLE, DESCRIPTION, and USES information to the HQ TRADOC ATTN: ATTG-CD, for inclusion in this table.

METHOD	DESCRIPTION	USES	INSTRUCTOR/ STUDENT RATIO REMARKS	ABBRE-VIATION
Brainstorming	Students are presented with a problem and develop constrained solutions.	Provides a means for students to develop solutions to unpredictable situations or problems.	Instructor/ facilitator control driven	BR
Case Study	The student is presented a description of a situation and is required to solve problems or identify actions related to the situation.	Provides an excellent means for a student to solve problems either individually or as a member of a group.	Instructor/ facilitator control driven	CS
Conference (Discussion)	Student-centered instruction in which the instructor leads a discussion of the learning objective. Student participation is elicited. The three general types of discussion are as follows: **Directed discussion ---** The instructor guides the student discussion so the facts, principles, concepts, or procedures are clearly articulated and applied. **Developmental discussion ---** The instructor guides the discussion to pool student knowledge and past experience to improve the performance of all students. **Problem solving conference ---** The instructor uses the conference to find an acceptable answer or solution to a problem. The instructor defines the problem and encourages free and full student participation.	Prepares students for --- Follow-on training. The application of theory and procedures to specific situations. Stimulates interest and thinking. Develops imaginative solutions to problems. Summarizes, clarifies, and reviews the learning objective material.	1:25 maximum	CO
Demonstration	The instructor and/or support personnel show and explain operation or action to the students. The student is expected to be able to	This method of instruction shows how something is done. Some of its more important uses are to ---	Equipment/ safety driven	DM

	perform the operation or action after the demonstration.	Teach --- Manipulative operations and/or procedures, e.g., how something is done. Equipment operations or functions, e.g., how something works. Safety procedures. Teamwork, e.g., how people work together to do something as a team. Illustrate principles, e.g., why something works. Set workmanship standards.		
Flight: dual or solo	Used in aviator courses in conjunction with other type of instruction.	See "Practical Exercise" and "Test" below.	Equipment/ safety driven	DF/SF
Gaming	Applies the concepts of a game, i.e., rules, turn taking, winning, and losing to a learning situation. The students "play" the game by obtaining information, making decisions, and taking actions required to accomplish the game objective. Games may be on a board, but with current technology, they will probably be played on a computer. The student may tend to "play" in terms of winning and losing instead of thinking in terms of learning objectives.	Provides --- A means for individuals to make decisions, take actions, and see the results of those actions to accomplish the game objective without killing people or destroying materiel. Immediate feedback for increased learning. A means for students to be exposed to determine solutions to unpredictable situations to increase learning. A means for motivating students.	Instructor/ facilitator control driven	GA
Guest Speaker	An individual, other than a member of the normal Staff and Faculty, presents information to support a specific lesson to the class. ***Note:*** Avoid having the speaker present a "Lecture" instead of a discussion-type lesson.	Experts provide information directly supportive of the learning objectives. The most important uses of the guest speaker is to provide --- Expertise not available within the course staff. Information based on extensive experience. Current information. Motivation.	See discussion or lecture methods.	GS

Lecture	An individual verbally passes information to attending students. Student participation is minimal. It has low training efficiency. It violates all three of the self-paced learning principles. ***Note:*** Dissemination of information in written format is usually more efficient and effective.	Lecture is a means to tell students information they need to know. Some of its more important uses are to --- Disseminate information that is not yet available in print. Motivate, e.g., set the stage for a demonstration, discussion, or performance. Orient.	1:audience	LE
Panel Discussion	A panel consisting of instructors, guest speakers, or a combination discuss material pertinent to the lesson learning objective. The panel presents information and responds to student questions.	Provides a variety of views and opinions concerning material or problem for which there is no one correct solution.	Instructor/ facilitator control driven	PD
Practical exercise (Performance)	Student is required to perform the action required by the learning objective under controlled conditions to the established standard.	The most efficient way to learn to do something is to actually do it. This method of instruction is the best way for a student to learn to perform the required action to the established standard. Examples: operation and repair of equipment; exercises (e.g., field training exercises [FTX]); forms completion. Also, see "CBI."	Safety/ equipment driven	PE
Hardware oriented	Performance is on actual equipment, to include simulators and training devices.	Used when the actual hardware is available and the risk to individuals and equipment is kept to an acceptable level.		
Non-hardware oriented	Performance not involving actual equipment, e.g., a paper-based exercise.	Used when the hardware is not required to perform the required actions, e. g., "Plan Convoy Operations."		
Research/Study	Students research/study material in preparation for subsequent course requirements. It is associated directly to specific, identified lesson(s). Research/study is conducted during regular training hours.	Research/Study is used to provide the students the opportunity to locate, analyze, and determine facts, procedures, and concepts on their own.	Instructor control driven	RS
Role playing	Similar to the case study method. The students act out the simulated situation. The student may assume the duties of a staff member in an organization and perform the work of that position.	Provides --- Simulated experience in the situation being acted out. A means to assess decision making in a specific role. Provides opportunities for the student to develop solutions to unpredictable situations and conditions.	Safety and instructor/ facilitator control driven	RP
Seminar	A group, usually guided by an	It is primarily used by a group	Instructor/	SE

	instructor, seeks solutions to problems.	working on advanced studies or a research project to --- Provide general guidance to the group. Provide information on techniques and approaches being explored. Develop imaginative solutions to problems under study.	facilitator control driven	
Student panel	Students participate as members of a panel. They discuss material directly related to the lesson learning objective.	Student panels are used to obtain --- Full student participation in a discussion. A variety of student views, especially on material directly associated with subject matter expertise. See "Peer Instruction."	Instructor/ facilitator control driven	SP
Study assignment	Assignments are provided to the students that they must complete as either independent or supervised study. This is testable material.	Provides a means to --- Capitalize on individual differences, thereby improving learning. Provide enrichment material. Reduce classroom time.	Instructor control driven	SA
Test Hardware oriented Non-hardware oriented	Student are evaluated on the performance of the action required by the learning objective. Performance test is on actual equipment, to include simulators and training devices. Performance not involving actual equipment, e.g., a paper based exercise.	Used to determine if the --- Students can perform the objectives to the established standards. Instruction teaches what it is supposed to train.	Safety/ equipment driven	TE
Test Review	After-action review of test with students.	Increases learning.	Safety and instructor control driven	TR

TECHNIQUES of DELIVERY

Ref 350-70 Appendix H

This following provides a general description and other information for each of the important techniques for delivering instruction. These techniques are listed in two groups for clarification purposes: Instructional Strategies and Media.

Instructional Strategies

TECHNIQUE	DESCRIPTION	USES	INSTRUCTOR/ STUDENT RATIO REMARKS	ABBRE-VIATION
Group-paced Instruction	The training of individuals in a group that moves through the training as a class (in lock-step).	Provides for easy management of students.	See method of instruction used.	
Large Group Instruction	A means of delivering training that places much of the responsibility on the instructor or facilitator for the presentation and management control of the training. The instructor uses various methods of instruction , e.g., discussions, demonstrations, practical exercises.	The large group process provides a means to manage the training method easily. Students are moved through the training as a group with minimal attention to individual training/assistance requirements.	1:25 maximum for effective instruction. Modified downward by method of instruction used.	GP
Small Group Instruction (SGI)	A means of delivering training which places the responsibility for learning on the soldier through participation in small groups led by small group leaders (SGL) who serve as role models throughout the course. SGI uses small group processes, methods, and techniques to stimulate learning. The SGL is an instructor who facilitates role modeling, counseling, coaching, learning, and team building in SGI.	The small group process is a technique for learning in small groups that capitalizes on (uses) student experiences, requires intensive student interaction, and makes each student responsible for his/her own learning. Cooperation takes precedence over competition. A faculty advisor is required. SGI provides --- Individualized learning. Team building. Maximum exchange of ideas.	1:16 maximum. Modified downward by method of instruction used.	SG
Individualized, Self-paced Instruction	The individual completes lessons at his/her own pace. This Instructional Strategy is extremely effective when properly managed. It is the foundation for programmed learning and individual CBI. When used in a formal environment, it frees up instructors to provide 1:1 instruction to individuals needing assistance. This technique does not reduce instructor requirements.	It is of immense value because it is built on the following three principles: Information is presented in small steps. Learner is given immediate feedback. Learner learns at his/her own pace. To be most effective, management controls are put on the time it takes to complete the training and the number of times the learner may	safety/ equipment driven.	IP

		take a test to prove mastery of the objective.		
Mentoring	Involves a knowledgeable individual who trains, tutors, and/or guides a subordinate or individual, e.g., a leader mentors subordinates.	Provides direct one-on-one training and guidance to the individual. Provides direct real life, on-the-job experience with that guidance, e.g., an apprenticeship or OJT program.	Mentor control driven.	ME
Peer Instruction	Individuals learn from their peers in a group (team, squad, etc.) when working toward achieving common learning objectives. Students are trained by instructors; then the trained students train other students.	It is useful for team building if properly controlled by the staff. This technique leverages the advantages of individual training, peer pressure, and motivation to achieve a team objective. Peer training is most effective for training job-related individual critical tasks.	Facilitator control driven.	PI
Programmed Instruction	Information is structured to guide the student through the material (paper, CBI, simulation, etc.) depending on the student's response to questions. It is a form of self-paced instruction. Immediate feedback is provided for student responses.	Programmed instruction takes advantage of how we learn. It provides information in small bits, provides immediate feedback, and lets the individual progress at his/her own pace.	Safety or instructor control driven.	PG

Media

TECHNIQUE	DESCRIPTION	USES	INSTRUCTOR/ STUDENT RATIO REMARKS	ABBRE-VIATION
Computer Based Instruction (CBI)	CBI **is** a means for delivering instruction; it **is not** a method of instruction. It is essentially individualized self-paced or group-paced interactive instruction combined with multimedia presentations. Interactive instruction is student/group centered performance oriented training that requires students/groups to practice what they learn, receive immediate feedback, and take tests. The priority for interaction is between the student and the equipment/subject matter. In CBI, the computer courseware controls the training content, delivery pace, and learning sequence based on trainee input. The courseware is designed using a variety of methods of instruction to lead the student/group through the learning process.	CBI is of value for presenting learning material in any situation that will maximize individual or group learning by full use of multiple learning methods. It provides a means of practicing activities without causing damage to individuals or equipment. Each member of the group may have a different role to play. In ***CBI*** - Information to be learned is presented in small bits. Learners are provided rapid feedback. Learners proceed at their own pace within certain limits. Material presentations take advantage of media benefits. Exercises/simulations can be repeated many times using/developing different	See method of instruction used. Instructor/ facilitator control is often a major factor if used in an institution.	IC

		solutions to problems, e.g., "what if" drills. Students can be exposed to unpredictable situations to maximize learning.		
Correspondence	Provides a relatively low-cost means for providing a learning opportunity that maximizes student participation. Is usually text based but not necessarily so. The two basic arrangements for correspondence study are as follows: **Independent study ---** The individual student works alone at a time and place of his/her own choosing. Lesson material designed for individual, self-paced learning is provided by the proponent school. **Group study ---** The students meet with a group leader available to facilitate the discussions and guide learning toward achieving the learning objective. Tests are usually taken by each student independently.	Provides --- Learning opportunities to personnel who are unable to attend residence courses. Prerequisite instruction for attendance at a resident or other type distributed course. "Electives" for students in other fields of study. Continuing education opportunities. Supplements on-the-job training.		CC
Field trip	The students visit a place to acquire information required to support a specific learning objective. The instructor/guide may provide a discourse and/or written material concerning the site. Audio/video tapes may be used at the site.	The primary uses of a field trip are to motivate and to show the relationship between provided information and the reality of the location.	Instructor/ facilitator control driven.	FT
Simulation	Any representation or imitation of reality simulating part of a system, the operation of a system, and the environment in which a system will operate are three common types. There are virtual and constructive simulations.	Replaces/Complements live training. Provides the means to safely practice an action or activity under any condition. Can be used for individual training (e.g., repair of equipment, gunnery) or group training (e.g., fighting a tank or tank company).	Instructor/ facilitator/ observer control and equipment driven.	SI

		May be used in a single computer or distributed over a LAN/WAN to multiple simultaneous users.		
Simulator	Substitutes for, by emulation, the functions and environment of an actual process, equipment, or system. Any training device, machine, or apparatus that synthetically reproduces a desired set of conditions. Used specifically for training, it is a relatively complete item or training equipment, using electronic/mechanical means to reproduce conditions necessary for an individual or a crew to practice tasks/learning objectives. It represents the operational equipment physically and functionally to varying degrees. ***Note:*** A simulation allows for the use of simulations to train/practice tasks and supported missions.	Substitutes for real equipment, thereby --- Saving material and maintenance costs. Freeing real equipment for operational use. Increasing training safety. ***Note:*** Generally, the higher the fidelity, the higher the transfer of training. May be used in conjunction with simulations, e.g., a tank simulator with operational simulations presented to the trainees.	Instructor/ facilitator control driven.	SO
Television	A broadcast or networked television program is a primary technique to deliver the instruction. See video teletraining.	Used to distribute training to a number of students simultaneously. Different methods of instruction may be used to present the material.	See method of instruction used.	TV
Training Aid	Provides a means for reducing the training development/training costs and improving efficiency. Training Aids clarify information and present it in a concise, efficient manner during training, whereas job aids actually replace training.	Enables trainers to conduct and sustain task-based training in lieu of using extensive printed material or an expensive piece of equipment. May increase performance as on-the-job training or job aids. Ranges from quick reference memory aids to battalion simulation games.	Training aid and instructor control driven.	TA
Training Device	Three-dimensional object and associated computer software developed, fabricated, or procured specifically for improving the learning process. Categorized as either system or nonsystem devices. **System device.** Device designed for use with a system, family of systems, or item of equipment, including subassemblies and components. It may be stand-alone, embedded, or appended. **Nonsystem device.** Device	Provides the means to safely practice an action or activity under any condition. Substitutes for real equipment, thereby --- Saving material and maintenance costs. Freeing real equipment for operational use. Increasing training safety.	Training device and instructor control driven.	TD

	designed to support general military training and nonsystem-specific training requirements.			
Video tape/film	A videotape/film is not a method of instruction. It is used as the primary means to deliver the instruction. The tape/film is introduced verbally or with text. The students are informed as to what they are to learn from the tape/film. Different methods of instruction may be used to present the material, e.g., demonstrations can be used to present information. Film/Video images can be presented in CBI.	Use videotape/film to show action that is too dangerous, cannot normally be observed by the eye, or cannot be readily observed. They are specifically useful for showing --- Things or actions that are very small or large. Actions that occur too fast or slow. Things that are dangerous, such as destroying a bridge.	See method of instruction used.	FI (Film) TP (Tape)
Video teletraining	An interactive transmission vehicle for training delivery. Two types of VTT: **Broadcast VTT**. TRADOC broadcast VTT consists of two networks: TNET equipment and communications are contractor owned and government operated. SEN uplinks and studio equipment are government owned and contractor operated; downlinks are government owned and operated.	Used to simultaneously distribute training to a number of students. Different methods of instruction may be used to present the material. Using VTT, proponents can --- Increase class size and the span of coverage, including OCONUS. Reach students in remote locations. Reduce travel and per diem costs. Provide critical, short-notice training.	See method of instruction used.	VT
	Desktop VTT. This type of VTT is the delivery of instruction by the instructor/facilitator directly to each student's desktop computer. Allows instructor/facilitator-to-student(s) and student-to-student interaction via audio, video, chat mode, and file sharing.	Originate training from any network link. Conduct joint, multiservice, federal, and civilian courses. Interlink with other DoD, government, and private sector training networks.	See method of instruction used.	DT

Sequence and Structuring **(TR 350-70 Sec VI-7-7)**

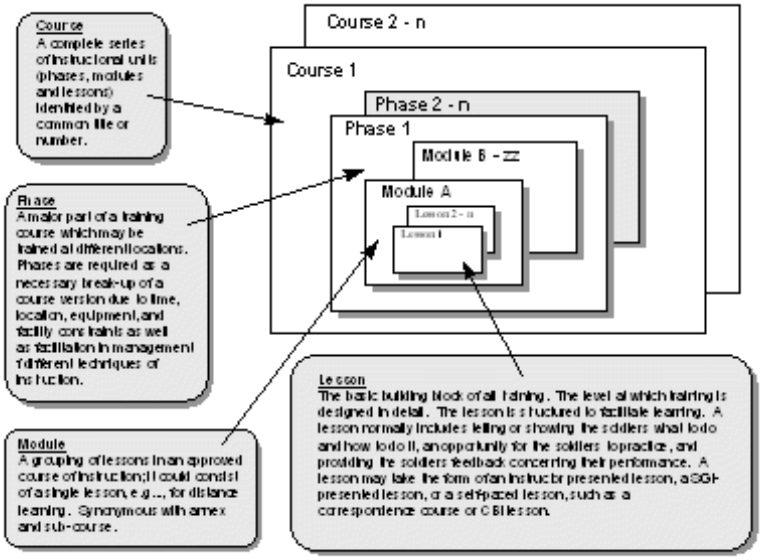
The training structure organizes the training and lays out the training sections (phases, modules, lessons, etc) graphically portrayed as follows:

Course: A complete series of instructional units (phases, modules and lessons) identified by a common title or number. Ex: 101-25U30 Signal Support Systems Specialist (BNCOC)

Phase: A major part of a training course which may be trained at different locations. Phases are required as a necessary break-up of a course version due to time, location, equipment and facility constraints as well as facilitation in management of different techniques of instruction.
Ex: 101-25U30, Phase 2: Resident

Module: A grouping of lessons in an approved course of instruction; it could consist of a single lesson, e.g. for distance learning. Synonymous with annex and sub-course. Ex: 101-25U30, Phase 2, Module A Computer Technology

Lesson: The basic building block of all training. The level at which training is designed in detail. The lesson is structured to facilitate learning. A lesson normally includes testing or showing the soldier what to do and how to do it, an opportunity for the soldier to practice and providing the soldiers feedback concerning their performance. A lesson may take the form of an instructor presented lesson, a SGI-presented lesson, or a self-paced lesson, such as a correspondence course or CBI lesson. Ex: 101-25U30, Phase 2, Module A, Lesson NET13B Network Management and Security



Lesson Outline: **(TR350-70 Sec VI-6-10)**

Follow the procedures below when designing a lesson:

1. Acquire the task analysis data for the tasks and/or supporting skills and knowledge to be trained in the lesson being designed.
2. Write one TLO per lesson
3. Sequence the TLOs to provide for sequential, progressive training.
4. Write (as needed) and sequence the ELOs.
5. a. Establish how student performance of the Los will be evaluated.
   b. Write the criterion-referenced test items that –
      (1) Match the action, conditions, and standards of the terminal and supporting enabling learning objectives.
      (2) Ensure the student can accomplish the learning objectives under the stated conditions to the established standard.
6. Write learning steps/activities
7. Determine and assign a risk assessment code to the lesson.
8. Incorporate safety notes and cautions and environmental factors and considerations at the appropriate positions in the lesson.
9. Obtain appropriate command authority approval.

Lesson Plan Design: **(TR 350-70 Appendix E)**

Lesson plans are developed in the Automated Systems Approach to Training (ASAT) database in the following format:

Section I Administrative Data
Section II Introduction
Section III Presentation
Section IV Summary
Section V Student Evaluation
Appendix A Viewgraph Masters
Appendix B Test(s) and Test Solution(s)
Appendix C Practical Exercises and Solutions
Appendix D Student Handouts

Learning Steps and Activities **(TR 350-70 Sec VI-6-8)**

Learning steps/activities are the actions the student must learn in order to perform the supported objective to the established standard. They are scheduling events for scheduling purposes and ---

- Provide a structured means to focus student learning on a small part of what they need to learn.
- Are developed for each learning objective. Conversely, there should be no learning step/activity in a lesson that does not directly support a LO.

- Are normally written in student action terms, i.e., they begin with a verb.
- Are sequenced to maximize learning.
- Provide the basis for identifying the learning step/activity specifications.
- Are included in the lesson outline.

The training developer identifies or establishes the specifications for each learning step/activity in a lesson. These specifications are the foundation for the lesson plan, establishment of the training schedule, compilation of the program of instruction, and resource acquisition. List the learning step/activities in presentation order. Specifications: are as follows:

- Method of instruction
- Instructional media
- Instructional time (in minutes)
- Instructor/student ratio
- Instructor and student-to-equipment ratio
- Environmental considerations
- Safety factors and hazards
- Risk assessment code
- Security requirements
- Training resource requirements
- References required
- Student handout requirements

Examples of learning steps/activities:

- Demonstrate an ability to perform the TLO.
- Participate in the performance exercise AAR.
- Remain afloat in a swimming pool for 1 hour with the use of a life jacket.
- Load an M-16 rifle.

Instructor to Student Ratios - The instructor-to-student ratio is determined when designing the training based on the technique(s) of delivery and method of instruction.

- There are no established, standardized instructor/student ratios. This ratio is established by the training designer based on a number of factors. These include but are not limited to ---
    - Number of students an instructor/facilitator can adequately manage. For example:
        - The maximum number of students a classroom instructor can manage for conduct of a discussion lesson is 25 (1:25).
        - A cockpit checkout requires one instructor per student (1:1).
    - Restrictions imposed by the equipment. For example:
        - Interior size of a tank.
        - Noise in a ship engine room.
    - Safety factors. For example:

        - Training a SCUBA diver in a dive tank may require one instructor per 2 students (1:2).
        - Training a soldier to throw a live grenade requires one instructor per student (1:1).
    - Facility limitations. For example:
        - Capacity
        - Utilities
- **DO NOT** ask for an instructor/student ratio less or greater than is required.
- The instructor-to-student ratio is published in the POI and verified by the TMA. Disagreement between the training proponent and TMA will be resolved upon proponent rebuttal by HQ TRADOC, Director, Training Operations Management Directorate (ATTN: ATOM-P), Fort Monroe VA, 23651.

Resource Identification - All resources required to conduct the training are identified when designing that training. This normally occurs when creating the learning step/activity. There may be additional resource requirements to support an entire course. Total training resource requirements are compiled and included in appropriate training plans, POI, and TSP.

The output of this design step is a listing of all resource requirements, including ---

- Instructors
- Support personnel
- Classrooms
- Training areas
- Ammunition
- OPTEMPO
- Printing and reproduction
- Range, and other facilities
- Equipment (weapons, audiovisual, radios, etc)
- Equipment support (maintenance, transport, etc)

Course Management Plan (CMP) **(TR 350-70 Appendix E)** - The Course management plan lays out the training strategy for the course to be taught. The course management plan is a document that provides the course managers and the instructors the information required to manage and conduct the course. It is required for exported training courses, phases, or modules.

- The primary CMP development output is the complete Course Management Plan and components.
- Follow the Course Management Plan format provided in TRADOC Reg 350-70 Appendix E.
- Course Management Plan development starts upon approval of the course design.
- The CMP will contain information necessary for managing and conducting the course. Format and component guidance is in Appendix E, Lesson Plan, TSPs, and CMP Formats and Components.
- The CMP Contains:

- * Course Structure
- * Course Map (Mandatory Training Sequence)
- * Training Sequence
- * Test Administration Guidance
- Course Manager Qualifications
- Course Manager Guidance
- Instructor Certification Requirements
- Instructor / Facilitator Guidance
- Student Guidance
- Required References
- Trainer Guidance

**** mandatory items***

Training Schedules

Master Training Schedule (MTS) - The master training schedule outlines the scheduling and sequence the course is to be taught. The Training Developer will build the MTS based on the lesson plans as they are linked to the Program of Instruction (POI).

Weekly Training Schedule (WTS) – The weekly training schedule breaks the MTS into hourly increments indicating what is being taught in each of the training hours.

TESTS

Design and Develop Tests (TR 350-70 Sec VI-7) (TRADOC Pam 350-70-5)

Tests are used for evaluating individual training in resident and extension training. Their purpose is to--

- Ensure students can accomplish or have learned what they were supposed to accomplish or learn.
- Ensure students are qualified prior to ---
  - Commencement of training (ensure prerequisites are met).
  - Progression to the next training level, phase, etc.
  - Graduation from the training.
  - Award of a Military Occupational Specialty (MOS), Additional Skill Identifier (ASI), Area of Concentration (AOC), Language Identifier Code (LIC), etc.
- Accurately assess student achievement against established, preset standards (criterion referenced testing.)
- Improve training by ---
  - Validating the effectiveness of training.
  - Identifying areas within training that needs improvement.
  - Motivating, challenging, and encouraging students to learn.
- Confirm or certify as appropriate that the student is competent in the job (can perform tasks to established, preset standards).
- Focus training where it is needed and save training time and resources by ---

    - Providing a means to test-out of portions of or all of a course.
    - Enabling unit training to concentrate on identified soldier performance deficiency(ies).
    - Enabling an individual to concentrate on personal performance deficiency(ies) for self-development purposes.
- Assist in determining training effectiveness.
- Assist in determining if training teaches what it is supposed to teach.

Performance Measurement/Testing - is an integral part of the training program. To effectively evaluate student performance and training effectiveness, tests ---

- Will be used to ---
    - Determine if training does what it is designed to do.
    - Evaluate student performance.
    - Assess individual competency.
- Will be ---
    - Designed, developed, and presented as an integral part of the training to optimize learning and eliminate unnecessary training
    - Written when designing the training to ensure measurement of the lesson objective performance to the prescribed standard.
- Can be administered using actual equipment, simulated hands-on equipment, or pencil and paper (when the performance involves application of mental processes, e.g., calculation of an azimuth).

Key factors to keep in mind when designing and developing tests

All tests must: be valid – a "valid" test will measure exactly what has been trained. Someone must check the classroom instruction to certify and verify that those items being tested are in fact the same items that are being trained. Note: Also cover Predictive validity: test predicts who will perform well on a real task.

All tests must: be reliable – tests and test items must be designed and administered in such a manner as to provide consistent results over time. Note: Mention types of reliability: general, inter-rater tests the same regardless of who evaluates.

All tests must: be relevant – all of the test items must be directly related to the task steps, skills, and knowledge associated with that particular training event.

All tests must: differentiate – it is our job to separate the performer from the non-performer. The test items that we prepare must clearly identify the student who has mastered the training objective from the student who has not.

All tests must: be objective – we must design our tests so that they are free from opinions and other biases caused by wording, grammar and grading. Seldom is this done intentionally, our greatest struggle is in making sure that we don't unintentionally do these things. Note: Point out this affects inter-rater reliability.

All tests must: be comprehensive – all tasks or TLO's that are taught must be tested and all students' performance must be evaluated. If at the end of the training we find that we don't care if the student can perform or not, why are we wasting our valuable time with the training in the first place.

Methods of Testing

Hands-on performance tests - Requires students to prove competency by using actual equipment, materials, simulators/simulations, or training aids to perform the required learning objective. ***Note:*** This is the preferred method of testing and will be used to the greatest degree possible

Performance-based (written) tests - Used to assess the student's ability to apply facts, principles, procedures, etc., required to perform the learning objective. Essay, short answer, and multiple-choice questions (in order of preference and effectiveness of measurement) can be question types for performance-based tests.

Types of Tests

The two major types/categories of tests are **Criterion-Referenced** and **Norm-Referenced** tests.

Criterion-referenced tests: Determine if students can perform to established, well-defined training standards or criteria.

TRADOC and associated service schools must use criterion-referenced tests to determine student competency and to determine if the training program or lesson trains individuals to standard. **A criterion-referenced test ---**

- Measures an individual's ability to successfully perform the action specified in the Learning objective. The student's performance is compared to the learning objective standard.
- Should establish whether the student has mastered the supporting skills and knowledge required to perform the learning objective.
- Determines if the proficiency level required for a student to continue successfully to the next block of instruction has been met.
- Is scored based upon absolute standards rather than upon relative standards, such as class standings.
- Provides student scores/grades as "GO" (pass)/"NO GO" (fail).
- Will allow classification of individual students into two groups:
  - **Performers:** Students **who can** (reasonably be expected to) do what they were trained to do.
  - **Non-Performers:** Students **who cannot** adequately do what they were trained to do.
- Can be used as a diagnostic tool. It provides an instrument to determine the current or entry level performance capability of a student. This can provide the start point for follow-on training and allow for testing out of sections or entire course if the student can demonstrate required performance.

There are **four types of performance tests.**

Process Test: A Process test is used when the task must be performed in a specific sequence, i.e. Put on a Protective Mask"… To evaluate the task, you must have a checklist to evaluate the

step by step performance. Failure to perform a step, or to perform a step out of sequence would result in a NO GO for the test.

Product Test: If the task is for the students to produce a Product, and the process of how they process used or followed doesn't matter, then you need to develop a product test. To evaluate the task, you must provide the student with a description of what the product must look like and they must produce it, i.e. Camouflage a fighting position, vehicle or tents.

Process-Product Test: If the task or part of the task must be performed is a specific sequence and the student must produce a product, then you have a combination of a process and product test. To evaluate the task you must have a checklist to evaluate the proper sequence for the steps and a description of what the final product must be, i.e. dress a wound, in which preparing the wound for dressing must be performed in a specific sequence, and you must provide a description of what the dressing must be.

Written Performance Test: If the task is to complete or review a form or document, then the test is a written performance test. This is not the same as a performance-based written test. We will talk about those in a minute. A written performance test evaluates the ability to perform a pencil and paper skill such as filling out a form. This is different from a knowledge test that evaluates the amount of information the student retains about a subject. To evaluate the task, you need the completed form or document, i.e. Leave Form, Travel Voucher, NCOER, OER, etc.

Written tests are used to assess the students' ability to apply facts, principles, procedures, etc. that are required to perform the learning objective. It is very important that you remember that performance based tests should only be used when the availability of equipment, safety, or other severe constraints precludes performance testing. When we use the performance based written testing modality, we usually see the essay, short answer and multiple-choice type of questions being applied. But we also see written tests that contain true-false, matching, and fill-in types of questions.

Students can be equally knowledgeable but differ on how well their knowledge is measured by a test. The term for those who are good at test taking regardless of how well prepared is being "TEST WISE".

TRUE or FALSE Tests

Strengths: In most cases, the true-false test item is relatively straightforward and easy to prepare, but this can be deceptive. Many true-false questions are prepared by lifting sentences or paragraphs out of a textbook, followed by the question of "true or false?" If we feel the need for a "false" question, then we lift a true statement out of the book, change the premise of the statement to something negative and again ask "true or false?" The problem with this approach is that many of the questions turn out to be very trivial points of information, and the student, after making their best guess, looks around and says "who cares?"

Weaknesses: The number one weakness of the true and false test is that in answering the question, the students have a 50-50 chance of getting the answer correct, even if they don't know the material. As such, the modality of testing is very poor for diagnosing the student's strengths and weaknesses. In addition, many students tend to believe that for the most part a true-false question is usually designed by the test writer to be "tricky". They may get it wrong because they read too much into the question. When a test student is faced with a true-false proposition which contains an absolute value word such as always, never, or every, if they are unsure of the answer, they will consider the proposition to be false. The test wise student applies the logic that since these words are absolute values, and with most things that we face in life we can usually find an exception to the rule.

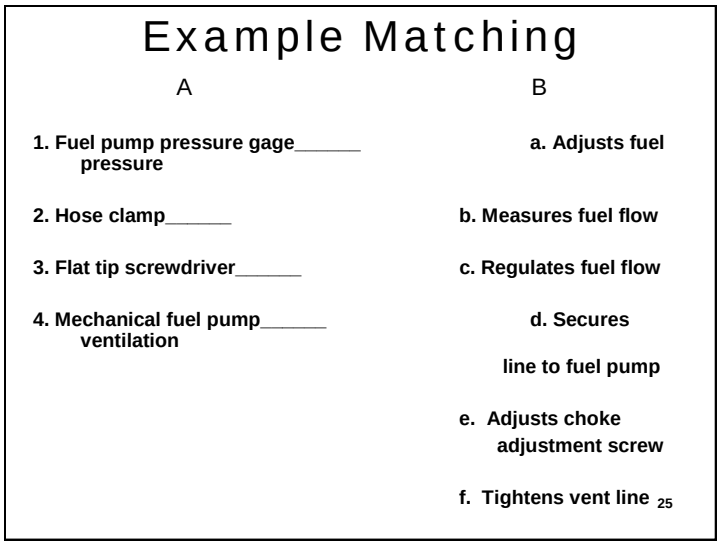
Matching Tests

Strengths: These types of questions are generally rather brief and uninvolved, and once prepared and administered, are rather easy to grade. Like the true-false items it is possible to cover a large content area while making efficient use of test space and time. In addition to those, the matching test item can be used to test student's association skills.

Weaknesses: Even though we can say that we are testing a student's association skills, we are still focusing on a student's ability to recall short bits and pieces of information that are highly factual in nature. When putting a matching exercise together, the designer is restricted to a topic that has many similar items or options, and when poorly constructed, the student can actually guess at the correct answer by applying general common knowledge and the process of elimination.

Multiple choice guidelines:

- Always use two sets of related items in a column format.
- Always use five to ten items.
- Always place your selection column in logical order.
- Always use at least two valid distracters, never have the exact number of items in column "A" to be matched against the same number in column "B". By doing so, students feel that they are being painted into a box. If you tell a student that they must correctly match the four items in column "A" to the four items in column "B", and that they must correctly match 3 out of 4 in order to pass, the student does not feel that you are being fair. In such a situation, what are the odds of a student receiving a pass if they miss-match one item. If they miss one, it is very likely that they will miss two because they are matching a like number of items.



Looking at the example on this slide, we see that this matching test item does in fact have two columns of information. We have two valid distracters, and the subject matter expert has decided that our selection column is in fact in a logical order. All of this is well and good, but we have neglected to account for the student's ability to apply general everyday common walking around knowledge in seeking a viable solution. **This is how a test wise student will approach this item:**

Fuel pump pressure gage. What do we use "gages" for" Looking at my possible answers I see a response that reads "measures fuel
flow". Well in fact, a gage is something that we use to measure things with, so I will match #1 with "b".
Hose clamp. What does a person do with a "clamp"? Looking at my possible answers I see a response that reads "secures ventilation line to fuel pump." Well in fact, a clamp is used to secure two things together, so I will match #2 with "d".
Flat tip screwdriver. What do we use a screwdriver for? Looking at my possible answers I see a response that reads "adjusts choke adjustment screw." Well what do you know, an adjustment screw and a screwdriver, so I will match #3 with "e".
Mechanical fuel pump. What do we use pumps for? The pump in my grandfather's well is used to increase or decrease the amount of water being pumped out into the corn field on any given day. So looking at my possible answers I see a response that reads "regulates fuel flow." That's pretty much the same thing that grandpa's well pump does, so I will match #4 with "c".

So without even being trained as a wheeled vehicle mechanic, we have now applied common everyday walking around general knowledge and we've managed to defeat this test item.

Short Answer

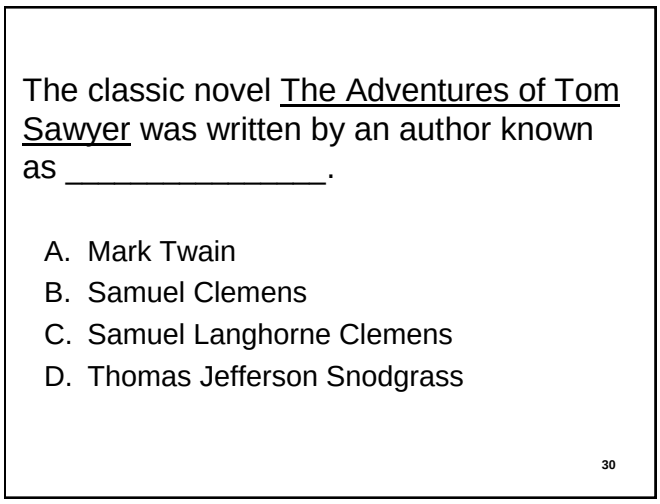
Strengths: As I said, the short answer testing modality allows us to reach out and touch some of those higher order thinking skills that we talked about during our Bloom's Taxonomy

class. With the short answer, the student is being asked to construct something rather than to just recognize items, and since you only have to think of a question and then define the correct answer, the short answer question is a bit easier to construct than the multiple choice where various plausible distracters must also be defined.

Weaknesses: Since the student is being asked to write something, the student's choice of writing style, poor spelling, grammar, and handwriting are all being evaluated, either officially or unofficially. Additionally, the students tend to dislike this type of testing modality, often citing the instructor's pickiness when reading and deciding upon acceptable answers to the questions.

Fill-in the Blank

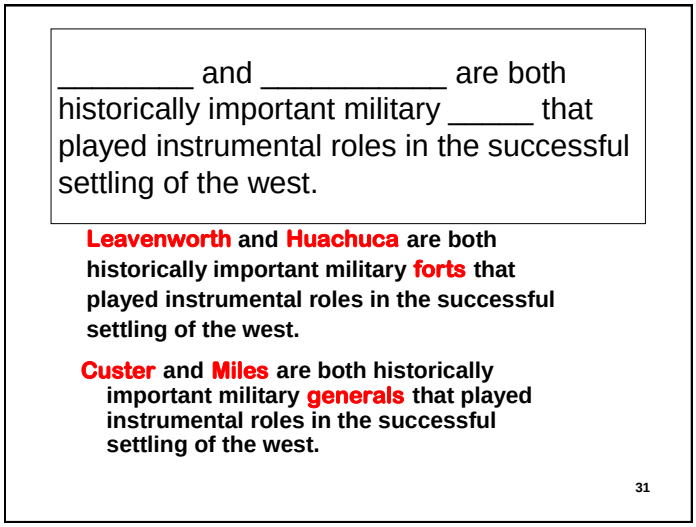
With a fill-in type of question, you are really riding the edge of the short answer type of questions coat tail. They are similar types of questions, however, when we use the fill-in we tend to take a sentence or a paragraph, delete key words from it and then ask the student to supply these words, and fill-in the blank. When we begin thinking about such a question, we know in our minds what the answer is or should be, however we must be prepared for a multitude of correct answers.



Take this rather simple question about the author of a favorite childhood novel. The question asks who wrote "The Adventures of Tom Sawyer?" During the instruction, you may have stated that Mark Twain was in fact the author of this novel. However, you had better be prepared to accept:

(1) Mark Twain
(2) Samuel Clemens
(3) Samuel Langhorne Clemens
(4) Thomas Jefferson Snodgrass

The middle response (Samuel Langhorne Clemens) was in fact his given name at birth. However, he wrote under the name of Mark Twain and Samuel Clemens. In addition, to both of those names, he also wrote three short stories under the pen name of Thomas Jefferson Snodgrass. So even thought the response that you were after was in fact Mark Twain, all of the above names are correct.



Here is another one for you to try out. Your block of instruction dealt with the winning and settling of the western United States. So when you begin to prepare a test for this block, you decided to lift a complete sentence right out of the text, and erase a couple of the key words:

(1) _____ and _____ are both historically important military _____ that played instrumental roles in the successful settling of the U.S. west.

Given the lesson, "Historically Important Forts", you believe that there are only three words that will successfully fill-in the blanks.

(2) Huachuca and Leavenworth are both historically important military forts that played instrumental roles in the successful settling of the U.S. west.

Unfortunately, there are actually many different answers that the student might come up with to complete the sentence, and you must be prepared for all of them.

Custer and Miles are both historically important military generals that played instrumental roles in the successful settling of the U.S. west.

Multiple Choice

Strengths: The multiple choice item has been described as the most versatile of all of the test items, because if the question is properly prepared, it can be used to test multiple levels of our cognitive domain, from the knowledge/recall level on up into the application level. In addition, since the multiple choice test has been around for so long and so widely used, we have managed to develop a rather mature and extensive feedback system (item analysis) that

will assist us in determining if, in fact, our questions are doing anything for us and the students.

Weaknesses: The multiple choice test items can be difficult and time consuming to construct well. Well, being the key word in that sentence. Realistic distracters are often difficult to develop, and choosing the correct response out of four possible answers instead of a 50/50 chance with true-false is better, but the bottom line still remains, was it a guess? Poorly written multiple choice items allow the student to apply the process of elimination to derive the correct answer, or even in some cases the answer to one question can actually be found in the form of distracters from other test questions.

When you design your multiple choice questions, keep these items in mind, because these are the things that the test wise student is looking for to mess up on.

(1) Develop your distracters very carefully, not to the point of tricking or misleading the performers, but definitely making them attractive to the non-performers.

(2) Make sure that each answer alternative is about the same length or in balance with the other choices. Test wise students know that we have a tendency to place "extra" or qualifying words into the correct answer to better define it as being correct.

(3) The position of the correct answer should vary. Test wise students that "just don't know" are out there looking for some type of a pattern that you may have inadvertently established in your answer key.

The stem is the beginning part of a question that needs to be completed to answer the question. If this isn't written carefully the entire question can be misleading or confusing so it does not measure what the student knows.

An interrogative asks a question and usually ends with a question mark?

If using a scenario based question be sure it contains only what is needed to choice the correct solution. Extraneous material can cause the question be misinterpreted.

The stem should lead to a problem or lack of information that completes the idea presented by the question.

1. Spend an extra few minutes to develop some type of short scenario that could turn your simple knowledge based multiple choice question into a performance based question that can tap higher learning and comprehension skills.
2. Try to develop four answer alternatives for each question. This is not a hard and fast rule, and as a matter of fact, if you only have one correct answer and two distracters or foils that are plausible, don't make up some goofy throw away distracter just to meet the four response recommendation.
3. Write your stem in a "positive" format. We tend to think in the positive and can have difficulty translating something that we know to be positive into a negative response. If there is some compelling reason to use a "negative" format, then make sure that you highlight, bold, underline or in some way identify the negative aspect of the question.

4. Proof read each answer choice. If there is a typo in one of the answer choices, the test-wise student will discard that as a possible correct answer, knowing that many test writers only proofread the question and the correct answer.

Make sure that there is only one justifiable, doctrinally correct response to the question. Your time is much too valuable to have to defend what you have chosen as the correct answer if it is not also true during the full moon or during leap years.

Do not use "all of the above" or "none of the above". Let's look at why not.

There may in fact be an instance or an instructional point that you are trying to make where all of the above would be a viable response. However, in most cases, I would ask that you avoid this option for the following two reasons.

When a test wise student is reading down through the answer responses, and recognizes one of the responses as an incorrect answer (a distracter), then they immediately know that "all of the above" is incorrect. So if nothing else they are now left with a 50/50 guess between the other two answer options.

When a test wise student is reading down through the answer responses, and recognizes two of the responses as being correct, then they immediately know that "all of the above" must be the correct response to the question.

? Who is best known for his ?
contribution to micro electronics?

a. Oprah Winfrey

b. Michael Jordan

c. Tom Hanks

d. Robert Sveum

Checklist for Written Tests

1. After one reading of the question, everyone who meets the minimum requirement for admission to the test will know exactly what he or she is expected to do?
2. The question matches the learning objective?
3. The question clearly states the problem, and is worded as an interrogative rather than an open ended statement?
4. The correct answer **CAN NOT** be discerned based upon verbal and or structural cues?
5. There is only one correct answer?
6. The answer to the question **CAN NOT** be found in another question?
7. Negatively worded questions have been avoided?

8. Responses are nearly uniform in length?
9. The question contains four answer alternatives?
10. The question stem contains the central problem?
11. The alternatives all agree with the context of the central problem?
12. Alternatives are arranged in logical, numerical, or alphabetic order?
13. Alternatives DO NOT include “all of the above” or “none of the above”.
14. Functional and plausible distracters are used?
15. The question does not test “trivia” nor the meaning of an acronym?

Guidelines to writing good test items

1. Express the full problem in the stem
2. Put all relevant material in the stem
3. Address only one piece of information per question
4. Insure that only one response is considered best by experts in the field
5. Don't measure trivia
6. Write items that address higher order learning outcomes
7. Use only plausible and attractive alternatives as incorrect response choices
8. Avoid giving clues to the correct option
9. Keep the choices equal in length and parallel in structure
10. If dealing with opinion (as opposed to fact), cite the source
11. Avoid negative statements
12. Avoid interdependent items
13. Use as choices 'all of the above' and 'none of the above' sparingly
14. Avoid difficult words
15. Vary the position of the correct answer
16. Arrange response choices in meaningful order
17. Avoid patterns of responses
18. Arrange answer alternatives in a vertical list
19. Write challenging, but not trick questions
20. Minimize distractions

Norm-referenced tests: Compare a student's performance with the performance of other students (or the norm).

Norm-referenced tests measure an individual's performance against the performance of other individuals taking the same test. The norm-referenced test ---

- Usually provides the student's grade/score as a percentage.
- Does **not** establish if the student can perform a specific task or learning objective to the established standard.
- Norm-referenced testing ---
  - Is useful for making relative decisions, such as who knows more or who works more quickly.
  - **Will <u>NOT</u>** be used to measure student performance in Army training.

Note: TRADOC proponent schools must test students to determine if they can perform to established standards. They **must not** test students simply to see how they compare to each other.

Quality Control

To ensure a quality testing program, all involved individuals must ---

- Ensure criterion-referenced test items ---
  - Meet (match) the conditions of the terminal learning objective.
  - Call for the same behavior as the terminal learning objective.
  - Measure performance against the terminal learning objective standard.
  - Contain a rating/scoring device that is applicable and appropriate to the behavior being assessed.
- Ensure the Student Evaluation Plan ---
  - Details how the course proponent will determine if the student has demonstrated a sufficient level of competency to pass the specified course or training.
  - Establishes the training completion/graduation criteria/requirements.
  - Delineates school/course counseling and retesting policy and procedures.
- Apply test/test item analysis results.

Student Evaluation Plan **(TR 350-70 VI-7) (Appendix I)**

The Student Evaluation Plan –

- Establishes student responsibilities.
- Establishes training graduation (pass/fail) criteria.
- Details how the course proponent will determine if the student has demonstrated a sufficient level of competency to pass the specified course or training.
- Lays out the course testing strategy to evaluate the student on the training.

A Student Evaluation Plan ---

- Must be developed for each training course. Informs students, instructors, and other personnel of graduation requirements.
  - A copy of the Student Evaluation Plan must be provided and explained to each Initial Entry Training (IET) student at the beginning of each course.
  - A copy of the Student Evaluation Plan must be explained to all other trainees at the beginning of each course and posted for the students' reference.
- Must reflect TRADOC testing policy.
- Must be included in the TATS Course Training Support Package (TSP).

The general steps involved in writing the Student Evaluation Plan are as follows:

- Establish policies and procedures which state student responsibilities.
- Establish how the proponent school will determine if the student has demonstrated a sufficient level of competency to pass the specified training course.
- Detail how the student's performance will be evaluated.
- Identify all course tests.
- Establish weight points for each test.

- Establish course completion/graduation requirements.
  - Establish "GO/NO GO" requirements for each performance test based on the tasks standards that the training is based upon and the learning objectives for the training.
  - Establish minimum passing score for each performance-based test using the learning objective standards, the performer/non-performer discrimination (i.e., as determined from test validation), and/or expert opinion analysis.
  - Establish final grade requirements.
  - Establish minimum course attendance requirements.
  - Identify specific tests that must be satisfactorily completed to graduate.
- Establish testing procedures:
  - Delineate school/course policy for academic and/or non-academic probation.
  - Delineate school course policy for academic and/or non-academic relief/recycle policies.
  - Include a flow chart to depict the relief/recycle process .
- Define sustained poor performance (if applicable).
- Include affiliation grade, college credit, or American Council on Education (ACE) information (if applicable).
- List specific lessons tested in each test/evaluation.
- Delineate counseling policy.
- Delineate remedial training policy.
- Delineate reteaching/retesting policies and procedures.
- Delineate pretesting (testing out) procedures. ***Note:*** Testing-out is built into CBI programs.
- Establish test-challenging procedures.
- Identify other evaluation requirements, such as the Army Weight Control Program and Physical Fitness Test, and define the impact of each on course completion/graduation.

Test Design and Development

- Individual test design and development consists of:
  - Designing and developing tests to meet Student Evaluation Plan requirements.
  - Producing a test plan for each test.
  - Constructing the test items.
  - Validating the test items.
  - Determining the "GO/NO GO" (pass/fail criteria) requirements (i.e., "passing" scores for performance-based tests or the "GO/NO-GO" criteria for performance tests) for each TLO/ELO.
  - Writing the test control/administration instructions.
- Test development begins immediately following learning objective development.
- Test design and development is part of the course design phase of the training development process. The following are the general steps involved in producing a test. ***Note:*** The listing of the following steps does not necessarily imply a fixed sequence. Some steps may be performed concurrently.
- Review the terminal and enabling learning objectives (TLOs and ELOs). ***Note:*** TLO/ELO development is accomplished during the design phase. See Chapter VI-6, Training Course Design.

- After review of the learning objectives, determine whether performance or performance-based items can/will be used to test each TLO/ELO selected for testing.
- Determine if application, analysis, or problem-solving test items are required.
  Note: Unless you are testing prerequisite skills/knowledge (normally these are ELOs not TLOs), do **NOT** test at the recall or recognition level. Skills/performances should be tested at the application level or above.
- Determine the quantity, type, and weight of criterion-referenced test/test items that will be used for each TLO/ELO: hands-on performance, written performance-based, or a combination of the two.

Write a test plan for **Performance tests** by determining and documenting the:

- Type of measurement to be used (product, process, or both).
- Resources required (e.g., time, manpower, costs of alternatives, equipment, facilities, environment).
- Constraints (resources, safety, and environmental) and their impact.
- Possible alternative performance conditions and which ones will be tested.
- Number of successful repetitions of performance required to achieve a "GO" (if necessary).
- Level of fidelity possible considering the above.

Write a test plan for **Performance-based tests** by determining and documenting the:

- Number of items needed to adequately evaluate each TLO/ELO selected for testing.

Establish the required level of test control.
Note: See "Test Control," section.

Write criterion-referenced test items that:

- Match the action, conditions, and standards of the TLO and ELO taught.
- Ensure the student can accomplish the learning objectives under the stated conditions to the established standard.
- Discriminate between performers and non-performers.
- Measure actual on-the-job performance to the maximum extent possible; i.e., maximize fidelity to actual performance.
- Are highly interactive (for computer-based test items).
- Collectively test each and every TLO.

Check each test item to ensure ---

- Content validity.
- Accuracy, i.e., keyed (correct) alternative is doctrinally/technically correct and other alternatives/possible responses on a performance-based test are clearly incorrect.
- Adherence to good item writing procedures.
- Fairness (i.e., does not contain bias or confusion related to race, gender, or cultural differences).

Test Plan **(TRADOC Reg 350-70 Sec VI-7-6)**

The following is a sample test plan. Use this form when designing criterion-referenced, **performance based** (written) tests to define the content of the test. This helps ensure that an adequate quantity of test items are developed and administered to determine the competency of the student to perform the learning objective(s) being tested. For **performance-based** (written) tests, develop **at least** two versions of each test by determining the minimum number of items needed to adequately test each TLO/ELO and then constructing at least twice that many items (to provide sufficient items for the required two versions).

Lesson/TLO Number	ELO number (optional)	Learning step/activity	Quantity of Questions Needed For Coverage of ELO per Version	TOTAL Quantity of Questions For step	Total Quantity of Items For Two Versions
0001	0001 A	A-1	2	4	20
		A-2	1	2	
		A-4	1	2	
		A-5	3	6	
		A-7	3	6	
	0001 B	B-1	5	10	16
		B-3	3	6	
0002	0001 A	A-2	3	6	18
		A-4	2	4	
		A-5	2	4	
		A-6	2	4	

Setting Passing Scores

In most military testing situations, the **passing score for performance-based tests** should be set as high can be tolerated by the command considering resource constraints. This is because, in most military situations we train only critical tasks, and the impact (i.e., possible mission failure or even death) of incorrectly identifying a student as a performer (a "false positive" error) far outweighs the impact (i.e., retraining/retesting and delay of human assets to units) of incorrectly identifying a student as a non-performer (a "false negative" error). The passing score for performance based tests are **NOT** usually set at 100% due to the possibility of poor test item construction influencing a student's response.

Automated Test/Test Item Development

Automated test/test item development provides an improved capability for the development, administration, control, and management of tests. It must provide the following features/functions:

- Direct linkage to learning objective.
- Immediate scoring and context feedback to the student.
- Automatic scoring, storage, and transmission of results.
- High interactivity.
- High fidelity.
- Proper level of test control.

Test Control (USASC&FG Reg 350-22)

The commander/commandant will appoint in writing a Test Control Officer (TCO) and Alternate Test Control Officer (ATCO) to manage sensitive testing material from receipt, to return, or destruction. These individuals will be appointed and relieved in writing. Appointment and Relief orders will be forwarded to the appropriate test development (TD) proponent (ATZH-DTQ) and be posted on the outside door of the test control facility along with the test administrator/handler and the unaccompanied access roster.

The TCO and ATCO must be a commissioned officer, warrant officer, or enlisted Soldier in the pay grade of E-7 or above, a civilian [GS-5 or above] if a commissioned officer, warrant officer, or senior noncommissioned officer (NCO) is not available.

The test administration process consists of reproducing test material, delivering test materials IAW existing SOP, and securing test materials during reproduction, distribution, and administration as necessary. Many tests, and their associated material, are digitized and placed in training product repositories for control, access, and delivery. Use electronic storage and delivery of tests and related test materials. Employee centralized storage, reproduction, and distribution of nondigitized testing materials. Determining factors for reproduction include:

Administer the test to the learners IAW the test instructions. It is critical that test administrators are fully aware of the proper control procedures and the contents of the test administration instructions. The course administration documentation provides specific test control procedures to use for each test.

All organizations will follow procedures for marking testing materials (i.e., unique serial numbers). The serial number will contain the office symbol-test number with version-and sequence number (i.e., ATZH-25CATB-VA-001) in indelible ink (hand written or stamped).

Control of Testing Material

This section provides guidance and procedures for the proper control of learner performance measuring instruments (tests), test items, and related sensitive material, such as specific scenarios and scoring keys.

All training activities should ensure the procedures reduce test compromises, without unnecessary administrative burden, delay, or cost to personnel, or other training/education functions.

- Handle security of classified tests IAW Army Regulation (AR) 380-5.
- Maintain an inventory of ALL test material using DA Form 5159 (Inventory of Army Personnel Test Material) and conduct inventories quarterly at a minimum. Additional inventories may be necessary upon reproduction of exam booklets. Attach all examination dispositions (sign in/sign out sheets, destruction, reproduction, transfer documents, etc.) with the quarterly inventory. Maintain records for a one year.
- Additional requirements:
    - Upon receipt of test material, the TCO or ATCO will conduct a 100 percent quality control check of all testing material to include examination booklets, to ensure there are no missing pages and that all pages are legible.
    - Conduct a 100 percent inventory if there is a suspected loss/compromise of test material.
    - To ensure proper accountability, unique serial numbers will be assigned to all testing materials to include test booklets, answer keys, compact disks (CDs), and floppy disks.
    - Academic/course failures will be assigned a unique serial number, maintained, and included in the inventory for 24 months.
- Personnel handling or coming in contact with sensitive test materials are responsible for their security.
    - The learner is primarily responsible, logically and legally, for ensuring inappropriate disclosure/acquisition does not occur. Learners must report/identify all possible test material handling situations that might lead to inadvertent test compromise.
    - All personnel, who may intentionally or unintentionally come in contact with sensitive test materials, are responsible for reducing the possibility of unintentional disclosure of test items or materials (test compromise). In particular, the staff and faculty of the test administering activity have a primary role in implementing these procedures.
    - All commanders, staffs, department/division heads, instructors, and other personnel who might come in contact with sensitive test materials are responsible for limiting test material access to those individuals with an absolute "need to know" status. As with classified material, rank or position is not the primary deciding factor in determining "need to know."
    - Commanders/commandants and training/TD (task) proponents are responsible for implementing the appropriate level of test and test item control. This requirement applies to all activities with sensitive test material under their control that requires securing.
- To accomplish the appropriate level of test and test item control required, administering organizations will:
    - Maintain security of all test items, tests, test administration instructions (if necessary), checklists, scoring keys, and test results during TD, transmittal,

storage, retrieval, and administration, consistent with the appropriate level of test control, as determined by applying the guidelines in the following paragraphs.

- Store test components in locked rooms and containers when not in use or in transit. Only authorized personnel will have access to these components. Proper key control to these sensitive containers must be exercised as with other sensitive keys.
- Store test booklets and answer keys in separate locked containers.
- Develop and specify in a lesson plan and test SOP the exact administration procedures to follow during resident test administration, to ensure the proper level of test control.
- Regardless of how final test/test items are ultimately administered, restrict access to paper-based copies of proposed or final test items, scoring/answer keys, or test results, to those personnel demonstrating a valid need for the information.
- Along with the information management specialists, you must develop and specify procedures to ensure electronic copies of tests/test items and scoring/answer keys are protected from unauthorized disclosure. These procedures must include:
  - Restriction on access, reproduction, and distribution.
  - Password protection.
  - Required learner warnings/certification.
- The commander/commandant will immediately investigate <u>suspected</u> compromises and take appropriate actions to reduce the impact of test/test item compromises.
- Ensure the test is administered exactly IAW the test administration instructions.
- Ensure test control procedures include a method to determine, with assurance, the identity of the test taker.

Ensure the test proponent designates adequate procedures for test security when mailing sensitive test material. If the following controls are not applied to the tests received, apply them immediately and/or contact the TD/reproduction activity. The TD/reproduction activities will apply the following controls:

- Clearly identify (typed or hand written with indelible ink) each page of all sensitive test material requiring control (that is, except for Type 1, IAW paragraph f above) with the following: "**FOUO-Sensitive Examination (Testing) Materials**," to clearly indicate their nature. This includes all paper copies or portable disks/diskettes (floppies/.zip files/). Note: "**For Official Use Only**" is not appropriate.
- Ensure the first page of all controlled testing material, whether paper or electronic (when displayed on the screen), includes the statement indicated in paragraph (1) above. An exception to this will be answer sheets that have not been completed by the learner. Paper versions of tests will include the warning on the cover sheet, <u>each</u> page, and the back side of the last page.
- Answer keys will also have the security marking as stated in paragraph (1) above and will be on the front and back side.

- All electronic versions of sensitive test materials will include the warning in paragraph (1) above, as well as the warning "**DO NOT COPY, PRINT, TRANSMIT, OR SAVE UNLESS SPECIFICALLY AUTHORIZED,"** on any portable medium and on the first page/screen when the file is opened.
- Whenever sensitive material is transferred or destroyed, create and sign a memorandum of record:
    - Date of transfer/destruction.
    - Method of transfer/destruction.
    - To whom the material was transferred or who was responsible for the destruction.
    - The exact material transferred/destroyed.
    - Maintain transfer or disposition documentation with the inventories.
- The following guidance is provided if test compromise is suspected:
    - Investigate every incident of suspected unauthorized disclosure of sensitive test material, and substantiate, refute, or leave unsubstantiated the compromise. If the possible compromise is refuted, no further action is necessary.
    - As the department/division head/commander or other designated authority determines necessary, report the compromise/potential compromise to your chain of command. If needed for assistance, also report the compromise/potential compromise to the proponent school. The test proponent may advise on appropriate procedures to mitigate the risk.
    - The commander/designated authority ensures that a thorough investigation of the compromise, possible compromise, or loss is made and that proper actions are initiated to prevent recurrence of loss, or compromise of test materials. Additionally, the appropriate authority should:
        - Decide the risk mitigation factors to use.
        - Maintain a record of the results of the investigation and actions taken, if any.
        - If warranted, initiate investigation under the provisions of AR 15-6.
- If the compromise is substantiated or not definitely refuted (that is, suspected but unsubstantiated), a risk assessment is immediately performed (based on the level of control required of the test) and any serious consequences from the loss mitigated. At the discretion of the department/division head or other designated authority, the procedures for mitigation should include one or more of the following:
    - Withdrawal of the test from use.
    - Retesting of one or more learners, using uncompromised/unsuspected versions.
    - Requesting assistance from the proponent school.
    - Taking no action, if compromise is unsubstantiated.

Test Reviews and Test Feedback

The purpose of a test review is to improve learner performance. An effective test review provides constructive advice, direction, and guidance to raise performance levels. The test review is also used to reinforce learning. As the instructor, take every opportunity to use the review as a means of clarifying, emphasizing, or reinforcing instruction.

The intent of test reviews is to serve two purposes:

1. Inform. Informational reviews serve to correct learner errors. Informational reviews should always be motivating, but do not necessarily provide information. A pat on the back or a word of encouragement may motivate a learner, but provides no information about the errors in performance.
2. Motivate. Motivational reviews encourage learners to try harder.

A test review is mandatory after each test. Once the exam is completed, all testing material will be turned into the test administrator. Then, the test administrator will turn in all testing material to the test control manager and will return to the class with a test booklet, answer key, and the learner test review sheets.

Conduct a test review on individual test items missed, even if all learners mastered all objectives.
Give feedback to each learner on every item they missed (include every missed item and provide feedback, either individually or in a group setting). The recommended procedure is to provide a form to each learner, indicating only the questions that individual learner missed; then review each question missed by any learner. This should include "working" through problems.

During the test review, it is also highly recommended to capture any learner(s) comments that might indicate the need for test/instructional improvement. Involvement of a training/test developer is recommended. At the end of the test review, the test administrator will collect all test review sheets and turn them into the test control manager.

DEVELOP

(TRADOC Reg 350-70 Sec VI-8)

Course development is the process used to convert the course design into the training products and materials required to implement the course.

Develop Training Materials

The lesson outline is the basic building block of all training. It may be completed as a lesson plan for formal institutional training or as a lesson in a correspondence course or distance learning product.

A training course consists of:

- Common/Shared Task TSP
- Lessons (instructor-led or self-paced)
- Tests
- Student Handouts
- Supporting products, including audiovisual media products

Develop Learning Steps

Learning steps will be used to logically develop your lessons. Learning steps provide the developer a way of systematically documenting the actions and decisions a soldier would follow when performing a task. The following example is a proper way of listing the learning steps.

1. Learning Step
   a. Sub-Step
      (1.) Sub-sub step
         (a) Sub-sub-sub step

Develop TSP **(TR 350-70 Sec VI-8-6)**

The Army has traditionally defined TSPs as the materials and instructions needed to plan, prepare, and execute training. A TSP for individual training is a complete, exportable package integrating training products/materials necessary to train one or more critical individual tasks. Its contents will vary depending on the training site and user. TSPs provide the training materials needed by trainers to conduct effective, efficient, and standardized training for individuals, leaders, and units.

Validate products **(TRADOC Pam 350-70-10)**

Validation is the process used to determine if new/revised courses and training products/materials accomplish their intended purpose efficiently and effectively. It is the process used to determine if training accomplishes its intended purpose. Validation and revising training are continuous actions in the teaching/revising process of training improvement. Validation of products and materials involves---

- Verification of their training effectiveness in training the objective.
- Determination of beneficial improvements in the quality of training products and materials.

- Identification of training product deficiencies.
- Improvement of efficiency, effectiveness, and utility of training objectives, structure, sequence, products, and materials. In the "testing" context, it is the process of determining the degree of validity of a measuring instrument (e.g., skill qualification, end-of-module, and end-of-course comprehensive tests).

Note: Validation is of the training products themselves, **not** the training site.

Target Audience for validation are the following:

- Soldiers or civilians with the prerequisites for the training
- *Non-performers* of the training product objectives being validated
- Total Army (Active and Reserve Component) receivers of the training/product

Group trials

The purpose of group trials is to statistically validate the terminal learning objective of a lesson as being instructionally sound (based on statistical analysis), and identify problems with the flow and content of the instruction, before investing in the expense of operational tryouts, and final reproduction and distribution.

Group trial(s) is a process used to validate a lesson/lesson plan's individual objectives, based on observations and statistical analysis. The trial(s) allows the training developer to gather information, by exposing a group of volunteers (a minimum of 10) from the target audience, or a group of volunteers that possess the critical characteristics of the target audience, to the instructional materials. In-depth interviews or surveys, conducted with each of the students, are used to gather more information about the quality of the materials. Finally, the training developer analyzes the student's results and compares them to both the standard for the objective(s), and the computed criticality standard to determine if the objective/lesson is valid. Following validation, any materials that do not validate are revised, and the group trials process restarted, until all of the materials validate. It generally takes *three iterations* to eliminate all the problems.

Plan Instructor Training and Certification **(TRADOC Reg 350-70 pg II-1-13)**

- Complete TRADOC approved instructor training course (TAITC)
- SGI (For those assigned to facilities with small group instruction
- Be a graduate of course to be conducted
- Serve at least one iteration of course as assistant to certified instructor
- Conduct course at least one iteration under observation of certified instructor

IMPLEMENT

Monitor Implementation

One of the biggest oversights in training development is the developer not following through with implementation. Monitor instructor performance for adherence to instructional techniques and procedures received from the staff and faculty training to ensure standardization and maintenance of quality instruction. This will be accomplished by observing and evaluating each instructor's performance at least once each 6 months, or more often as required for consistency and quality control.

Once the development phase is complete you should:

- Sit in on the lesson as it is taught
- Teach the first lesson (if qualified)
- Review validation results
- Review tests results
- Review student critiques
- Review instructor comments and critiques

Manage instructor qualification program

- Developing program procedures, to include the school staff & faculty instructor course and any other course specific special preparation
- Certifying instructor qualification
- Providing instructor sustainment training
- The Course Management Plan for each TATS Course includes qualification requirements
- Maintain instructor records

Maximize Safety and Risk Assessment

The training development process fixes responsibility, institutionalizes operational safety, and leads to decision making at the command level appropriate to the risk. Safe training provides ---

- Fewer injuries and deaths.
- Reduced lost time.
- Lower costs (facility, training, and equipment repairs and replacement).

--*Minimum essential requirement*: Safety hazards, cautions, etc., are identified and integrated in appropriate products.

During the implementation phase:

- Ensure staff, faculty, and students adhere to intent of safety procedures and practice safe training operations and training.
- Ensure staff enforces student compliance with safety rules, regulations, and procedures.

Risk Management

Risk management as it applies to training development is ---

- The process used to identify task and training risks, set values on risk elements, compare risks against training benefits, and eliminate unnecessary risks.
- An expression of potential loss in terms of hazard severity, probability, risk level.
- Tightly tied to force protection.
- A useful tool to help make decisions about hazards causing the risks.

During implementation:

- Ensure staff, faculty, and students adhere to intent of risk management.
- At a minimum, perform a risk assessment before any non-classroom training or training.

Risk management is a five-step cyclic process as follows:

(1) Identify Hazards
(a) Identify all conceivable hazards prior to the operation.
(b) Identify all conceivable hazards associated with performing a task or learning objective.

(2) Assess Hazards
(a) Determine the impact of hazards on the training.
(b) Determine the probability of a hazard causing a problem and the severity of the consequences should such a problem occur.
Note: Output of this step is a risk assessment describing the impact of the combined hazards.

(3) Develop Controls and Make a Risk Decision
(a) Develop control measures that eliminate the hazard or reduce its risk.
(b) As control measures are developed, re-evaluate until all risks are reduced to a level where benefits outweigh potential costs.
(c) Make risk decisions at the level of command that corresponds to the degree of risk. Command guidance establishes who makes which decisions.
(d) Assign a risk assessment level to each lesson.

(4) Implement the Controls
Note: These are the controls developed and established as a result of the previous steps. Included in this step is leader action to reduce or eliminate hazards.

(5) Supervise and Evaluate
Follow up during and after the After-Action Review (AAR) to ensure that all went according to plan, reevaluate the training or make adjustments as required to accommodate unforeseen issues, and incorporate lessons learned.

- Assign a risk assessment level to each lesson using the Risk Assessment Matrix, extracted from FM 100-14, Risk Management. The training developer will complete the "Probability of Occurrence" columns as appropriate.
- Submit ratings for approval.

***Risk management is never complete. It is a continuing cycle that requires everyone to be constantly alert to training risks and take immediate action to reduce their severity or to eliminate them.

For quality results from risk management, all personnel involved must ensure ---

- All hazards associated with the training of the tasks and learning objectives are identified.
- Risk assessment has been conducted on all lessons.
- The appropriate risk assessment code has been assigned to all lessons.
- Staff, faculty, and students adhere to intent of risk management.

Minimize Impact on Environment

Environmental protection involves training developers and trainers working aggressively to minimize and avoid damage to training lands and environment caused by tough, realistic training.

Note: The training community must meet its responsibility to preserve the areas in which we train and operate.

Protecting the training environment provides ---

- Reduced training costs.
  Increased goodwill.
- Increased availability of training areas and resources.

During the implementation phase, ensure ---

- Staff and faculty are aware of and comply with local environmental training restrictions and legal requirements.
- Trainees are informed of and comply with environmental requirements.

Environmental protection is a continual process. Always be alert to ways to protect our environment and reduce wastage.

Provide Instructor Training and Certification (TR 350-70 pg III-1-13) and (USASC&FG Reg 350-2)

Establish and maintain a program to identify training needs, ensuring that all training is scheduled. Conduct follow-up action on the effectiveness of training received by assigned personnel.

Ensure that all military and civilian personnel assigned to positions or duties that require them to conduct instruction or supervise instructors are duly certified as having completed an Instructor Training Course (ITC). Proof of ITC completion is the Fort Gordon (FG) Form 6500-R-E (Instructor Training Course Student Rating) or Department of Defense (DD) Form 1556 (Request, Authorization, Agreement, Certification of Training and Reimbursement).

Maintain a file on each instructor to include:

- FG Form 6500-R-E.
- Instructor Basic Course (IBC) Certificate or Instructor Training Course (ITC) Certificate.

- Copy of orders assigning SI, 5K, or SQI8, or "H" designator, as appropriate.
- Copy of the Instructor's Proponent Certification document.
- Systems Approach to Training (SAT) Certificate (when required).
- Small Group Instructor (SGI) Certificate (when required).
- Current supervisor's class observation critique.

Provide for necessary training of personnel through timely scheduling, adequate pretraining assistance, and the proper training material(s) required for selected training courses.

Evaluation

(TRADOC Reg 350-70 Sec III-0)
(TRADOC Pam 350-70-4)

Quality training and training products result in soldiers who can perform and survive in the full spectrum of operations. This requires timely training and training products that conform to established standards and meet identified requirements, i.e., are efficient and effective. The SAT is the management control system the Army uses to produce quality education/training, and training products that meet the needs of the Army.

Evaluation is a systematic, continuous process to appraise the quality (efficiency, deficiency, and effectiveness) of a program, process, or product. It may determine the worth of a training program; determine if objectives have been met; and/or appraise the value of a new training technique. It is the means by which an evaluator provides management (i.e., decisionmakers) with information/recommendations so it can decide on actions to improve the education/training. It also provides information/recommendations to prove the value/worth of the education training (summative evaluation). Evaluations:

- Identify both intended and unintended outcomes so decisionmakers can make necessary adjustments in the instructional program.
- Provide feedback used to modify the education/training program, as necessary.

Evaluate SAT Process - Evaluation of the SAT process is to ensure that training products and materials are developed in compliance with TR 350-70 for analysis, design, development, format, submission, and fielding. The Directorate of Evaluation and Standardization (DOES) is responsible for ensuring the commander/ commandant that the SAT process was followed and minimum essential requirements were accomplished in these six major functional areas:

- SAT process –
    - Evaluation of the SAT process is to ensure that training products and materials are developed in compliance with TR 350-70 for analysis, design, development, format, submission, and fielding.
- Individual Training and Education Process/Program –
    - Evaluation of the instructional process/program is critical to determine the effectiveness of courses of instruction for which the school has proponency. It is an independent determination of the quality of training and testing while concentrating on the actual presentation of instruction-presented and self-paced training, competency of instructors and examiners, relevance as well as adherence of course content to the training objectives, management and usability of DL training/training products, and training transfer.
- Products –
    - Evaluation of individual, collective, and self-development training products and literature for currency, usability, efficiency, effectiveness, doctrinal and technical correctness, and compliance with current Army/TRADOC policy and TRADOC Technical Media Standards.
    - Verification that Training Requirement Analysis System (TRAS) documents meet requirements.

    - Training courses/instructional materials are of high quality, correctly reflect course design decisions, identify training objectives and performance standards, and appropriately illustrate and describe the material to be taught.
    - Validation of courses, training products, and materials. Validation differs from evaluation in that validation is the process used by the training developer to determine if a new/revised training product/material accomplishes its intended purpose efficiently and effectively. The training proponent conducts individual and/or group trials, collects and analyzes validation data, and makes any necessary revisions to the training product/material.
- Personnel
    - Evaluation of personnel includes Instructor certification as well as Training Developer and Evaluator qualification.
- Training Institutions/Facilities
    - Evaluation of DL will require assessment of DL classrooms and facilities to verify they meet TRADOC Classroom XXI Master Plan and TADLP-MP requirements to support DL. Also, TASS training institutions are evaluated in order to be accredited.
- Needs Assessment
    - Needs assessment is a process of discovering weaknesses or potential problems for training or job/mission performance. It can be a ---
        - An *informal* assessment of training and the identification of a potential training or TD need to be confirmed by needs analysis.
        - A *Formal* process for the training impact analyses of emerging/new/displaced systems done as a part of the TEA Program.
- Unit Training
    - Unit training evaluation is the process used to identify collective and individual task performance and product deficiencies in unit training and to obtain recommendations for improvement of training or the products that support training. This evaluation involves both individual and unit training and doctrine products (e.g., soldier training publications [STPs]; mission training plans [MTPs]; drills; training support packages [TSPs]; training aids, devices, simulators, and simulations [TADSS]; field manuals [FMs]; training circulars [TCs]). Unit and training proponent evaluators determine the value, technical accuracy, and efficiency and effectiveness of the training, training programs, and products. The evaluators report deficiencies and recommendations for improvement to the training proponent for conduct of a needs analysis. In effect, the proponent performs an external evaluation to identify deficiencies (and improvement recommendations) for subsequent needs analysis to determine the need to improve, eliminate, or replace the training or training products.

Types of evaluations. Evaluations are categorized into two types: *internal and external*.

Internal evaluation is used to improve the quality and effectiveness of the instructional system, by providing sufficient, high-quality data to decisionmakers upon which they can make sound, informed decisions about the training and education. During an internal evaluation, gather

internal feedback and management data from the education/training instructional system environment. Periodic internal evaluations may identify weaknesses/problems, as well as strengths, of the TD and instructional system. Internal evaluation is a deeper requirement than checking instructor techniques and method of instruction. It is a check of the quality of the content in regards to what is being taught, and what the students are assimilating. In an internal evaluation, make a comparison between the course objectives and standards applied in the training environment, and the objectives and standards specified in course development documents. In addition, evaluate school's/center's control of the total training environment, and promptness in moving graduates to units, to include proper application of the TD process.

Internal evaluation gathers internal feedback and management data from the education/training instructional system environment to determine if--

- The SAT process is being appropriately applied in the development of products or programs.
- The instructional base is providing the appropriate/intended training.
- The objectives of the training have been met.
- The instructional system is producing the required qualified graduates.
- The staff and faculty receive the required training.
- Instructors provide quality instruction.
- Required infrastructure is in place to support training, whether resident or Distributed Learning (DL).

External evaluation determines if soldiers can meet job performance requirements, need all the instruction they received, or need any additional instruction they did not receive. This process gathers data from the field to assess graduate's on-the-job performance in a job environment, and assess if the soldier can satisfy real-world job performance requirements. Evaluators must realize that the responses to the surveys are opinions of supervisors/soldiers in a specific unit configuration that may or may not relate to wartime or battlefield requirements, and may or may not be in a peacetime environment. Likewise, it is important to compare what the field says is being done with regard to a particular task, with what other documentation indicates should be done to support a particular unit mission, and/or equipment configuration, or operations capability.

External evaluation is the evaluation process that provides the means to determine if the training received meets the needs of the operational Army. This evaluation ensures the system continues to effectively and cost-efficiently produce graduates who meet established job performance requirements. External evaluations are considered a quality improvement operation, ensuring soldiers and training products continue to meet established job performance requirements, as well as continually improve system quality.

External evaluations gather data from the field to assess soldiers' on-the-job performance. A misconception often made is that external evaluations are anything conducted outside of the proponent schoolhouse. This is not true. External evaluations are conducted on soldiers and/or supervisors after the individual has graduated from a course and is performing their job/duty in the unit.

External evaluations assist in learning how well graduates meet job performance requirements. When conducting external evaluations, look for both strengths and weaknesses of the training system. External evaluations will help determine-

- How well the graduates are meeting job performance requirements.
- Whether training is being provided that is not needed.
- Whether any needed training is not being provided.
- Ways to improve the graduate's performance as well as the training system.

Quality assurance is the function involving evaluative processes that assure the command that training is efficient and effective, and meets the current, Stryker, and future training needs of the operational force. The prime aim of QA is to furnish the chain of command with the confidence that the TRADOC mission is being achieved, while minimizing risk of error or failure. It provides an oversight function for increasing organizational effectiveness, efficiency, and economy. The objective of QA is to:

- Provide the Army with the maximum return on investment.
- Ensure and maintain quality up-to-date products to fulfill the needs of the operational Army.
- Ensure quality training and training products are delivered in a timely manner, and comply with Department of the Army (DA) and TRADOC policy.

Quality Assurance is achieved through decisions based on results of accreditation, internal and external evaluation, and QC functions.

Quality control is an evaluative action or event, conducted to effect QA, that ensures all education/TD and implementation procedures and processes, and/or education/training products, met or exceeded prescribed standards. Every QC activity provides a degree of QA. The SAT process provides a series of QC mechanisms/checks that are applied to the development of all education/training products, procedures, and processes. These checks are formal or informal.

Accreditation is the TRADOC Commander's formal recognition given to a training institution, which gives authority to conduct (or continue to conduct) education/training. It is the result of an evaluative process that certifies an institution's training program, processes, personnel, administration, operations, and logistical support (infrastructure) are adequate to support training to course standards and that training institutions are adhering to TRADOC Command Training Guidance and directives. Accreditation of all AC and RC training institutions are reevaluated every 3 years. The Quality Assurance Office (QAO) will used a 24 standard checklist to ensure units are developing and instructing courses to TRADOC standards. The 24 standard checklists are broken into 3 areas: Conduct of Training, Training Support and Proponent Function (see attachment in back of this document.)

Accreditation is a QA function that helps to assure the command that training and education provided meet the competency needs of today's Army, and the objective force. Accreditation assures:

- Standardized training and training products are doctrinally correct, and set the correct standards for the Army.

- Staffs, faculties, and observer/controllers are trained to standard, and provide quality instruction.
- Institutional infrastructure meets required standards.
- Training program provides relevant, realistic training to meet opposing force (OPFOR)/Contemporary Operational Environment (COE) requirements.
- Training institutions are preparing to meet the training and education needs of the Stryker and Future Forces.
- Feedback to senior leaders regarding significant training issues.

Evaluator Training and Qualification

Evaluators are the eyes and ears of the command; they represent command authority whenever they evaluate training inside or outside of the proponent school. Evaluators must be thoroughly trained in every aspect of their evaluation responsibilities. Competent evaluators are just as critical a link in the SAT as are trainers. Accordingly, Training/TD (Task) Proponents will ensure their evaluators are a credit to the command in their bearing, competence, professionalism, and commitment to excellence in training.

Evaluator training requirements are as follows:

- Training Evaluator Course
- Systems Approach to Training (SAT) Basic Course
- Total Army Instructor Training Course (TAITC)
- Small Group Instructor Training Course (SGITC) in addition to TAITC
- Video Teletraining Instructor Training Course (VTTITC)
- Test Writing

Appendix A
Training Regulations and Pamphlets

Regulations and Pamphlets

AR 350-1 – Army Training and Leader Development
TRADOC Reg 350-6 - Enlisted Initial Entry Training (IET) Policies and Administration
TRADOC Reg 350-18 - The Army School System (TASS)
TRADOC Reg 350-70 - Systems Approach to Training Management, Processes, and Products

TRADOC Pamphlets

350-70-1 - Guide for Developing Collective Training Products
350-70-2 - Multimedia Courseware Development Guide
350-70-3 - Staff and Faculty (Under Development)
350-70-4 - Systems Approach to Training: Evaluation
350-70-5 - Systems Approach to Training: Testing
350-70-6 - Systems Approach to Training: Analysis
350-70-7 - Design and Development (Under Construction)
350-70-8 - Total Army School System (TASS) Training Requirements Analysis System (TRAS)
350-70-9 - STP Development (Under Construction)
350-70-10 - Systems Approach to Training Course and Courseware Validation
350-70-11 - Training Development Management (UC)
350-70-12 - Distributed Learning - Managing Courseware Production and Implementation

Fort Gordon Regulations

USASC&FG Reg 350-2 – Staff and Faculty Development Training
USASC&FG Reg 350-5 – Academic Practices
USASC&FG Reg 350-6 – Academic Training Schedules
USASC&FG Reg 350-7 – Preparation for and Conduct of Critical Task and Site Selection Boards
USASC&FG Reg 350-22 – Test Control Policies and Procedures

Appendix B
Individual Training Plan

INDIVIDUAL TRAINING PLAN

(ITP)

FOR MOS 25U,

SIGNAL SUPPORT SYSTEMS

SPECIALIST

HOME OF THE SIGNAL CORPS
FORT GORDON, GA 30905

113-25U10
101-25U10
101-25U30
101-25U40

BEVERLY FRIEND
DEAN, 15th SIGNAL BDE
APPROVAL DATE _____

Appendix B
Individual Training Plan
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Appendix B
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ITP NARRATIVE
MOS 25U

1. REFERENCES.

   a. STRAP for Army Airborne Command & Control System (A2C2S), version 3, 14 Nov 2003

   b. STRAP for Integrated System Control (ISYSCON) V4, 15 Aug 2002

   c. NETP CEC-88779, AN/TYQ-45V2 Computer System (ATCCS-CHS).

   d. NETP CEC-94006, AN/TYQ-53 LCU (ATCCS-CHS).

   e. STRAP for Family of Inline Network Encryptor (INE) 28 Nov 2001

   f. STRAP for Joint Tactical Radio System (JTRS) 22 may 2000

   g. STRAP for Secure En-route Communications Package Improved (SECOMP-I), 18 July 2001

   h. STRAP for Defense Advanced GPS Receiver (DAGR), 17 July 2003.

   i. NETP NYA, Standardized Integrated Command Post System (SICPS).

   j. STRAP for Standardized Integrated Command Post System (SICPS), 23 Jan 2003

   k. ORD, 10 Jun 99, Warfighter Information Network – Tactical (WIN-T).

   l. STRAP for Warfighter Information Network – Tactical (WIN-T), 14 Aug 2002

Appendix B
Individual Training Plan
ITP NARRATIVE

MOS 25U

2. TRAINING REQUIREMENT.

a. A training requirement exists for MOS 25U to train Soldiers to supervise, install, troubleshoot, and maintain battlefield manual and automated signal support systems and terminal equipment; perform computer systems administration and network management; teach and provide technical assistance to non-signal personnel who operate signal systems in support of unit's mission; and employ and operate dedicated retransmission systems in tactical situations.

b. The 25U10 Soldier is performing duties today that call for computer systems administration and network management in tactical units. This will be necessary until 74B Soldiers are trained and deployed to tactical units in digitized divisions.

c. New Systems.

(1) The Army Airborne Command and Control System (A2C2S) is an airborne tactical command post fielded to aviation units at division, corps, and echelon above corps (EAC). It provides "on-the-move" command and control (C2) capabilities that allow the commander and battle staff to achieve near-real-time situational awareness utilizing a suite of Army Battle Command System (ABCS)/Battlefield Automation Systems (BAS) and other Army C2 systems for building and maintaining the Common Operational Picture (COP). The A2C2S provides battle information processing and connectivity to the tactical Internet that exceeds the digital capabilities in a ground maneuver brigade's Tactical Command Post (TACCP). The A2C2S provides both voice and data interoperability with U.S. military services and voice compatibility with government and civilian agencies, and services of Allied Nations. The A2C2S will support all the mission areas identified in The Army Plan (TAP). The A2C2S will provide the commander a highly mobile command post (CP) for command and control operations. The major mission areas supported are war (e.g., deterring aggression and coercion; fighting conflicts) and operations other than war (i.e., peacekeeping, domestic disaster relief, reducing potential conflicts, promoting regional stability and humanitarian missions).

(2) The Warfighter Information Network – Tactical (WIN-T) will be an integrating communications network for the Objective Force (OF) and will perform multiple missions simultaneously and ubiquitously. WIN-T will be a framework that will set optimum standards and protocols for information network infrastructures and architectures of the OF, the interim force, and the legacy force. The WIN-T infrastructure will network information from Unit of Action (UA) to Unit of Employment (UE) -- Commander-In-Chiefs (CINC), Commander of Joint Task Force, and commanders and staffs of warfighter task organizations and functional units. The network of networks information framework will form a horizontal and vertical transport capability - digitized, interim, and legacy, respectively.

(3) The Army Tactical Command and Control System - Common Hardware/Software 2 (ATCCS-CHS 2) is a group of common computer hardware/software that provides aggregation, processing, transmission, and display of essential information and data within the battlefield functional areas (BFA) and facilitates the information flow between the components. The CHS-2 Program is designed to provide the tactical Army with standard state-of-the-art computer products ranging from hand-held to RISC-based server class machines.

(4) The Integrated-Systems Control (ISYSCON) (V4) is deployed at maneuver brigade and below for combat-net-radio-based WAN management, but can also provide local-area network management at all echelons from maneuver battalion through echelons above corps. Each ISYSCON (V) 4 consists of two computers: a ruggedized Appliqué Paravant V4 for survivability, and a commercial Panasonic Toughbook laptop for configuring devices that have become unreachable through the network and require physical connectivity. Both computers host the same software, called the Tactical Internet Management System (TIMS), which incorporates the Force XXI Battle Command Brigade and Below software.

(5) The In-Line Network Encryption (INE) TACLANE is the leading Type 1 IP encryptor, certified by the National Security Agency (NSA) to protect classified information up to and including TS/SCI. TACLANE is Coalition-ready, fighting the war on terrorism with more than 29,000 units deployed worldwide. Available today, TACLANE is a single device offered with multiple interfaces such as: Classic (Ethernet/ATM), E100 (Fast Ethernet), and SG (Coalition).

(6) The new generation of GPS receivers will augment the map, compass, and other conventional positioning, navigating, surveying, and timing systems. The Global Transmitter-Receiver (GTR) will enhance combat, combat support, and combat service support missions through improved accuracy and lethality of weapon systems and enhancement of command and control platforms across all Battlefield Functional Areas. The GPS User Equipment provides real time position, velocity, and timing (PVT) information to Army tactical and strategic organizations in standalone and embedded configurations. The GPS is used during peacetime, contingency, and wartime across all Battlefield Operating Systems to provide worldwide, 24 hour a day, PVT data under adverse climatic and electronic conditions. The GTR will have a Precise Positioning Service, multi-frequency, secure, anti-jam, and anti-spoofing capability. The GPS satellites are maintained and operated by the control segment. The GTR (user segment) will utilize the space and control segments of existing and future GPS with minimal modifications to the GTR. The GTR Defense Advanced GPS Receiver (DAGR) and the GTR Lightweight (LW) will be a General Purpose User (GPU) piece of equipment.

(7) The Secure Enroute Communications Package – Improved (SECOMP-I) signal is an integrated voice and data communications system. It relies on voice-over-Internet protocol (VoIP) technologies to provide robust collaborative and high-quality voice communications for forces Enroute to points of deployment. SECOMP-I will enable joint tactical forces to arrive at their deployment destinations fully briefed on the most current intelligence reports and plan

updates available, improving their ability to "see first, understand first, act first and finish decisively."

(8) The Joint Tactical Radio System (JTRS) will ensure operational readiness and success by providing military commanders with the ability to command, control, and communicate with their forces via voice, video, and data media forms, during all aspects of military operations. Pursuant to the goals established by the Defense Planning Guidance (1998-2003) and Joint Vision 2010, JTRS will perform in the most flexible manner and be designed as a family of advanced, reliable, and dynamic communications platforms. As a result, the JTRS will be software reprogrammable, multiband/multimode capable, networkable, and provide simultaneous voice, data, and video communications.

(9) The Secure Wireless Local Area Network (SWLAN) provides secure wireless Ethernet communications between TOC vehicles in a TOC. The SWLAN will reside in SICPS, M1068, M577, M934 and STRYKER platforms.

(10) The Harris Falcon® II (AN/PRC-117F(C)) manpack and vehicular multiband, multimission radio provide a vital, secure, beyond-line-of-sight communication capability for command and control. The radios use advanced Harris software-defined radio (SDR) technology to provide battle-proven embedded communications security, satellite communications, and electronic counter-countermeasure capabilities. They cover the entire 30 to 512 MHz frequency range and provide interoperability with ground-based SINCGARS radios as well as ground-to-air radios and long-range, tactical satellite communications. The radios will support units deployed in support of Operations Iraqi and Enduring Freedom and are part of the Army's modularity redesign.

3. TRAINING STRATEGY.

With the implementation of the Total Army School System, the training strategy for MOS 25U changes. The AC and RC components will be trained to the same standard on critical tasks. AC and RC components will train using the same Program Of Instruction (POI). The current TATS course is paper-based with some computer based training, but future versions will include distance-learning methods of instruction.

MOS 25U progresses from Skill Level 1 through Skill Level 5. The only Additional Skill Identifier (ASI) associated with MOS 25U is J7, White House Communications Agency at Skill Level 3.

a. SKILL LEVEL 1.

(1) **Course ID number 01.** POI 101-25U10 Signal Support Systems Specialist Course is for the Resident Course. The course is 16 weeks long, and trains soldiers to install, troubleshoot, integrate and maintain battlefield manual and automated signal support systems. These systems include: Technical Manuals (TMs) and The Army Maintenance Management System (TAMMS); Test Measurement and Diagnostic Equipment (TMDE) techniques and procedures; system installation, integration, Unit Level Maintenance (ULM) and troubleshooting of Army Tactical

Command and Control System/Hardware Software (ATCCS/CHS); Force XXI Battle Command Brigade and Below (FBCB2) System; Single Channel Ground and Airborne Radio System (SINCGARS); Combat Net Radios (CNR); tactical antenna systems; Mobile Subscriber Equipment (MSE); Mobile Subscriber Radio Terminal (MSRT) AN/VRC-97; Commercial Off The Shelf Computers (COTS); A+ Hardware and Software; N+ Network Essentials; integration, troubleshooting and maintenance of Standardized Integrated Command Post System (SICPS); Switches; Tactical Internet Management System (TIMS); operation of Secure Retransmission Stations (RETRANS) in a simulated tactical environment; and reinforcement of Warrior Tasks and Battle Drills (WTBD); Local Area Networks (LAN); Automated Net Control Device (ANCD); Precision Lightweight Global Positioning System Receiver (PLGR); Improved High Frequency Radio (IHFR); Tactical Satellite Terminals (TACSAT); Enhanced Position Location Reporting System (EPLRS); tactical antenna systems; and computer systems administration and network management. MOS holders also perform unit level maintenance on authorized signal equipment; provide technical assistance for non-signal operators of signal equipment; and employ and operate dedicated retransmission equipment in support of tactical operations.

The overall strategy is to familiarize and train enlisted soldiers on core Signal training and WTBD in a Forward Operating Base (FOB) environment as a cohort; and to provide an introduction to Situational Awareness and how the Signal Soldier fits into a Contemporary Operating Environment. The Field Training Exercise (FTX) provides soldiers with reinforcement of the skills and knowledge of Warrior Ethos combat skills, preparing the soldier for deployment in support of the Global War on Terrorism (GWOT). The WTBD's are embedded in the Advanced Immersion at the beginning of the Course and in the CAPSTONE/FTX at the end of the Course. The WTBD's are trained employing extended training days. All WTBD FTX resources will be shared with other MOS's throughout the Brigade during each exercise.

(2) **Course ID number 02.** POI 101-25U10 Signal Support Systems Specialist Course Mobilization Training. The 25U10 Mobilization POI is for the Mobilization Course. This course is 11 Weeks and 3 days long and trains soldiers to install, troubleshoot, integrate and maintain battlefield manual and automated signal support systems. These systems include: Technical Manuals (TMs) and The Army Maintenance Management System (TAMMS); Test Measurement and Diagnostic Equipment (TMDE) techniques and procedures; system installation, integration, Unit Level Maintenance (ULM) and troubleshooting of Army Tactical Command and Control System/Hardware Software (ATCCS/CHS); Force XXI Battle Command Brigade and Below (FBCB2) System; Single Channel Ground and Airborne Radio System (SINCGARS); Combat Net Radios (CNR); tactical antenna systems; Mobile Subscriber Equipment (MSE); Mobile Subscriber Radio Terminal (MSRT) AN/VRC-97; Commercial Off The Shelf Computers (COTS); A+ Hardware and Software; N+ Network Essentials; integration, troubleshooting and maintenance of Standardized Integrated Command Post System (SICPS); Switches; Tactical Internet Management System (TIMS); operation of Secure Retransmission Stations (RETRANS) in a simulated tactical environment; and reinforcement of Warrior Tasks and Battle Drills (WTBD); Local Area Networks (LAN); Automated Net Control Device (ANCD); Precision Lightweight Global Positioning System Receiver (PLGR); Improved High Frequency Radio (IHFR); Tactical Satellite Terminals (TACSAT); Enhanced Position Location Reporting System (EPLRS); tactical antenna systems; and computer systems administration and

network management. MOS holders also perform unit level maintenance on authorized signal equipment; provide technical assistance for non-signal operators of signal equipment; and employ and operate dedicated retransmission equipment in support of tactical operations.

(3) The 113-25U10 Signal Support Systems Specialist Reclassification Course follows The Army Training System (TATS) guidelines, and is designed to train the Reserve Component Soldier already qualified in another MOS. The course consists of two phases: Phase 1 is the Inactive Duty Training (IDT) Phase, and is 109 hours in length. The Army School System (TASS) School Battalions conducts the IDT phase, which must be completed before entry into Phase II training. Phase II is the Active Duty Training (ADT) phase, and is 127 hours in length. The total course length is 235.5 hours. The effective start date is 1 Oct 2007. An additional 121.05 hours of study assignment is included in the training. This is required to train systems administration and network management. IDT and ADT; Phases I and II, cover the same training as the resident course, but with shorter hours; and based on student prior service experience; prior common tasks training; instructor to student ratio of one to sixteen; student to equipment ratio of one to one; and a maximum class size of sixteen.

(a) **Course ID number 03.** 113-25U10 IDT, Signal Support Systems Specialist Course. Active Duty and Reserve Component personnel assigned in or to be assigned to a unit position requiring reclassification to MOS 25U10. This training is Phase I of a dual-tracked course. Phase I training consist of IDT and is conducted at The Army School System (TASS) School Battalions. The 25U10 IDT Course length is 109 hours (2 weeks) and encompasses instruction in the use of Technical Manuals (TMs) and The Army Maintenance Management System (TAMMS); Test Measurement and Diagnostic Equipment (TMDE) techniques and procedures; system installation, integration, Unit Level Maintenance (ULM) and Force XXI Battle Command Brigade and Below (FBCB2) overview; Single Channel Ground and Airborne Radio System (SINCGARS), Combat Net Radios (CNR), tactical antenna systems, Mobile Subscriber Equipment (MSE) Mobile Subscriber Radio Terminal (MSRT) AN/VRC-97, Commercial Off The Shelf Computers (COTS), Local Area Networks (LAN); Standardized Integrated Command Post System (SICPS); and operation of secure retransmission stations (RETRANS) in a simulated tactical environment. IDT must be completed prior to entry into Phase II training.

Study Assignments. Phase I (IDT) consists of 121.05 hours of self-paced web based (distance learning) study assignments in which each student must complete before starting some classes. The study assignments are completed online through the SkillPort site at: https://usarmy.skillport.com . The study assignments will also be listed in each lesson plan; which must be completed in concurrence with and before starting some classes (modules) in IDT. See the Course Management Plan for detailed training sequence

(b) **Course ID number 04.** 113-25U10 ADT, Signal Support Systems Specialist Course. Active Duty and Reserve Component personnel assigned in or to be assigned to a unit position requiring reclassification to MOS 25U10 and who have completed 113-25U10 IDT Phase I. This course is Phase II of a dual-tracked course. ADT is contingent on the equipment

assigned to the unit. The 25U10 ADT Course length is 127 hours (2 weeks and 1 day) and encompasses instruction in the use of Technical Manuals (TMs) and The Army Maintenance Management System (TAMMS); Test Measurement and Diagnostic Equipment (TMDE) techniques and procedures; system installation, integration, Unit Level Maintenance (ULM) and troubleshooting of Army Tactical Command and Control Systems (ATCCS), Force XXI Battle Command Brigade and Below (FBCB2); Single Channel Ground and Airborne Radio System (SINCGARS), Combat Net Radios (CNR), tactical antenna systems, Mobile Subscriber Equipment (MSE) Mobile Subscriber Radio Terminal (MSRT) AN/VRC-97, Commercial Off The Shelf Computers (COTS), and Local Area Networks (LAN); Standardized Integrated Command Post System (SICPS); and operation of secure retransmission stations (RETRANS) in a simulated tactical environment.

b. SKILL LEVEL 2.

There is no resident training for MOS 25U Skill Level 2; however, the Primary Leadership Development Course (PLDC) is available to AC and RC Soldiers.

c. SKILL LEVEL 3.

(1) **Course ID Number 05**. 600-BNCOC (F) Phase 1, COMMON CORE. Signal Support Systems Specialist, BNCOC. This course is designed to provide leader and specialty training for Noncommissioned Officers at Skill Level three (3). The Course is divided into two phases. Phase I is a two (2) week, two (2) day course. The training utilizes Small Group Instruction to teach the theory and principles of battle focused common leader training and war-fighting skills required to lead a squad sized element in combat. Phase I, Common Core is a prerequisite to Course ID Number 101-25U30, Phase 2.

(2) Course ID Number 06. 101-25U30 version RES, Phase 2, Signal Support Systems Specialist – BNCOC comprises the technical phase. This resident course is twelve (12) weeks, two (2) days in duration for a total of 471 academic hours. It is taught at the U.S. Army Signal Center and Fort Gordon, which consists of government furnished equipment. During Phase 2 the NCO will receive technical training to develop necessary skills and knowledge needed to supervise subordinates. Career Management Field (CMF) training is designed to develop the NCOs' skills and knowledge to become tactically and technically proficient, and to successfully perform doctrinal war fighting roles in full spectrum operations in the Contemporary Operational Environment (COE). MOS specific tasks include Computer Technology, Communications Security (COMSEC) Awareness, AN/PSN-11 Precision Lightweight GPS Receiver (PLGR), and Combat Communications Planning. Systems installation, integration, Unit Level Maintenance (ULM), and troubleshooting of Tactical Satellites (TACSAT) to include the SATCOM Terminal (SPITFIRE), and the Single Channel Anti-jam Manportable (SCAMP) Terminal. Students will also receive digital training in the following systems: Army Battle Command System (ABCS), Maneuver Control Systems (MCS), Force XXI Battle Command Brigade-and-Below (FBCB2) and participate in a Field Training Exercise. The NCO will also receive training on the input of an Operation Order (OPORD), inspection of Unit Level Maintenance (ULM) of signal equipment, procedures on conducting an Operational Readiness Inspection and Antenna Systems An additional two (2) days of training has been approved. This added time is to be used to provide essential training on recognizing Improvised Explosive Devices (IED). Overall, this

training will provide the BNCOC graduate with the skills and knowledge required to train their subordinates and personnel in their supported units.

(3) **Course ID Number 07**. 101-25U30 versions MOB, Signal Support Systems Specialist BNCOC. The Mobilization course is eight (8) weeks, four (4) days in duration and is based on a 56-hour training week. The NCO will receive technical training to develop necessary skills and knowledge needed to supervise subordinates. Career Management Field (CMF) training is designed to develop the NCOs' skills and knowledge to become tactically and technically proficient, and to successfully perform doctrinal war fighting roles in full spectrum operations in the Contemporary Operational Environment (COE). MOS specific tasks include Computer Technology, Communications Security (COMSEC) Awareness, AN/PSN-11 Precision Lightweight GPS Receiver (PLGR), and Combat Communications Planning. Systems installation, integration, Unit Level Maintenance (ULM), and troubleshooting of Tactical Satellites (TACSAT) to include the SATCOM Terminal (SPITFIRE), and the Single Channel Anti-jam Manportable (SCAMP) Terminal. Students will also receive digital training in the following systems: Army Battle Command System (ABCS), Maneuver Control Systems (MCS), Force XXI Battle Command Brigade-and-Below (FBCB2) and participate in a Field Training Exercise. The NCO will also receive training on the input of an Operation Order (OPORD), inspection of Unit Level Maintenance (ULM) of signal equipment, procedures on conducting an Operational Readiness Inspection and Antenna Systems An additional two (2) days of training has been approved. This added time is to be used to provide essential training on recognizing Improvised Explosive Devices (IED). Overall, this training will provide the BNCOC graduate with the skills and knowledge required to train their subordinates and personnel in their supported units.

(4) Course ID Number 08. 101-25U30 version IDT (TATS), Signal Support Systems Specialist, BNCOC Reserve Component. This course is the same in content as the 25U30 BNCOC Resident course and is taught at the U.S. Army Signal Center and Fort Gordon and by TASS Battalions. It is configured to support Reserve and National Guard training requirements

for duration of two (2) weeks, consisting of 98 hours of Inactive Duty Training. The NCO will receive technical training to develop necessary skills and knowledge needed to supervise subordinates. Career Management Field (CMF) training is designed to develop the NCOs' skills and knowledge to become tactically and technically proficient, and to successfully perform doctrinal war fighting roles in full spectrum operations in the contemporary operational environment (COE). Training provides an overview of signal support systems integration, installation, operation, and maintenance techniques. This training also includes, computer technology; selecting radio sites; integration of battlefield automated systems, i.e., Force XXI Battle Command and Control Brigade and Below (FBCB2); Tactical Satellite Terminals (TACSAT), i.e., AN/PSC-11 SCAMP; Common Signal Subjects in the areas of Communications Security (COMSEC) Awareness and the AN/PSN-11 Precision Lightweight GPS Receiver (PLGR). The NCO will also receive training on the input of an Operation Order (OPORD), inspection of unit level maintenance of signal equipment, procedures on conducting an Operational Readiness Inspection, and Antenna Systems.

Study Assignments. Contained within this course is an additional 72 hours of study assignments. These assignments are completed online through the SkillPort site at:

https://usarmy.skillport.com. Reserve Soldiers are required to complete study assignments and results turned in to their course manager prior to the completion of BNCOC Technical Phase 2.

(5) **Course ID Number 09.** 101-25U30 version ADT (TATS), Signal Support Systems Specialist, BNCOC Reserve Component. This course is the same in content as the 25U30 BNCOC Resident course and is taught at the U.S. Army Signal Center and Fort Gordon and by TASS Battalions. It is configured to support Reserve and National Guard training requirements for duration of two (2) weeks and one (1) day, consisting of 115.5 hours of Active Duty Training. The NCO will receive technical training to develop necessary skills and knowledge needed to supervise subordinates. Career Management Specialty (CMF) training is designed to develop the NCOs' skills and knowledge to become tactically and technically proficient, and to successfully perform doctrinal war fighting roles in full spectrum operations in the contemporary operational environment (COE). Training provides an overview of signal support systems integration, installation, operation, and maintenance techniques. This training also includes, computer technology; selecting radio sites; integration of battlefield-automated systems, i.e., the Army Battle Command System (ABCS) and Maneuver Control System (MCS); Tactical Satellite Terminals (TACSAT), i.e., AN/PSC-5 SPITFIRE..

d. SKILL LEVEL 4

(1) **Course ID Number 10**. 101-25U40 version RES, Signal Support Systems Supervisor, ANCOC. This Resident course is designed to develop the skills and knowledge required to lead and train subordinates. This course is 14 weeks in duration for a total of 531 academic hours. This course is taught at the U.S. Army Signal Center and Fort Gordon and consists of government furnish equipment. Subject matter focuses on Leadership Development Techniques, Ethical Decision Making, and Lessons Learned. This training is updated by the proponent agency, Sergeants Major Academy. The ANCOC course comprises the technical training in the NCO Career Management Field (CMF) and is designed to develop the NCOs' skills and knowledge to become tactically and technically proficient as a Platoon Sergeant / Principle Signal Support System NCO. MOS specific tasks consist of The Army Maintenance Management System, Unit Level Logistics System, Automated Communications Engineering Software (ACES), Computer Literacy and Communications Security. Students receive digital training in the areas of the Army Battle Command Systems (ABCS) comprised of Force XXI Battle Command Brigade-and-Below (FBCB2), and Maneuver Control System (MCS). Army Tactical Communications Systems Tactical Satellites (TACSAT) composed of Integrated System Control (ISYSCON (V4), Single Channel Anti-Jam Manportable (SCAMP) Terminal, and the AN/PSC-5 (SPITFIRE). Additional training will cover Lessons Learned and the Army at War, Ethical Reasoning, Sexual Assault Prevention (SAP), and the Contemporary Operational Environment (COE). This training will provide the ANCOC graduate with the skills and knowledge required to train their subordinates and personnel in their supported units. An additional 3 days of training has been approved. This added time is to be used to increase digital training.

(2) **Course ID Number 11.** 101-25U40 version IDT (TATS), Signal Support Systems Supervisor, ANCOC. This course is the same in content as the 25U40 ANCOC Resident course and is taught at the U.S. Army Signal Center and Fort Gordon and by TASS Battalions. It is

configured to support Reserve and National Guard training requirements for duration of two (2) weeks and four (4) days, consisting of 160 hours of Inactive Duty Training. Subject matter focuses on Leadership Development Techniques, Ethical Decision Making and Lessons Learned. This course comprises the technical training in the NCO Career Management Field (CMF) and is designed to develop the NCOs' skills and knowledge to become tactically and technically proficient as a Platoon Sergeant/Principle Signal Support System NCO. MOS specific tasks consist of Computer Technology and Automated Communications Engineering Software (ACES). Students also receive digital training in the area of Force XXI Battle Command Brigade-and-Below (FBCB2) and Army Tactical Communications Systems Tactical Satellites (TACSAT) composed of the AN/PSC-11 Single Channel Anti-Jam Manportable (SCAMP) Terminal. The NCO will also receive training on the input of an Operation Order, inspection of unit level maintenance of signal equipment, procedures on conducting an Operational Readiness Inspection, and Antenna Systems. The NCO will also receive training on Planning of Combat Communications, FM Voice and Data Communication, and HF Systems. This training will provide the ANCOC graduate with the skills and knowledge required to train their subordinates and personnel in their supported units.

Study Assignments. Contained within this course are study assignments. These assignments are completed online through the SkillPort site at: https://usarmy.skillport.com. Reserve Component Soldiers are required to complete study assignments and results turned in to their course manager prior to the completion of the ANCOC course.

(3) Course ID Number 12. 101-25U40 version ADT (TATS), Signal Support Systems Supervisor, ANCOC. This course is the same in content as the 25U40 ANCOC Resident course and is taught at the U.S. Army Signal Center and Fort Gordon and by TASS Battalions. It is configured to support Reserve and National Guard training requirements for duration of two (2) weeks and one (1) day, consisting of 120 hours of Active Duty Training. Subject matter focuses on Leadership Development Techniques, Ethical Decision Making and Lessons Learned. This course comprises the technical training in the NCO Career Management Field (CMF) and is designed to develop the NCOs' skills and knowledge to become tactically and technically proficient as a Platoon Sergeant/Principle Signal Support System. MOS specific tasks consist of Computer Technology; Digital Training in the areas of the Army Battle Command System (ABCS) and Maneuver Control Systems (MCS), Army Tactical Communications Systems Tactical Satellites (TACSAT) composed of the AN/PSC-5 SPITFIRE. This training will provide the ANCOC graduate with the skills and knowledge required to train their subordinates and personnel in their supported units.

e. SKILL LEVEL 5.

There is no resident training for MOS 25U Skill Level 5. However, commanders may recommend selected personnel to attend the USA 1SG Course, Course Number 521-SQIM at Fort Bliss, TX. Also, individuals selected by an annual DA selection board may attend the Sergeants Major Academy at Fort Bliss, TX.

f. INDIVIDUAL READY RESERVE (IRR)

(1) **Course ID Number 13.** 101-25U10-IRR-REFR. Individual Ready Reserve (IRR) Refresher (REFR) Course. This is a four (4) week course conducted during mobilization for

Skill levels 1 or 2 soldiers who have been off of active duty for more than 24 months. Upon recall to active duty, IRR soldiers will be administered a diagnostic test to determine the amount of training required to allow them to perform at the required standards. Refresher training will include: system installation, integration; Unit Level Maintenance (ULM) and troubleshooting of Force XXI Battle Command Brigade and Below (FBCB2); Single Channel Ground and Airborne Radio System (SINCGARS); ANCD; Precision Lightweight Global Positioning Receiver (PLGR; Combat Net Radios (CNR); Commercial Off The Shelf Computers (COTS); Local Area Networks (LAN); computer systems administration and network management; and Enhanced Position Location Reporting System EPLRS. Equipment and facilities are shared with the 25U10 Resident Course.

(2) **Course ID Number 14.** 101-25U10-IRR-RTUP. Individual Ready Reserve (IRR) Rapid Train Up (RTUP) Course. This is a two (2) week course conducted during mobilization for IRR soldiers that have been off active duty for less than 24 months. Upon recall to active duty, IRR soldiers will be administered a diagnostic test to determine the amount of training required to allow them to perform at the required standards. Rapid Train-Up will include: system installation, integration, Unit Level Maintenance (ULM); troubleshooting of Force XXI Battle Command Brigade and Below (FBCB2); Single Channel Ground and Airborne Radio System (SINCGARS); ANCD; Precision Lightweight Global Positioning Receiver (PLGR); Combat Net Radios (CNR); Commercial Off The Shelf Computers (COTS); Local Area Networks (LAN); computer systems administration and network management; and Enhanced Position Location Reporting System EPLRS. Equipment and facilities are shared with the 25U10 Resident Course.

(3) **Course ID Number 15.** 101-25U30-IRR-REFR. Individual Ready Reserve (IRR) Refresher (REFR) Course. This is a four (4) week course conducted during mobilization for Skill level three (3) soldiers who have been off of active duty for more than 24 months. Upon recall to active duty, IRR soldiers will be evaluated to determine the amount of training required to allow them to perform at the required standards. Signal NCO Refresher training consists of technical training in the areas of Computer Technology, Tactical Communications Systems Tactical Satellites (TACSAT), Combat Communications Planning, and Digital Training on the Army Battle Command Systems. This training is designed to develop the NCO's skills and knowledge needed to supervise subordinates, become tactically and technically proficient, and to successfully perform doctrinal war fighting roles in full spectrum operations in the Contemporary Operational Environment (COE).

(4) **Course ID Number 16.** 101-25U30-IRR-RTUP. Individual Ready Reserve (IRR) Rapid Train Up (RTUP) training Course. This is a two (2) week course conducted during mobilization for Skill level three (3) IRR soldiers that have been off active duty for less than 24 months. Upon recall to active duty, IRR soldiers will be evaluated to determine the amount of training required to allow them to perform at the required standards. Signal NCO Rapid Train-Up will include technical training in the areas of Tactical Communications Systems Tactical Satellites (TACSAT), Combat Communications Planning, and Digital Training on the Army Battle Command Systems. This training is designed to develop the NCO's skills and knowledge needed to supervise subordinates, become tactically and technically proficient, and to

successfully perform doctrinal war fighting roles in full spectrum operations in the Contemporary Operational Environment (COE).

(5) **Course ID Number 17.** 101-25U40-IRR-REFR. Individual Ready Reserve (IRR) Refresher (REFR) Course. This is a four (4) week course conducted during mobilization for Skill level four (4) soldiers who have been off of active duty for more than 24 months. Upon recall to active duty, IRR soldiers will be evaluated to determine the amount of training required to allow them to perform at the required standards. Signal NCO Refresher training will include: Leadership Development Techniques, Ethical Decision Making and Lessons Learned. Technical training is provided in the areas of Computer Technology, Digital Training on the Army Battle Command Systems (ABCS), Tactical Communications Systems Tactical Satellites (TACSAT), the Automated Communications Engineering System (ACES), and Communications Systems Planning. This training is designed to develop the NCO's skills and knowledge needed to supervise subordinates and become tactically and technically proficient as a Platoon Sergeant / Principle Signal Support System NCO, in full spectrum operations in the Contemporary Operational Environment (COE).

(6) **Course ID Number 18.** 101-25U40-IRR-RTUP. Individual Ready Reserve (IRR) Rapid Train Up (RTUP) training Course. This is a two (2) week course conducted during mobilization for Skill level four (4) IRR soldiers that have been off active duty for less than 24 months. Upon recall to active duty, IRR soldiers will be evaluated to determine the amount of training required to allow them to perform at the required standards. Signal NCO Rapid Train-Up will include: Leadership Development Techniques, Ethical Decision Making and Lessons Learned. Technical training is provided in the areas of Digital Training on the Army Battle Command Systems (ABCS), Tactical Communications Systems Tactical Satellites (TACSAT), and the Automated Communications Engineering System (ACES). This training is designed to develop the NCO's skills and knowledge needed to supervise subordinates and become tactically and technically proficient as a Platoon Sergeant / Principle Signal Support System NCO, in full spectrum operations in the Contemporary Operational Environment (COE).

g. FUNCTIONAL COURSE

None

h. ADDITIONAL SKILL IDENTIFIER (ASI)

ASI J7, 25U30 level; White House Communications Agency.

i. MERGERS.

There are no plans for any MOS mergers involving MOS 25U in the foreseeable future.

j. SUSTAINMENT TRAINING.

Extension Training Material and Army Correspondence Course Program (ACCP) material is available for sustainment training. Revision of this course is dependent on available resources.

k. MULTIMEDIA TRAINING MATERIALS:

(1) Computer-based Training:

(a) Introduction to Combat Net Radios
(b) Introduction to TACSAT.
(c) Introduction to AN/CYZ-10 Automated Net Control Device
(d) Introduction to Precision Lightweight GPS Receiver (PLGR)
(e) Electrical Grounding Techniques
(f) Electronic Safety
(g) Electronic Fundamentals: Terms and Symbols
(h) Troubleshooting the AN/VIC-1 Vehicular Intercommunications Set
(i) Introduction to the AN/VIC-3, Vehicular Intercommunications Set
(j) Introduction to Soldering
(k) Technical Manuals
(l). COMSEC Awareness
(m) Antenna Systems
(n) Conduct Operational Readiness Inspection
(o) Select a Radio Retrans Site

(2) On World Wide Web:

(a) STP 11-31U14-SM-TG
(b) 101-31U10 AIT Course Lesson Plans
(c) Radio Wave Propagation
(d) All of the CBT programs listed above to include ANCD, EPLRS, FBCB2, MSRT, PLGR, SINCGARS, and TACSAT.
(e) https://usarmy.skillport.com

(3) T-NET Sessions Available

All lessons taught in 101-25U10 AIT Course.

4. TRAINING DELETED.

25U10:
Analog Terminal Devices
AN/GRC-160 radio
AN/VRC-12 series radios
Office 97
SINCGARS non-ICOM (replaced by SINCGARS ICOM and SINCGARS SIP)
Windows NT

Windows 95

POI RC-113-31U10(F) Signal Support Systems Specialist Reclassification course (TATS), Version 2

113-31U10 RC, Signal Support Systems Specialist
101-ACD-04 FBCB2 Functional Course

BNCOC:

Introduction to 31U30 BNCOC
Electronic Warfare
Threat to U.S. Forces
Branch History
Battlefield Damage Assessment and Repair (BDAR)
Wire Communications Planning
Develop Unit Level SOP
Inspect ULM on Communication Equipment
Provide Input to MCSR

ANCOC:

Introduction to 31U40 ANCOC
Integrate Historical Awareness and Critical Thinking
Electronic Warfare
Signal Support Responsibilities
Battlefield Damage Assessment and Repair (BDAR)
(All) ATCCS System
TAMMS
AN/VSQ-2 EPLRS
Retrans Site Selection and Management
Antenna Systems
Wire Communications Planning
ANCOC FTX

Appendix B
Individual Training Plan
COURSE MILESTONE SCHEDULE (CMS)

Section 1.01 CMS ID Number 01

Course Number 101-25U10		Course Type Code	06
Course Title: MOS Signal Support Systems Specialist		ITRO Code	Q
CMS Preparation Date 9/8/09		Contract Code	N

Events	1 (yymm)	2 (yymm)	3 (yymm)	4 (yymm)	5 (yymm)	6 (yymm)	7 (yymm)
1. Submit CAD	0511	0711	TBA	TBA	TBA	TBA	
2. Submit POI	0609	0809	TBA	TBA	TBA	TBA	
3. Course Implementation/ Revision Date	0710	0910	TBA	TBA	TBA	TBA	
4. Estimated Course Length	16W0D	16W0D	NA	NA	NA	NA	
5. Estimated Adjusted ICH	2398.4	2398.4	NA	NA	NA	NA	
6. Maximum Class Size	32	32	NA	NA	NA	NA	
7. Optimum Class Size	32	32	NA	NA	NA	NA	
8. Minimum Class Size	18	18	NA	NA	NA	NA	
9. Estimated Academic Hours	690.4	690.4	NA	NA	NA	NA	
10.Estimated Student Input	2880	2880	NA	NA	NA	NA	
11. Events Not Shown Above							
11(a).	Signal Corps Career Management Field (CMF) 31 changed o CMF 25 in FY05. 31U10 designator changed to MOS 25U10.						
11(b)	Added 40/9 warrior ethos tasks (148 academic hrs), to be evaluated in a Field Training Exercise (FTX) environment.						

Appendix B
Individual Training Plan
COURSE MILESTONE SCHEDULE (CMS)

Section 1.02 CMS ID Number 02

Course Number 101-25U10, MOB		Course Type Code	06
Course Title: MOS Signal Support Systems Specialist, Mobilization		ITRO Code	Q
CMS Preparation Date 9/8/09		Contract Code	N

Events	1 (yymm)	2 (yymm)	3 (yymm)	4 (yymm)	5 (yymm)	6 (yymm)	7 (yymm)
1. Submit CAD	0511	0711	TBA	TBA	TBA	TBA	
2. Submit POI	0609	0809	TBA	TBA	TBA	TBA	
3. Course Implementation/ Revision Date	0710	0910	TBA	TBA	TBA	TBA	
4. Estimated Course Length	11W3D	11W3D	NA	NA	NA	NA	NA
5. Estimated Adjusted ICH	2,398.4	2398.4	NA	NA	NA	NA	NA
6. Maximum Class Size	32	32	NA	NA	NA	NA	NA
7. Optimum Class Size	32	32	NA	NA	NA	NA	NA
8. Minimum Class Size	18	18	NA	NA	NA	NA	NA
9. Estimated Academic Hours	690.4	690.4	NA	NA	NA	NA	NA
10.Estimated Student Input			NA	NA	NA	NA	NA
11. Events Not Shown Above:							
11(a).	Signal Corps Career Management Field (CMF) 31 changed o CMF 25 in FY05. 31U10 designator changed to MOS 25U10.						
11(b).	Added 40/9 warrior ethos tasks, to be evaluated in a Field Training Exercise (FTX) environment.						

Appendix B
Individual Training Plan
COURSE MILESTONE SCHEDULE (CMS)

Section 1.03 CMS ID Number 03

Course Number 113-25U10-IDT		Course Type Code	07
Course Title: MOS 25U, Signal Support Systems Specialist, IDT		ITRO Code	Q
CMS Preparation Date 9/8/09		Contract Code	N

Events	1 (yymm)	2 (yymm)	3 (yymm)	4 (yymm)	5 (yymm)	6 (yymm)	7 (yymm)
1. Submit CAD	N/A	N/A	TBA	TBA	TBA	TBA	TBA
2. Submit POI	0611	TBA	TBA	TBA	TBA	TBA	TBA
3. Course Implementation/ Revision Date	0710	TBA	TBA	TBA	TBA	TBA	TBA
4. Estimated Course Length	2W0D	2W0D	NA	NA	NA	NA	NA
5. Estimated Adjusted ICH	190	190	NA	NA	NA	NA	NA
6. Maximum Class Size	16	16	NA	NA	NA	NA	NA
7. Optimum Class Size	16	16	NA	NA	NA	NA	NA
8. Minimum Class Size	8	8	NA	NA	NA	NA	NA
9. Estimated Academic Hours	109	109	NA	NA	NA	NA	NA
10.Estimated Student Input			NA	NA	NA	NA	NA
11. Events Not Shown Above:							
11(a).	Student will have 117.5 hours of Study Assignment during IDT.						
11(b).	Signal Corps Career Management Field (CMF) 31 changed o CMF 25 in FY05. 31U10 designator changed to MOS 25U10.						

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Individual Training Plan
COURSE MILESTONE SCHEDULE (CMS)

Section 1.04 CMS ID Number 04

Course Number 113-25U10-ADT		Course Type Code	07
Course Title: MOS 25U, Signal Support Systems Specialist, ADT		ITRO Code	Q
CMS Preparation Date 9/8/09		Contract Code	N

Events	1 (yymm)	2 (yymm)	3 (yymm)	4 (yymm)	5 (yymm)	6 (yymm)	7 (yymm)
1. Submit CAD	N/A	N/A	TBA	TBA	TBA	TBA	TBA
2. Submit POI	0611	TBA	TBA	TBA	TBA	TBA	TBA
3. Course Implementation/ Revision Date	0710	TBA	TBA	TBA	TBA	TBA	TBA
4. Estimated Course Length	2W1D	2W1D	NA	NA	NA	NA	
5. Estimated Adjusted ICH	249.3	249.3	NA	NA	NA	NA	
6. Maximum Class Size	16	16	NA	NA	NA	NA	
7. Optimum Class Size	16	16	NA	NA	NA	NA	
8. Minimum Class Size	8	8	NA	NA	NA	NA	
9. Estimated Academic Hours	127.0	127.0	NA	NA	NA	NA	
10.Estimated Student Input			NA	NA	NA	NA	
11. Events Not Shown Above:							
11(a).	Students must complete 113-25U10 IDT (Phase I) prior to attendance.						
11(b).	Signal Corps Career Management Field (CMF) 31 changed o CMF 25 in FY05. 31U10 designator changed to MOS 25U10						

Appendix C
Program of Instruction

Course: 101-25U30 **Version:** RES3 **Delivery Group:** B **Phase:** 2
Course Name: Signal Support Systems Specialist (BNCOC)
Management Category: Resident **Preparation Date:** 14 Jun 2005
Status: Commandant Approved **Optimum Class Size:** 32

Program of Instruction Cover Page

Total Computed Academic Hours: 414.3

Fiscal Year: 2006 **Fiscal Year Quarter:** 1

Status Change Date: 14 Jun 2005

Approval Date: 30 Jun 2005

Approval Authority: Roderick D. Johnson
CSM, USA
Commandant

MACOM Validation Date:

Manpower Validation Date:

Course Supersession Information: This POI supersedes 101-25U30 POI dated 1 Feb 2005.

Phase Supersession Information: This POI supersedes 101-25U30 POI dated 1 October 2005.

Foreign Disclosure: FD2. The materials contained in this course have been reviewed by the course developers in coordination with the USASC&FG, Fort Gordon, GA foreign disclosure authority. This course is releasable to military students from foreign countries on a case-by-case basis. Foreign countries desiring to place students in this course must meet one or more of the following criteria: (1) Own (a specific piece of equipment); (2) Have a signed Letter of Intent (LOI); (3) Have waiver from HQDA; (4) Have USG release for training; (5) etc.

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Program of Instruction

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Program of Instruction

Preface Page

Fiscal Year: 2006 **Fiscal Year Quarter:** 1

Status: Commandant Approved

Status Change Date: 14 Jun 2005

Training Location(s): (113) Signal Center and School
(613) NCO ACADEMY - FT GORDON

Specialty: E25U30 Signal Support Systems Specialist (New as of 2004-04-01 / 0304-21/A)

Supporting ITP: 25U Signal Support Systems Specialist

TATS-Course: No

Purpose: To provide training to 25U BNCOC students in technical techniques, leadership skills, and procedures required for a 25U Noncommissioned Officer at Skill Level 3. The Technical Phase includes the training of signal systems installation, integration, troubleshooting and unit level maintenance (ULM), including digital battlefield and automated signal support systems; equipment and emplacement doctrine which supports Information Technology.

Course Scope: 25U BNCOC students will receive training in leadership, communication skills, training management, common signal subjects, and computer technology. MOS specific tasks include Communications Security (COMSEC), AN/PSN-11 Precision Lightweight GPS Receiver (PLGR); Tactical Satellites (TACSAT) to include the AN/PSC-5 SPITFIRE Tactical Ground Terminal and the AN/PSC-11 Single Channel Anti-jam Manportable (SCAMP) Terminal; and the AN/PRC-150 Tactical High Frequency Radio System. Digital training consists of the Army Battle Command System (ABCS), Force XXI Battle Command Brigade-and-Below (FBCB2) System, and Maneuver Control System (MCS). Additional training incorporated include Contemporary Operation Environment (COE) and Improvised Explosive Devices (IED). Students will also participate in a Field Training Exercise. This training will provide the BNCOC graduate with the skills and knowledge required to train their subordinates and personnel in their supported units.

Phase Scope: 25U BNCOC students will receive training in leadership, communication skills, training management, common signal subjects, and computer technology. MOS specific tasks include Tactical Satellites Communications, ABCS Systems, and Combat Communication Planning. Additional training incorporated includes Contemporary Operation Environment (COE) and Improvised Explosive Devices (IED). Students will also participate in a Field Training Exercise. This training

will provide the BNCOC graduate with the skills and knowledge required to train their subordinates and personnel in their supported units.

Course Prerequisites: Active Army or Reserve Component Personnel selected by PERSCOM (Active Component Army) or recommended by unit commander (Reserve Component). Qualified in MOS 25U, meets requirements outlined in AR 351-1, paragraph 3-7 through 3-9 and paragraph 3-44. Active and Reserve soldiers over 40 must complete the required medical screening and receive status prior to attending. Only SSG's and promotable SGT's may attend and should have successfully completed PLDC or its equivalent at least 6 months prior to scheduled attendance, unless promoted prior to linkage of NCOES to promotion. Successful completion of Phase I, Basic Noncommissioned Officer Common Core Training (BNCOC) prior to attendance.

Phase Prerequisites: Successful completion of 600 BNCOC, Phase I Common Core.

Special Information: The Computer Technology lessons listed below are developed by School of Information Technology (SIT) and taught by SIT instructors. However, Instructor to Student ratios may not be met by SIT as required by TRADOC Regulation 350-1 0 for NCOES training .

Networking Essentials
TCP/IP
Windows
UNIX
Routers
TIMS

Security Clearance: Unclassified

Course Length– Weeks: 12 **Days:** 2 **Hours:** 0

Computed ICH: 1,402.7

Adjusted TOMA ICH: 0.0

Adjusted MRAD ICH: 0.0

Class Sizes – Optimum: 32 **Minimum:** 20 **Maximum:** 32

Academic Hours	Computed	Adjusted
Unique:	414.3	
Shared:		
Total:		

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Estimated Flight Hours: 0

Validation Code:

Manpower Estimate: 0

Hours Developed by Others: 0

Hours Conducted by Others: 0

Course Type Code: 09 Enlisted Career Development

ITRO Code: QQuota Course/Non-ITRO

Contract Code: N Not a Contract Course

MACOM Validation Date:

Manpower Validation Date:

Training Start Date: 01 Oct 2005

	Proponent
Design and Development:	Signal Center and School (113)
Instructor Provided Support:	Signal Center and School (113)
Army Course Proponent:	Signal Center and School (113)
Training Evaluation Proponent:	Signal Center and School (113)

Course Remarks: Course times are based on a 37 hour training week.

Phase Remarks:

MRAD Remarks:

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Program of Instruction
Course Summary

Academic Time:

Module: A / 001	288.3
Title: Computer Technology	
Module: B / 001	62.0
Title: TACSAT	
Module: C / 001	41.4
Title: ABCS	
Module: D / 001	12.7
Title: Common Signal Subjects	
Module: E / 001	9.9
Title: Combat Communications Planning	
Total:	414.3

Administrative Time:

None.	
Total:	0.0
Grand Total:	414.3

Academic Hours by Security Classification:

Unclassified	414.3
Total:	414.3

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Training Module

Module: A / 001

Title: Computer Technology

Purpose: This module familiarizes students with the history of computers and teaches them computer functions through Networking Essentials; Netting and Sub-netting through TCP/IP; Install, Operate and Maintain Cisco Routers, Introduction to Windows 2003 Operating Systems and the Unix Operating System. Students will also receive a portion of digital training through Tactical Internet Management (TIMS) and Force XXI Battle Command Brigade and Below (FBCB2).

Remarks: Module is the first Module taught for this course. Lesson 25U3C4L1, FBCB2 is the first lesson taught and tested in Module A by the BNCOC SGL. The remaining Computer Technology lessons are taught by the School of Information Technology (SIT) instructors.

Technique(s) of Delivery:	**Hours**
Large Group Instruction (GP)	288.3
Total Hours (Admin & Academic)	288.3

Lesson Id / Version	**Technique of Delivery**	**Hours**	**Method of Instruction**
NEP13B / B05D	(GP) Large Group Instruction		
	Introduction:	0.1	(CO) Conference / Discussion
		0.7	(CO) Conference / Discussion
		1.2	(CO) Conference / Discussion
	Summary:	0.1	(CO) Conference / Discussion
	Total:	2.1	

Security Clearance: Unclassified

Lesson Title: Network Management and Security

Action Text: Identify the means to provide network management and security.

Remarks:

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Lesson Id / Version	Technique of Delivery	Hours	Method of Instruction
NEPCTB / B05D	(GP) Large Group Instruction		
	Introduction:	0.1	(CO) Conference / Discussion
		0.2	(CO) Conference / Discussion
		1.6	(TE) Test
		0.4	(TR) Test Review
	Summary:	0.1	(CO) Conference / Discussion
	Total:	2.4	

Security Clearance: Unclassified

Lesson Title: Network Plus Fundamentals Examination

Action Text: Identify various network topologies, network hardware, router configurations, TCP/IP addressing, and network fundamentals.

Remarks:

Lesson Id / Version	Technique of Delivery	Hours	Method of Instruction
25U3C4L1 / 3	(GP) Large Group Instruction		
	Introduction:	0.2	(CO) Conference / Discussion
		2.8	(CO) Conference / Discussion
		1.1	(CP) Conference/Practical Exercise
		8.5	(DP) Demonstration/Practical Exercise (Hands-on)
		23.3	(PE) Practical Exercise (Performance)
	Summary:	0.1	(CO) Conference / Discussion
	Total:	36.0	

Security Clearance: Unclassified

Lesson Title: Force XXI Battle Command Brigade-and-Below (FBCB2) (v3.5)

Action Text: Operate the FBCB2 System

Remarks: Lesson sequence # 01; FBCB2 is first class given by ANCOC SGL/Students in Module A. Multimedia for this lesson is shared with 25U40 ANCOC.

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Mandatory Training Module

None.

Examination Module

Module: A / 001

Title: Computer Technology

Purpose: This module familiarizes students with the history of computers and teaches them computer functions through Networking Essentials; Netting and Sub-netting through TCP/IP; Install, Operate and Maintain Cisco Routers, Introduction to Windows 2003 Operating Systems and the Unix Operating System. Students will also receive a portion of digital training through Tactical Internet Management (TIMS) and Force XXI Battle Command Brigade and Below (FBCB2).

Remarks: Module is the first Module taught for this course. Lesson 25U3C4L1, FBCB2 is the first lesson taught and tested in Module A by the BNCOC SGL. The remaining Computer Technology lessons are taught by the School of Information Technology (SIT) instructors.

Lesson Id / Version	Technique of Delivery	Hours	Method of Instruction
25U3C4CT / 3	(GP) Large Group Instruction		
		4.0	(TE) Test
	Total:	4.0	

Security Clearance for Exam/Test: Unclassified

Lesson Title: FBCB2 Exam/AAR (CTI)

Action Text: Demonstrate skill and performance knowledge on the Force XXI Battle Command and Control, Brigade and Below (FBCB2) System.

Remarks: Lesson sequence # 02; FBCB2 Exam is given after FBCB2 Lesson and prior to giving the next lesson in Module A.

Lesson Id / Version	Technique of Delivery	Hours	Method of Instruction
2KSRVCTB / B05C	(GP) Large Group Instruction		
		1.0	(TE) Test
	Total:	1.0	

Security Clearance for Exam/Test: Unclassified

Lesson Title: Windows 2003 Server Examination

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Program of Instruction

Action Text: Windows 2000 Server Exam

Remarks:

Lesson Id / Version	Technique of Delivery	Hours	Method of Instruction
NEPCTB / B05D	(GP) Large Group Instruction		
		1.6	(TE) Test
	Total:	1.6	

Security Clearance for Exam/Test: Unclassified

Lesson Title: Network Plus Fundamentals Examination

Action Text: Identify various network topologies, network hardware, router configurations, TCP/IP addressing, and network fundamentals.

Individual Task Summary - Lessons

Task	Title	Lesson / Ver	Critical Task
052-192-1269	Detect Explosive-Hazard Indicators by Visual Means	RNCOAIED / 1	Yes
071-329-1006	NAVIGATE FROM ONE POINT ON THE GROUND TO ANOTHER POINT WHILE DISMOUNTED	25U3D3CT / 3	Yes
		25U3D2L1 / 3	Yes
113-382-7001	Implement Army Battlefield Command Systems (ABCS) in a Non-Signal Unit	TIMS09B / B05C	Yes
		TIMS13B / B05C	Yes
		TIMS17B / B05C	Yes
113-496-8001	Perform Local Area Network (LAN) Administration of Army Battlefield Computer Systems (ABCS)/Automated Information Systems (AIS) at Echelons Above Corps (EAC)	TIMS11B / B05C	Yes
		TIMS05B / B05C	Yes
113-498-8001	Perform System Administration of Army Battlefield Computer Systems (ABCS)/Automated Information Systems (AIS) at Echelons Above Corps (EAC)	TIMSCTB / B05C	Yes

		TIMS20B / B05C	Yes
		TIMS19B / B05C	Yes
113-580-0056	Troubleshoot Local Area Network (LAN)	NEP01B / B05D	Yes
113-580-1001	Construct a Cable	NEPCTB / B05D	Yes
		NEP03B / B05D	Yes
113-580-1031	Prepare a Microcomputer System for Operation	TCPIPCTB / B05C	Yes
		TCPIP16B / B05C	Yes
		TCPIP14B / B05C	Yes
		TCPIP11B / B05C	Yes
		TCPIP10B / B05C	Yes
		TCPIP08B / B05C	Yes
		TCPIP05B / B05C	Yes

Ammunition Summary - Lesson

None

Facilities Summary - Lessons

Facility Id: 17120 **Unit of Measure:** Square Feet

Nomenclature: General Instruction Building

Lesson / Version	Step	Facility Quantity	Student Ratio	Setup Hours	Cleanup Hours	Instruction Hours	Facility Hours
RNCOAIED / 1	TLO	1	1:16	0.0	0.0	1.8	1.8
Lesson Total:				**0.0**	**0.0**	**1.8**	**1.8**
Facility Total:				**0.0**	**0.0**	**1.8**	**1.8**

Appendix C
Program of Instruction

Facility Id: 17120-1500-32 **Unit of Measure:** Square Feet

Nomenclature: CLASSROOM, GEN PURPOSE, 16 PERSON

Lesson / Version	Step	Facility Quantity	Student Ratio	Setup Hours	Cleanup Hours	Instruction Hours	Facility Hours
25U3B1CT / 3	TLO	1	1:32	0.0	0.0	3.0	3.0
Lesson Total:				**0.0**	**0.0**	**3.0**	**3.0**

Remarks: TLO Facility is shared with 25U30 BNCOC. Optimum class size for 25U30 is 32.

25U3B1L1 / 3	TLO	1	1:32	0.0	0.0	33.3	33.3
Lesson Total:				**0.0**	**0.0**	**33.3**	**33.3**

Remarks: TLO Facility is shared with 25U40 ANCOC.

25U3B2L1 / 3	TLO	1	1:32	0.0	0.0	19.8	19.8
Lesson Total:				**0.0**	**0.0**	**19.8**	**19.8**

Remarks: TLO This facility is shared w/ 25U40 ANCOC

25U3B4CT / 4	TLO	1	1:32	0.0	0.0	4.2	4.2
Lesson Total:				**0.0**	**0.0**	**4.2**	**4.2**

Remarks: TLO This facility is shared w/ 25U40 ANCOC

25U3C1L1 / 3	TLO	1	1:32	0.0	0.0	2.3	2.3
Lesson Total:				**0.0**	**0.0**	**2.3**	**2.3**

Remarks: TLO This facility is shared w/ 25U40 ANCOC.

25U3C2L1 / 3	TLO	1	1:32	0.0	0.0	33.6	33.6
Lesson Total:				**0.0**	**0.0**	**33.6**	**33.6**

Remarks: TLO Facility is shared with 25U40 ANCOC.

25U3C3CT / 3	TLO	1	1:32	0.0	0.0	4.2	4.2
Lesson Total:				**0.0**	**0.0**	**4.2**	**4.2**

Remarks: TLO Facility is shared with 25U40 ANCOC.

25U3C4CT / 3	TLO	1	1:32	0.0	0.0	4.2	4.2
Lesson Total:				**0.0**	**0.0**	**4.2**	**4.2**

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Program of Instruction

Lesson / Version	Step	Facility Quantity	Student Ratio	Setup Hours	Cleanup Hours	Instruction Hours	Facility Hours
Remarks: TLO This facility is shared w/ 25U40 ANCOC							
25U3C4L1 / 3	TLO	1	1:32	0.0	0.0	35.7	35.7
Lesson Total:				**0.0**	**0.0**	**35.7**	**35.7**
Remarks: TLO Facility is shared with 25U40 ANCOC							
25U3D2L1 / 3	TLO	1	1:32	0.0	0.0	7.8	7.8
Lesson Total:				**0.0**	**0.0**	**7.8**	**7.8**
Remarks: TLO This facility is shared w/ 25U40 ANCOC							
25U3D3CT / 3	TLO	1	1:32	0.0	0.0	2.2	2.2
Lesson Total:				**0.0**	**0.0**	**2.2**	**2.2**
25U3D4L1 / 1	TLO	1	1:32	0.0	0.0	1.7	1.7
Lesson Total:				**0.0**	**0.0**	**1.7**	**1.7**
25U3E1L1 / 3	TLO	1	1:32	0.0	0.0	2.0	2.0
Lesson Total:				**0.0**	**0.0**	**2.0**	**2.0**
25U3E2L1 / 3	TLO	1	1:32	0.0	0.0	2.0	2.0
Lesson Total:				**0.0**	**0.0**	**2.0**	**2.0**
25U3E3CT / 3	TLO	1	1:32	0.0	0.0	0.8	0.8
Lesson Total:				**0.0**	**0.0**	**0.8**	**0.8**
Facility Total:				**0.0**	**0.0**	**156.8**	**156.8**

Facility Id: 17120-73370-30 **Unit of Measure:** Square Feet

Nomenclature: GEN INST BLDG, 73370 SF, 30 PN

Lesson / Version	Step	Facility Quantity	Student Ratio	Setup Hours	Cleanup Hours	Instruction Hours	Facility Hours
NEP01B / B05D	TLO	1	1:18	0.0	0.0	4.8	4.8
Lesson Total:				**0.0**	**0.0**	**4.8**	**4.8**
NEP02B / B05D	TLO	1	1:18	0.0	0.0	4.4	4.4
Lesson Total:				**0.0**	**0.0**	**4.4**	**4.4**
NEP03B / B05D	TLO	1	1:18	0.0	0.0	4.9	4.9
Lesson Total:				**0.0**	**0.0**	**4.9**	**4.9**

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Program of Instruction

Lesson / Version	Step	Facility Quantity	Student Ratio	Setup Hours	Cleanup Hours	Instruction Hours	Facility Hours
NEP04B / B05D	TLO	1	1:18	0.0	0.0	5.5	5.5
	Lesson Total:			**0.0**	**0.0**	**5.5**	**5.5**
NEP05B / B05D	TLO	1	1:18	0.0	0.0	2.3	2.3
	Lesson Total:			**0.0**	**0.0**	**2.3**	**2.3**
NEP06B / B05D	TLO	1	1:18	0.0	0.0	2.0	2.0
	Lesson Total:			**0.0**	**0.0**	**2.0**	**2.0**
NEP07B / B05D	TLO	1	1:18	0.0	0.0	6.6	6.6
	Lesson Total:			**0.0**	**0.0**	**6.6**	**6.6**
NEP08B / B05D	TLO	1	1:18	0.0	0.0	2.8	2.8
	Lesson Total:			**0.0**	**0.0**	**2.8**	**2.8**
NEP13B / B05D	ELO A	1	1:18	0.0	0.0	2.5	2.5
	Lesson Total:			**0.0**	**0.0**	**2.5**	**2.5**
NEPCTB / B05D	TLO	1	1:18	0.0	0.0	2.2	2.2
	Lesson Total:			**0.0**	**0.0**	**2.2**	**2.2**
	Facility Total:			**0.0**	**0.0**	**38.0**	**38.0**

Equipment Summary - Lessons

Expendable:

NSN (LIN): 113-74-02-1801 (ZX7030) Norton Utilities, Virus Detection Software

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
2KSRV01B / B05C	TLO	1:1	32	5	0	37	0.0	0.0
	Lesson Total:		**32**	**5**	**0**	**37**	**0.0**	**0.0**
ROUT01B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
ROUT04B / B05C	TLO (4)	1:1	32	0	20	52	0.0	0.0

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Program of Instruction

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
ROUT05B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
	NSN (LIN) Total:		**384**	**7**	**202**	**593**	**0.0**	**0.0**

NSN (LIN): 113-74-03-2003 Microsoft Windows 98 Upgrade Version

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
ROUT01B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
ROUT04B / B05C	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**64**	**0**	**40**	**104**	**0.0**	**0.0**
ROUT05B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
ROUT07B / B05C	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	TLO (6)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**128**	**0**	**80**	**208**	**0.0**	**0.0**
ROUT08B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**64**	**0**	**40**	**104**	**0.0**	**0.0**
	NSN (LIN) Total:		**320**	**0**	**200**	**520**	**0.0**	**0.0**

NSN (LIN): 113-74-04-1002 (ZX7035) 10Base5 (CAT 3) Shielded Coax THICKNET

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
TIMS01B / B05C	TLO	1:1	32	2	1	35	0.0	0.0
	Lesson Total:		**32**	**2**	**1**	**35**	**0.0**	**0.0**
TIMSCTB / B05C	TLO	1:1	32	2	1	35	0.0	0.0
	Lesson Total:		**32**	**2**	**1**	**35**	**0.0**	**0.0**
	NSN (LIN) Total:		**672**	**42**	**21**	**735**	**0.0**	**0.0**

NSN (LIN): 113-74-05-2002 (ZX7035) Router, CISCO 2600 w/serial interface card

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
ROUT01B / B05C	TLO (1)	1:20	2	0	0	2	0.0	0.0

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Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
	Lesson Total:		**2**	**0**	**0**	**2**	**0.0**	**0.0**
ROUT07B / B05C	TLO (5)	1:1	32	0	20	52	0.0	0.0
	TLO (6)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**64**	**0**	**40**	**104**	**0.0**	**0.0**
ROUT08B / B05C	TLO (2)	1:20	2	0	1	3	0.0	0.0
	Lesson Total:		**2**	**0**	**1**	**3**	**0.0**	**0.0**
	NSN (LIN) Total:		**68**	**0**	**41**	**109**	**0.0**	**0.0**

NSN (LIN): 7690-01-229-7516 CCI LABEL, KYK-13

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
25U3B1CT / 3	TLO	1:8	4	4	0	8	0.0	0.0
	Lesson Total:		**4**	**4**	**0**	**8**	**0.0**	**0.0**

Remarks: TLO Equipment is shared between RNCOA, 369th and 442 SIG BNs.

25U3B1L1 / 3	TLO	1:8	4	4	0	8	0.0	0.0
	Lesson Total:		**4**	**4**	**0**	**8**	**0.0**	**0.0**

Remarks: TLO Equipment is shared between RNCOA, 369th and 442 SIG BN.

	NSN (LIN) Total:		**8**	**8**	**0**	**16**	**0.0**	**0.0**

NSN (LIN): C2000 (C77619) Computer, Desktop

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
2KSRV02B / B05C	TLO	1:1	32	0	0	32	0.0	0.0
	Lesson Total:		**32**	**0**	**0**	**32**	**0.0**	**0.0**
2KSRV04B / B05C	TLO	1:1	32	0	1	33	0.0	0.0
	Lesson Total:		**32**	**0**	**1**	**33**	**0.0**	**0.0**
	Lesson Total:		**32**	**0**	**1**	**33**	**0.0**	**0.0**
	NSN (LIN) Total:		**928**	**2**	**37**	**967**	**0.0**	**0.0**

NSN (LIN): DC8905 CHAIR

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
25U3B1CT / 3	TLO	1:1	32	4	0	36	0.0	0.0
	Lesson Total:		**32**	**4**	**0**	**36**	**0.0**	**0.0**
25U3B1L1 / 3	TLO	1:1	32	4	0	36	0.0	0.0
	Lesson Total:		**32**	**4**	**0**	**36**	**0.0**	**0.0**
	Lesson Total:		**64**	**2**	**1**	**67**	**0.0**	**0.0**
TIMSCTB / B05C	TLO	2:1	64	2	1	67	0.0	0.0
	Lesson Total:		**64**	**2**	**1**	**67**	**0.0**	**0.0**

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Program of Instruction

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
NSN (LIN) Total:			**3,936**	**220**	**466**	**4,622**	**0.0**	**0.0**

NSN (LIN): GO7020 (GO7020) Industry Standard Professional Computer

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
25U3B1CT / 3	TLO (1)	1:1	32	4	0	36	0.0	4.8
	Lesson Total:		**32**	**4**	**0**	**36**	**0.0**	**4.8**
25U3B1L1 / 3	TLO	1:1	32	4	0	36	0.0	36.0
	Lesson Total:		**32**	**4**	**0**	**36**	**0.0**	**36.0**

Training Support Equipment - Lessons

Expendable:

NSN (LIN): 113-74-02-1801 (ZX7030) Norton Utilities, Virus Detection Software

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
ROUT02B / B05C	TLO (2)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
ROUT03B / B05C	TLO (3)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
ROUT04B / B05C	TLO (2)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
UNIX02B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	TLO (6)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**192**	**0**	**120**	**312**	**0.0**	**0.0**
UNIX03B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	TLO (6)	1:1	32	0	20	52	0.0	0.0

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Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
	TLO (7)	1:1	32	0	20	52	0.0	0.0
	TLO (8)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**256**	**0**	**160**	**416**	**0.0**	**0.0**
UNIX04B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**160**	**0**	**100**	**260**	**0.0**	**0.0**
	NSN (LIN) Total:		**704**	**0**	**440**	**1,144**	**0.0**	**0.0**

NSN (LIN): 113-74-03-2003 Microsoft Windows 98 Upgrade Version

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
ROUT02B / B05C	TLO (2)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
ROUT03B / B05C	TLO (3)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
	NSN (LIN) Total:		**64**	**0**	**40**	**104**	**0.0**	**0.0**

NSN (LIN): 6730-00-753-5235 (S58765) SCREEN, PROJECTOR, MDL BM-23A 96X96

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
NEP05B / B05D	TLO		0	0	1	1	0.0	2.5
	TLO		0	0	1	1	0.0	2.5
	Lesson Total:		**0**	**0**	**2**	**2**	**0.0**	**5.0**
NEP07B / B05D	TLO		0	0	1	1	0.0	6.8
	TLO		0	0	1	1	0.0	6.8
	Lesson Total:		**0**	**0**	**2**	**2**	**0.0**	**13.6**
NEP08B / B05D	TLO		0	0	1	1	0.0	3.0
	TLO		0	0	1	1	0.0	3.0
	Lesson Total:		**0**	**0**	**2**	**2**	**0.0**	**6.0**
NEP13B / B05D	ELO A		0	0	1	1	0.0	2.7
	ELO A		0	0	1	1	0.0	2.7
	Lesson Total:		**0**	**0**	**2**	**2**	**0.0**	**5.4**
NEPCTB / B05D	TLO		0	0	1	1	0.0	2.4
	TLO		0	0	1	1	0.0	2.4
	Lesson Total:		**0**	**0**	**2**	**2**	**0.0**	**4.8**
ROUT03B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0

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Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
	TLO (1)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**64**	**0**	**40**	**104**	**0.0**	**0.0**
UNIX02B / B05C	TLO (1)	1:20	2	0	1	3	0.0	0.0
	TLO (1)	1:20	2	0	1	3	0.0	0.0
	Lesson Total:		**4**	**0**	**2**	**6**	**0.0**	**0.0**
UNIX03B / B05C	TLO (1)	1:20	2	0	1	3	0.0	0.0
	TLO (1)	1:20	2	0	1	3	0.0	0.0
	Lesson Total:		**4**	**0**	**2**	**6**	**0.0**	**0.0**
Remarks: TLO (1) 14.0 TLO (1) 14.0								
UNIX04B / B05C	TLO (1)	1:20	2	0	1	3	0.0	0.0
	TLO (1)	1:20	2	0	1	3	0.0	0.0
	TLO (2)	1:20	2	0	1	3	0.0	0.0
	TLO (2)	1:20	2	0	1	3	0.0	0.0
	Lesson Total:		**8**	**0**	**4**	**12**	**0.0**	**0.0**
	NSN (LIN) Total:		**80**	**0**	**58**	**138**	**0.0**	**34.8**

NSN (LIN): 701000T025678 (90915N) PROJECTOR, DESKTOP MDL

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
NEP05B / B05D	TLO		0	0	1	1	0.0	2.5
	Lesson Total:		**0**	**0**	**1**	**1**	**0.0**	**2.5**
NEP07B / B05D	TLO		0	0	1	1	0.0	6.8
	Lesson Total:		**0**	**0**	**1**	**1**	**0.0**	**6.8**
NEP08B / B05D	TLO		0	0	1	1	0.0	3.0
	Lesson Total:		**0**	**0**	**1**	**1**	**0.0**	**3.0**
NEP13B / B05D	ELO A		0	0	1	1	0.0	2.7
	Lesson Total:		**0**	**0**	**1**	**1**	**0.0**	**2.7**
NEPCTB / B05D	TLO		0	0	1	1	0.0	2.4
	Lesson Total:		**0**	**0**	**1**	**1**	**0.0**	**2.4**
ROUT03B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
UNIX02B / B05C	TLO (1)	1:20	2	0	1	3	0.0	0.0
	Lesson Total:		**2**	**0**	**1**	**3**	**0.0**	**0.0**
UNIX03B / B05C	TLO (1)	1:20	2	0	1	3	0.0	0.0
	Lesson Total:		**2**	**0**	**1**	**3**	**0.0**	**0.0**
UNIX04B / B05C	TLO (1)	1:20	2	0	1	3	0.0	0.0
	TLO (2)	1:20	2	0	1	3	0.0	0.0

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Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
	Lesson Total:		**4**	**0**	**2**	**6**	**0.0**	**0.0**
	NSN (LIN) Total:		**40**	**0**	**29**	**69**	**0.0**	**17.4**

NSN (LIN): 701000T205000 (ZX7037) COMPUTER, PENT PROCESSOR

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
NEP05B / B05D	TLO	1:1	32	0	1	33	0.0	2.5
	Lesson Total:		**32**	**0**	**1**	**33**	**0.0**	**2.5**
Remarks: TLO Extra for the instructor								
NEP06B / B05D	TLO	1:1	32	0	1	33	0.0	2.2
	Lesson Total:		**32**	**0**	**1**	**33**	**0.0**	**2.2**
NEP07B / B05D	TLO	1:1	32	0	1	33	0.0	6.8
	Lesson Total:		**32**	**0**	**1**	**33**	**0.0**	**6.8**
Remarks: TLO Extra for instructor								
NEP08B / B05D	TLO	1:1	32	0	1	33	0.0	3.0
	Lesson Total:		**32**	**0**	**1**	**33**	**0.0**	**3.0**
NEP13B / B05D	TLO	1:1	32	0	1	33	0.0	2.7
	Lesson Total:		**32**	**0**	**1**	**33**	**0.0**	**2.7**
Remarks: TLO Extra for the instructor								
NEPCTB / B05D	TLO	1:1	32	0	1	33	0.0	2.4
	Lesson Total:		**32**	**0**	**1**	**33**	**0.0**	**2.4**
Remarks: TLO Extra for instructor								
ROUT03B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**64**	**0**	**40**	**104**	**0.0**	**0.0**
UNIX01B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**96**	**0**	**60**	**156**	**0.0**	**0.0**
UNIX02B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	TLO (6)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**192**	**0**	**120**	**312**	**0.0**	**0.0**

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Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
UNIX03B / B05C	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	TLO (6)	1:1	32	0	20	52	0.0	0.0
	TLO (7)	1:1	32	0	20	52	0.0	0.0
	TLO (8)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**224**	**0**	**140**	**364**	**0.0**	**0.0**
UNIX04B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**160**	**0**	**100**	**260**	**0.0**	**0.0**
	NSN (LIN) Total:		**928**	**0**	**466**	**1,394**	**0.0**	**19.6**

NSN (LIN): 7030-00-000-0002 (ZX7030) Application Software, (VIRTUAL PC) May be server or client, etc.

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
TCPIP14B / B05C	TLO		0	0	0	0	0.0	0.0
	Lesson Total:		**0**	**0**	**0**	**0**	**0.0**	**0.0**
	NSN (LIN) Total:		**0**	**0**	**0**	**0**	**0.0**	**0.0**

NSN (LIN): DC8905 CHAIR

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
NEP05B / B05D	TLO	1:1	32	0	2	34	0.0	0.0
	Lesson Total:		**32**	**0**	**2**	**34**	**0.0**	**0.0**

Remarks: TLO Extras for instructor and visitor

NEP07B / B05D	TLO	1:1	32	0	2	34	0.0	0.0
	Lesson Total:		**32**	**0**	**2**	**34**	**0.0**	**0.0**

Remarks: TLO Extras for instructor and visitor

NEP08B / B05D	TLO	1:1	32	0	2	34	0.0	0.0
	Lesson Total:		**32**	**0**	**2**	**34**	**0.0**	**0.0**

Remarks: TLO Extras for the instructor and visitor

NEP13B / B05D	ELO A	1:1	32	0	2	34	0.0	0.0

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Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Total	OPTEMPO Miles	OPTEMPO Hours
	Lesson Total:		**32**	**0**	**2**	**34**	**0.0**	**0.0**
Remarks: ELO A Extras for the instructor and visitor								
NEPCTB / B05D	TLO	1:1	32	0	2	34	0.0	0.0
	Lesson Total:		**32**	**0**	**2**	**34**	**0.0**	**0.0**
Remarks: TLO Extras for instructor and visitor								
ROUT03B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**64**	**0**	**40**	**104**	**0.0**	**0.0**
UNIX01B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**96**	**0**	**60**	**156**	**0.0**	**0.0**
UNIX02B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	TLO (6)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**160**	**0**	**100**	**260**	**0.0**	**0.0**
UNIX03B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (6)	1:1	32	0	20	52	0.0	0.0
	TLO (7)	1:1	32	0	20	52	0.0	0.0
	TLO (8)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**192**	**0**	**120**	**312**	**0.0**	**0.0**
UNIX04B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	TLO (5)	1:1	32	0	20	52	0.0	0.0
	Lesson Total:		**160**	**0**	**100**	**260**	**0.0**	**0.0**
	NSN (LIN) Total:		**832**	**0**	**430**	**1,262**	**0.0**	**0.0**

Appendix C
Program of Instruction

Non-Expendable:

NSN (LIN): 113-74-04-0000 (GO0590) Network Cables and Accessories Components (NC)

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Max	OPTEMPO Miles	OPTEMPO Hours
ROUT03B / B05C	TLO (1)	2:1	64	0	40	104	0.0	0.0
	TLO (3)	2:1	64	0	40	104	0.0	0.0
	Lesson Max:		**64**	**0**	**40**	**104**	**0.0**	**0.0**
UNIX03B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (2)	1:1	32	0	20	52	0.0	0.0
	TLO (4)	1:1	32	0	20	52	0.0	0.0
	Lesson Max:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
	NSN (LIN) Max:		**64**	**0**	**40**	**104**	**0.0**	**0.0**

NSN (LIN): 113-74-05-2001 (ZX7035) Router, CISCO 2500

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Max	OPTEMPO Miles	OPTEMPO Hours
ROUT03B / B05C	TLO (3)	1:1	32	0	20	52	0.0	0.0
	Lesson Max:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
	NSN (LIN) Max:		**32**	**0**	**20**	**52**	**0.0**	**0.0**

NSN (LIN): 411000T424357 (GO4357) WORKSTATION (DESK)

Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Max	OPTEMPO Miles	OPTEMPO Hours
NEP05B / B05D	TLO	1:1	32	0	2	34	0.0	0.0
	Lesson Max:		**32**	**0**	**2**	**34**	**0.0**	**0.0**

Remarks: TLO Extras for instructor and visitor

NEP07B / B05D	TLO	1:1	32	0	2	34	0.0	0.0
	Lesson Max:		**32**	**0**	**2**	**34**	**0.0**	**0.0**

Remarks: TLO Extras for instructor and visitor.

NEP08B / B05D	TLO	1:1	32	0	2	34	0.0	0.0
	Lesson Max:		**32**	**0**	**2**	**34**	**0.0**	**0.0**

Remarks: TLO Extras for the instructor and visitor

NEP13B / B05D	ELO A	1:1	32	0	2	34	0.0	0.0
	Lesson Max:		**32**	**0**	**2**	**34**	**0.0**	**0.0**

Remarks: ELO A Extras for the instructor and visitor

NEPCTB / B05D	TLO	1:1	32	0	2	34	0.0	0.0
	Lesson Max:		**32**	**0**	**2**	**34**	**0.0**	**0.0**

Remarks: TLO Extras for instructor and visitor

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Lesson / Version	Step	Student Ratio	Student Quantity	Instructor Quantity	Other Quantity	Max	OPTEMPO Miles	OPTEMPO Hours
ROUT03B / B05C	TLO (1)	1:1	32	0	20	52	0.0	0.0
	TLO (3)	1:1	32	0	20	52	0.0	0.0
	Lesson Max:		**32**	**0**	**20**	**52**	**0.0**	**0.0**
UNIX01B / B05C	TLO (1)	1:1	32	0	20	52	0.0	3.2
	TLO (2)	1:1	32	0	20	52	0.0	3.2
	TLO (3)	1:1	32	0	20	52	0.0	3.2
	Lesson Max:		**32**	**0**	**20**	**52**	**0.0**	**9.6**
	NSN (LIN) Max:		**32**	**0**	**20**	**52**	**0.0**	**217.8**

Appendix C
Program of Instruction
Support Personnel Summary - Lesson

Support Personnel Title: 25U Enlisted or Civilian

Support Personnel Classification: A

School: (113) Signal Center and School

Lesson / Version	Student Quantity	Support Personnel Quantity	Man Hours
25U3B1L1 / 3	4	2	0.0
Totals	**4**	**2**	**0.0**

Support Personnel Title: GS-1712 Training Specialist

Support Personnel Classification: Civilian

School: (113) Signal Center and School

Lesson / Version	Student Quantity	Support Personnel Quantity	Man Hours
2KSRV02B / B05C	2	1	1.0
2KSRV04B / B05C	2	1	1.0
2KSRV06B / B05C	2	1	1.0
2KSRV07B / B05C	2	1	1.0
2KSRV08B / B05C	2	1	1.0
2KSRV09B / B05C	2	1	1.0
2KSRV12B / B05C	2	1	1.0
2KSRV13B / B05C	2	1	1.0
2KSRVCTB / B05C	2	1	1.0
Totals	**18**	**9**	**9.0**

Appendix C
Program of Instruction

TADSS Summary - Lessons

Non-Expendable:

NSN: 113-621-31L10-0153 Projector, Overhead

Lesson / Version	Step	Student Ratio	Student Qty	Lesson Qty	Support Qty	Total Max
25U3B4CT / 4	TLO	1:16	2	0	1	3
Lesson Max			**2**	**0**	**1**	**3**
TADSS Max:			**2**	**0**	**1**	**3**

NSN: 113-621-31L10-0157 Screen, Projection

Lesson / Version	Step	Student Ratio	Student Qty	Lesson Qty	Support Qty	Total Max
25U3B4CT / 4	TLO	1:16	2	0	1	3
Lesson Max			**2**	**0**	**1**	**3**
TADSS Max:			**2**	**0**	**1**	**3**

NSN: 7110-01-Z85-3586 Smart Board, Smart Technologies, Model# 580 w/4 Pens, w/1 Eraser

Lesson / Version	Step	Student Ratio	Student Qty	Lesson Qty	Support Qty	Total Max
RNCOAIED / 1	TLO	1:16	2	0	0	2
Lesson Max			**2**	**0**	**0**	**2**
TADSS Max:			**2**	**0**	**0**	**2**

NSN: AVPRJ-PRJ-MULT PROJECTOR, MULTIMEDIA

Lesson / Version	Step	Student Ratio	Student Qty	Lesson Qty	Support Qty	Total Max
RNCOAIED / 1	TLO	1:16	2	0	0	2
Lesson Max			**2**	**0**	**0**	**2**
TADSS Max:			**2**	**0**	**0**	**2**

NSN: G07020 Industry Standard Professional Computer

Lesson / Version	Step	Student Ratio	Student Qty	Lesson Qty	Support Qty	Total Max
25U3B4CT / 4	TLO	1:16	2	0	1	3
Lesson Max			**2**	**0**	**1**	**3**
RNCOAIED / 1	TLO (3)		0	1	1	2

Appendix C
Program of Instruction

Lesson / Version	Step	Student Ratio	Student Qty	Lesson Qty	Support Qty	Total Max
Lesson Max			**0**	**1**	**1**	**2**
TADSS Max:			**2**	**1**	**1**	**4**

MRAD Headquarters Validation

Module: A / 001 **Lesson:** NEP13B / B05D

Step	Method of Instruction	Time of Instruction	Instructor to Student	ICH
Introduction	Conference / Discussion	0.1	1:18	0.2
TLO (1)	Conference / Discussion	0.7	1:18	1.4
TLO (2)	Conference / Discussion	1.2	1:18	2.4
Summary	Conference / Discussion	0.1	1:18	0.2
	Lesson Subtotal:	2.1		4.2
	MRAD Subtotal:	2.1		4.2

Module: A / 001 **Lesson:** 25U3C4CT / 3

Step	Method of Instruction	Time of Instruction	Instructor to Student	ICH
Introduction	Conference / Discussion	0.4	4:32	1.6
TLO (1)	Test	4.0	4:32	16.0
TLO (2)	Test Review	0.2	4:32	0.8
Summary	Conference / Discussion	0.1	4:32	0.4
	Lesson Subtotal:	4.7		18.8
	MRAD Subtotal:	4.7		18.8

Module: A / 001 **Lesson:** 25U3C4L1 / 3

Step	Method of Instruction	Time of Instruction	Instructor to Student	ICH
Introduction	Conference / Discussion	0.2	2:32	0.4
ELO A (1)	Conference / Discussion	0.4	4:32	1.6
ELO A (2)	Conference / Discussion	0.3	4:32	1.2
ELO A (3)	Conference / Discussion	0.4	4:32	1.6
ELO B (1)	Conference / Discussion	0.6	4:32	2.4
ELO B (2)	Demonstration/Practical Exercise (Hands-on)	0.6	4:32	2.4
ELO C (1)	Demonstration/Practical Exercise (Hands-on)	1.1	4:32	4.4
ELO C (2)	Conference/Practical Exercise	1.1	4:32	4.4
ELO D (1)	Demonstration/Practical Exercise (Hands-on)	1.0	4:32	4.0
ELO D (2)	Demonstration/Practical Exercise (Hands-	0.6	4:32	2.4

Appendix C
Program of Instruction

Module: A / 001 **Lesson:** 25U3C4L1 / 3

Step	Method of Instruction	Time of Instruction	Instructor to Student	ICH
	on)			
ELO D (3)	Demonstration/Practical Exercise (Hands-on)	0.6	4:32	2.4
ELO D (4)	Demonstration/Practical Exercise (Hands-on)	0.6	4:32	2.4
ELO D (5)	Practical Exercise (Performance)	2.0	4:32	8.0
ELO E (1)	Demonstration/Practical Exercise (Hands-on)	0.8	4:32	3.2
ELO E (2)	Demonstration/Practical Exercise (Hands-on)	0.6	4:32	2.4
ELO E (3)	Demonstration/Practical Exercise (Hands-on)	0.5	4:32	2.0
ELO E (4)	Demonstration/Practical Exercise (Hands-on)	0.5	4:32	2.0
ELO E (5)	Demonstration/Practical Exercise (Hands-on)	0.5	4:32	2.0
ELO E (6)	Demonstration/Practical Exercise (Hands-on)	0.5	4:32	2.0
ELO E (7)	Demonstration/Practical Exercise (Hands-on)	0.6	4:32	2.4
ELO F (1)	Conference / Discussion	0.5	4:32	2.0
ELO F (2)	Conference / Discussion	0.6	4:32	2.4
ELO G (1)	Practical Exercise (Performance)	21.3	4:32	85.2
Summary	Conference / Discussion	0.1	2:32	0.2
	Lesson Subtotal:	36.0		143.4
	MRAD Subtotal:	36.0		143.4

Module: B / 001 **Lesson:** 25U3B1L1 / 3

Step	Method of Instruction	Time of Instruction	Instructor to Student	ICH
Introduction	Conference / Discussion	0.3	2:32	0.6
ELO A (1)	Conference / Discussion	0.8	4:32	3.2
ELO A (2)	Conference / Discussion	0.6	4:32	2.4
ELO A (3)	Conference / Discussion	0.6	4:32	2.4
ELO B (1)	Demonstration/Practical Exercise (Hands-on)	4.0	4:32	16.0
ELO B (2)	Demonstration/Practical Exercise (Hands-on)	4.0	4:32	16.0
ELO B (3)	Demonstration/Practical Exercise (Hands-on)	4.0	4:32	16.0

Appendix C
Program of Instruction

Module: B / 001 **Lesson:** 25U3B1L1 / 3

Step	Method of Instruction	Time of Instruction	Instructor to Student	ICH
ELO C (1)	Practical Exercise (Hands-on)	5.0	4:32	20.0
ELO C (2)	Practical Exercise (Hands-on)	4.5	4:32	18.0
ELO C (3)	Practical Exercise (Hands-on)	4.5	4:32	18.0
ELO D (1)	Practical Exercise (Hands-on)	2.0	4:32	8.0
ELO E (1)	Practical Exercise (Hands-on)	2.0	4:32	8.0
ELO E (2)	Practical Exercise (Hands-on)	1.3	4:32	5.2
Summary	Conference / Discussion	0.3	2:32	0.6
	Lesson Subtotal:	33.9		134.4
	MRAD Subtotal:	33.9		134.4

Module: D / 001 **Lesson:** 25U3D2L1 / 3

Step	Method of Instruction	Time of Instruction	Instructor to Student	ICH
Introduction	Conference / Discussion	0.1	4:32	0.4
TLO (1)	Conference/Demonstration	1.0	4:32	4.0
TLO (2)	Conference/Demonstration	0.5	4:32	2.0
TLO (3)	Conference/Demonstration	2.0	4:32	8.0
TLO (4)	Conference/Demonstration	1.5	4:32	6.0
TLO (5)	Conference/Practical Exercise	2.5	4:32	10.0
TLO (6)	Conference/Demonstration	0.3	4:32	1.2
Summary	Conference / Discussion	0.1	2:32	0.2
	Lesson Subtotal:	8.0		31.8
	MRAD Subtotal:	8.0		31.8

Totals - Time of Instruction - Lesson: 414.3 **ICH - Lesson:** 1,402.7
MRAD: 414.3 **MRAD:** 1,402.7
Delta: 0.0 0.0

Headquarters Memorandum

None

Appendix C
Program of Instruction

Memo of Transmittal

ATZH-DTM-C 29 June 2005

MEMORANDUM FOR Commander, US Army Training and Doctrine Command (TRADOC), ATTN: ATTG-MP, Fort Monroe, VA 23651-5000

SUBJECT: Course Administrative Data (CAD) for Signal Systems Support Specialist, 101-25U30, Phase 2, Resident.

1. Reference(s):

a. TRADOC Regulation 350-70, Systems Approach to Training Management, Processes and Products, 9 Mar 99.

b. TRADOC Pamphlet 350-70-8, Total Army School System (TASS)/Training Requirements Analysis System (TRAS), 1 Nov 96.

2. The reason for submission of this action is to increase Instructor Contact Hours for Information Technology Module and add hands-on training on AN/PRC-150 High Frequency Radios.

3. Explanation of training strategy or other additional information needed to support this submission: 25U BNCOC students will receive additional instruction and hands-on in Tactical Satellites (TACSAT) communications utilizing the AN/PRC-150 High Frequency Radios. Increased Instructor Contact Hours (ICH) is due to this addition of training as well as upgraded training in the area of Information Technology.

4. Identification of CAD and POI which this course supports:

a. ITP - Date of last TRADOC validated ITP: 05 Apr 00

b. CAD - Date of last TRADOC validated CAD: 20 May 04.

c. POI - Date of last TRADOC validated POI: 17 Sep 04.

5. Course specific data is as follows:

a. This phase has course growth. See attached document.

b. This CAD is effective for First Quarter FY 06 and out with a proposed training start date of 1 Oct 05.

c. This phase is not contractor taught.

d. This phase is not Interservice Training Requirements Organization (ITRO).

e. This course is not a refresher course.

f. This course is not a transition course.

g. Skill Code data: 25U30

h. Specific Course data and changes:

	FROM	TO
(1). Length:	12 Weeks 2 Days	NC
(2). Class Sizes (Max/Opt/Min):	32/32/20	NC
(3). Instructor Contact Hours (ICH):	869.0	1402.7
(4). Academic Hours:	471.0	414.3

(5). Student/Instructor Ratio: Not Required.

(6). Estimated Student Input: Not Required.

(7). Class Frequency: Not Required.

6. Ammunition, Equipment and Facility summary - projected requirements:

a. Additional Equipment Required: AN/PRC - 150 High Frequency Radios, NSN 5820-01-492-3628,

Quantity - 16 (NOTE: No requirement for additional ammunition or facilities.)

7. Required documentation and coordination:

a. Justification for course growth. See attached document.

b. USARC and NGB concurrences are included: Not Required.

c. Training location if different from proponent location: Not Required.

d. Out of cycle justification: Not Required.

e. Instructor Contact Hours Worksheet: Not Required.

8. A reclama is not included.

Encls

MICHAEL A. CORDES
COL, SC
Director, Directorate of Training

Appendix D
Lesson Plan

Network Management and Security
NEP13B / Version B05D
31 Oct 2005

SECTION I. ADMINISTRATIVE DATA

All Courses Including This Lesson

Course Number	Version	Course Title
531-25B30	B05B	Information Systems Operator-Analyst Basic NonCommissioned Officer Course (BNCOC)
101-25U30	RES5	Signal Support Specialist (BNCOC)

Task(s) Taught(*) or Supported

Task Number	Task Title
	INDIVIDUAL
113-580-0056 (*)	Troubleshoot Local Area Network (LAN)
113-580-7128 (*)	Supervise the Configuration of an AIS to Operate on a Network
113-581-8004 (*)	Verify configuration of Router for the Tactical High-Speed Data Network
	COLLECTIVE
11-6-8121	Establish a Local Area Network (LAN)

Reinforced Task(s)

Task Number	Task Title

Academic Hours

The academic hours required to teach this lesson are as follows:

	Resident Hours/Methods
	2 hr 5 mins / Conference / Discussion
	0 hr / Practical Exercise (Written)
Test	0 hrs
Test Review	0 hrs
Total Hours:	2 hrs 5 mins

Test Lesson Number

	Hours	Lesson No.
Testing (to include test review)	2 hrs 30 mins	IANETCTB version B05C

Prerequisite Lesson(s)

Lesson Number	Lesson Title
NEP01B	What is a Computer Network?
NEP02B	Network Topology
NEP03B	Network Hardware
NEP04B	Ethernet Technologies

Appendix D
Lesson Plan

NEP05B	Token Ring, FDDI, and Other LAN Technologies
NEP06B	Serial Protocols, 802.2, LLC, NetBIOS, NetBEUI
NEP07B	TCP/IP Protocols
NEP08B	Switching and Routing

Clearance Access

Security Level: Unclassified
Requirements: There are no clearance or access requirements for the lesson.

Foreign Disclosure Restrictions

FD5. This product/publication has been reviewed by the product developers in coordination with the Fort Gordon foreign disclosure authority. This product is releasable to students from all requesting foreign countries without restrictions.

References

Number	Title	Date	Additional Information
ISBN 0735609128	Networking Essentials Plus (3rd Edition)	01 Jan 2000	

Student Study Assignments

None

Instructor Requirements

Graduate of 25B, 25D, 25U MOS school.
TAITC graduate.
N+ Certification Recommended.
BNCOC, ANCOC Graduate.

Additional Support Personnel Requirements

Name	Stu Ratio	Qty	Man Hours
None			

Equipment Required for Instruction

Id Name	Stu Ratio	Instr Ratio	Spt	Qty	Exp
6730-00-753-5235 SCREEN, PROJECTOR, MDL BM-23A 96X96			No	1	Yes
701000T025678 PROJECTOR, DESKTOP MDL			No	1	Yes
7025-00-000-0000 DESK, COMPUTER WORKSTATION	2:1	1:1	No	65	Yes
7025-01-248-4317 COMPUTER DESKTOP	1:1	1:1	No	33	No
7035-00-000-0004 NETWORKING: HUB			No	1	Yes
7035-00-000-0006 Power Supply: Uninterruptible (UPS)	1:1	1:1	No	33	No

7110-01-Z85-2272 Podium, Electronic Instructor			No	1	No
7125-00-641-5436 CABINET, STORAGE			No	1	Yes
CABLE - NETWORK 10BASET NETWORK CABLES WITH RJ-45 CONNECTORS (Straight-through)	1:1	1:1	No	33	No
DC8905 CHAIR	2:1	1:1	No	65	Yes
ETHERNET HUB HUB, ETHERNET			No	1	No
WHITEBOARD Industry Standard Whiteboard			No	1	Yes

* Before Id indicates a TADSS

Materials Required

Instructor Materials:
-Lesson plan
-(ALS) reference text book
-Slide show presentation
-Visitor desk materials to include: Lesson plan, class roster, seating chart, weekly training schedule, textbook/handout and practical exercises

Student Materials:
-Pencil or pen
-notebook paper
-(ALS) reference text book w/ appropriate LAB Manuals.

Classroom, Training Area, and Range Requirements

GEN INST BLDG, 73370 SF, 30 PN

Ammunition Requirements

Id	Name	Exp	Stu Ratio	Instr Ratio	Spt Qty

None

Instructional Guidance

NOTE: Before presenting this lesson, instructors must thoroughly prepare by studying this lesson and identified reference material.

NOTE1: All lesson plans, slide shows and lab material are **"From *the Academic Learning Series* by Microsoft Press. Reproduced by permission of Microsoft Press. All rights reserved."**

NOTE2: All times indicated in TIME OF INSTRUCTION sections are academic hours; where 1 academic hour is equal to 50 minutes.

Ensure all required materials and equipment is present and operational.

Appendix D
Lesson Plan

Proponent Lesson Plan Approvals

Name	Rank	Position	Date
CALLAHAM, LISA D.	GS-12	Chief, TDB, SIT	31 Oct 2005
CRUZ, HECTOR	GS-12	NCOES Course Manager, SIT	31 Oct 2005
FRANK, MITCHELL	GS-12	Chief, TDB, NCOA	31 Oct 2005
Williams, David	GG-13	FD OFFICER	27 Jun 2007

Appendix D
Lesson Plan

SECTION II. INTRODUCTION

Method of Instruction: Conference / Discussion
Instructor to Student Ratio is: 1:18
Time of Instruction: 5 mins
Media: Large Group Instruction

Motivator

As a System Administrator, it is important to know how to isolate, identify, prioritize and resolve network problems with the appropriate tools. This skill will allow you to determine when and what to do in the event your network develops problems. A knowledge of sources that offer expert assistance for network troubleshooting is invaluable should network problems become too complex to handle.

Terminal Learning Objective

NOTE: Inform the students of the following Terminal Learning Objective requirements.

At the completion of this lesson, you [the student] will:

Action:	Identify the means to provide network management and security.
Conditions:	Given academic instruction, reference materials, practical exercise, PC, Network + Fundamentals and Certification - Russell Hillpot & Michael Ivy and a website address: **ensemble.ciscolearning.org**.
Standards:	Is met when students can identify means to provide network management and security.

Safety Requirements

Students will be reminded of the Army Safety Program and its relationship to their conduct and performance at all times. All aspects of safety will be considered, to include equipment, electrical shock, wet floors, lifting and carrying equipment, running up and down stairs, horseplay, or anything else that could result in death and/or injury.

Risk Assessment Level

Low – Due to a classroom environment

Environmental Considerations

NOTE: It is the responsibility of all Soldiers and DA civilians to protect the environment from damage.
There are no environmental considerations pertaining to this block of instruction.

Appendix D
Lesson Plan

Evaluation

At the completion of these series of lessons the student will be given an end of section test.

Instructional Lead-In

In this block of instruction, we will learn to understand networking problems, the different tools used to resolve these problems, and where to find outside help for more complex networking problems.

SECTION III. PRESENTATION

1. Learning Step / Activity 1. Isolate the Problem

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:18
Time of Instruction: 40 mins
Media: Large Group Instruction

Show Slides |1-3|

1. Troubleshooting

A. Overview

1. Most difficult task computer professionals face.
2. Computer never seems to fail at a convenient time.
3. Pressure to fix the problem immediately is intense.
4. It is essential to isolate the true cause of the problem from irrelevant factors.
5. After the problem has been diagnosed, locating resources and following the procedures required to correct the problem are straightforward.
6. More of an art form than an exact science.
7. Must approach the problem systematically.
8. Look for the cause, not the symptoms.
9. Focus on the things that might be the cause of the problem.
10. Eliminate as many alternative causes as possible.

Instructor Note While many different methodologies exist, it is important to evaluate solutions in a logical manner, and to document the results of each attempt.

Show Slide|4|

B. Step 1: Defining the Problem

1. First phase is the most critical, yet most often ignored.
2. Without a complete understanding of the entire problem, a great deal of time can be spent working on the symptoms, without getting to the cause.
3. Client or network user is the best source of information.

4. Daily users probably recall the events that led up to the failure.
5. List the sequence of events before the failure.
6. Ask users what the network is doing or not doing that makes them think it is not functioning correctly.
7. User observations can be clues to the network problem.
   a. "The network is really slow."
   b. "I cannot connect to the server."
   c. "I was connected to the server, but I lost the connection."
   d. "One of my applications will not run."
   e. "I cannot print."

Instructor Note Discuss ways to narrow focus by reviewing the questions and possible solutions on page 494.

C. Step 2: Isolating the Cause
   1. Isolate the problem.
   2. Eliminate the most obvious problems and work toward the more complex and obscure.
   3. Narrow search down to one or two general categories.
   4. Observe the failure first-hand.
   5. Have someone demonstrate the failure.
   6. If it is not an operator-induced problem, it is important to observe how it is created, as well as the results.
   7. The most difficult problems to isolate are those that are intermittent.
   8. Re-create the set of circumstances that cause the failure.
   9. Sometimes eliminating causes that are not the problem is the best approach.
   10. This process takes time and patience.

Instructor Note Change only one thing at a time. Document the results. If the problem is not solved, return the device to the state that it was in before the latest trial solution.

D. Step 3: Planning the Repair
   1. Create a planned approach to isolating the problem based on obtained knowledge.
   2. Follow the designed plan.
   3. Jumping ahead and randomly trying things out of order can often lead to problems.
   4. If the first plan is not successful, create a new plan based on what was discovered with the previous plan.
   5. Reassess any assumptions made in the previous plan.
   6. Once the problem is located, either repair the defect or replace the defective component.
   7. If it is a software problem, be sure to record the "before" and "after" changes.

E. Step 4: Confirming the Results

1. No repair is complete without confirmation that the job has been successfully concluded.
2. Make sure that the problem no longer exists.
3. Ask the user to test the solution and confirm the results.
4. Make sure the fix did not generate new problems.

F. Step 5: Documenting the Outcome

1. Documenting the problem and repair produces invaluable information.
2. There is no substitute for experience in troubleshooting, and each new problem presents an opportunity to expand that experience.
3. Keeping a copy of the repair procedure in the technical library can be useful if the problem occurs again.
4. Changes made can affect the baseline.
5. Might need to update the network baseline in anticipation of future problems and needs.

2. Segmenting the Problem

A. Overview

1. Divide the network into smaller parts to isolate the cause of the problem.
2. Isolating or removing a portion of the network will help to get the rest of the network up and operational again.
3. If removing a portion solved the problem for the rest of the network, the search for the problem can be focused on the part that was removed.
4. Ask whether the problem stems from the hardware or the software.

B. Hardware

1. If it is a hardware problem, start by looking at only one segment of the network, then at only one type of hardware.
2. When assessing hardware performance problems, use the information obtained from the hardware baselines to compare against the current symptoms and performance.
3. Check hardware and network components including:
   a. NICs
   b. Cabling and connectors
   c. Clients/workstations
   d. Connectivity components such as repeaters, bridges, routers, brouters, and gateways
   e. Hubs
   f. Protocols
   g. Servers
   h. Users

3. Isolating the Problem

A. Rank the list of possible causes in order from the most likely to least likely cause of the problem.

B. Select the most likely candidate from the list of possible causes, test it, and see if that is the problem.

C. Start from the most obvious and work to the most difficult.

Instructor Note Ability to rank possible causes comes with experience, although using automated knowledge bases can help.

---

4. Setting Priorities

A. A fundamental element in network problem solving.

B. Everyone wants his or her computer fixed first, so setting priorities is not an easy job.

C. Simplest approach is to prioritize on a "first come, first served" basis.

D. Some failures are more critical to resolve than others.

E. Assess the problem's impact on the ability to maintain operations.

NOTE: Conduct a check on learning and summarize the learning activity.

2. Learning Step / Activity 2. Identify Troubleshooting Tools

Method of Instruction: Conference / Discussion
Instructor to Student Ratio: 1:18
Time of Instruction: 1 hr 10 mins
Media: Large Group Instruction

Show Slide |5|

1. Hardware Tools

A. Overview

1. Once were very expensive and difficult devices to use, but today they are less expensive and easier to use.
2. Helpful in identifying performance trends and problems.

B. Digital Voltmeters

1. Also called volt-ohm meter.
2. Primary all-purpose electronic measuring tool.
3. Standard equipment for any computer or electronic technician.
4. Can reveal far more than just the amount of voltage passing through resistance.
5. Network administrator's most important function is to confirm source voltage for the network equipment.
6. Low voltage often causes intermittent faults.
7. Voltage that is too high can cause immediate damage to the equipment.
8. Voltmeters can determine if:
   a. Cable is continuous (has no breaks).
   b. Cable can carry network traffic.
   c. Two parts of the same cable are exposed and touching (thereby causing shorts).
   d. Exposed cable is touching another conductor, such as a metal surface.

Instructor Note With any new location or new construction, it is important to check the outlet voltage before connecting any electronic equipment in order to verify that it is within an acceptable range.

Show Slide|6|

C. Time Domain Reflectometers (TDRs)
   1. Send sound pulses similar to sonar along cables to locate breaks, shorts, or imperfections.
   2. Network performance suffers when the cable is not intact.
   3. Problem is analyzed and the results are displayed.
   4. Can locate a break within a few feet of the actual separation in the cable.
   5. Used heavily during the installation of a new network and invaluable in troubleshooting and maintaining existing networks.
   6. Requires special training, and not every maintenance department will have this equipment.

D. Advanced Cable Testers
   1. Work beyond the physical layer of the OSI model in the data-link layer, network layer, and even the transport layer.
   2. Also display information about the condition of the physical cable.

2. Software Tools

A. Network Monitors
   1. Software tools that track all or a selected part of network traffic.
   2. Examine data packets and gather information about packet types, errors, and packet traffic to and from each computer.
   3. Useful for establishing part of the network baseline.
   4. After the baseline has been established, it is possible to troubleshoot traffic problems and monitor network usage to determine when it is time to upgrade.

B. Protocol Analyzers
   1. Also called network analyzers; perform real-time network traffic analysis using packet capture, decoding, and transmission data.
   2. Network administrators who work with large networks rely heavily on the protocol analyzer.
   3. Used most often to monitor network interactivity.
   4. Look inside the packet to identify a problem.
   5. Have built-in TDRs.
   6. Generate statistics based on network traffic to help create a picture of the network, including:
      a. Cabling
      b. Software
      c. File servers
      d. Workstations

Appendix D
Lesson Plan

SECTION IV. SUMMARY

Method of Instruction: Conference / Discussion
Instructor to Student Ratio is: 1:18
Time of Instruction: 5 mins
Media: Large Group Instruction

Check on Learning

Determine if the students have learned the material presented by soliciting student questions and explanations. Ask the students questions and correct misunderstandings.

Review / Summarize Lesson

The TLO for this lesson was:

Identify the means to provide network management and security.

SECTION V. STUDENT EVALUATION

Testing Requirements

NOTE: Describe how the student must demonstrate accomplishment of the TLO. Refer student to the Student Evaluation Plan.

Feedback Requirements

NOTE: Feedback is essential to effective learning. Schedule and provide feedback on the evaluation and any information to help answer students' questions about the test. Provide remedial training as needed.

Appendix A - Viewgraph Masters
Multi Media Attached! Click here and then press F9 to view.

Appendix B - Test(s) and Test Solution(s) (N/A)

Appendix C - Practical Exercises and Solutions (N/A)

Appendix D - Student Handouts (N/A)
Multi Media Attached! Click here and then press F9 to view.

Appendix E
Course Management Plan (CMP)

Course Management Plan (CMP)

For

Signal Support Systems Specialist

Basic Noncommissioned Officer Course
(BNCOC)

101-25U30

July 2005

For use as:

A standalone course conducted by the U. S. Army Signal Center & School, Regimental Noncommissioned Officer's Academy and The Army School System (TASS) Battalions.

Appendix E
Course Management Plan (CMP)
101-25U30

July 2005

This CMP Contains **TABLE OF CONTENTS**

Appendix E
Course Management Plan (CMP)

Appendix E
Course Management Plan (CMP)

Gender Disclaimer

Unless this Course Management Plan (CMP) states otherwise, masculine nouns and pronouns do not refer exclusively to men.

PREFACE

Purpose

This Course Management Plan (CMP) serves as a single source document that will assist in the administration of the Advanced and Basic Noncommissioned Officer Courses. It provides the Course Manager and the Small Group Leaders (SGLs)/ Instructors information needed to conduct the training as prescribed by the associated training materials. It also provides information students will need to meet their responsibilities for learning and successful completion of the course. Training organizations must obtain an exception to policy from the proponent to modify this CMP. Training organizations may use this CMP in developing their standing operating procedures. Training Support Packages (TSPs) can be used to provide: training on one or more than one task, one or more than one lesson plan for resident training, all training materials for implementing a complete course at a remote site, and awareness training material that can be in one or more media. TRADOC Regulation 350-70 explains TSPs, lesson plans, and course management plans (CMP) formats and components. The Army School System (TASS) Battalion will use the CMP when providing individual training for non-resident (RC & NG) soldiers.

(TRADOC 350-70, Appendix E)

Applicability

BNCOC (25U30) is required by the NCOES for permanent promotion to Staff Sergeant and is designed to provide the individual soldier the skills required to perform at Skill Level 3. The course provides training on critical tasks identified by the Critical Task Site Selection Board for training during BNCOC.

This CMP applies to the United States Army Signal Center & Fort Gordon Regimental Noncommissioned Officer Academy and all Total Army School System (TASS) training organizations training Active Army, the Army National Guard (ARNG), and the U.S. Army Reserve (USAR).

If there is a conflict between this CMP and the 25U30 BNCOC POI, follow the POI and notify the proponent of the difference.

Supersedes CMP

This CMP is an original document and does not supersede any other edition.

Appendix E
Course Management Plan (CMP)

Proponent	The proponent for this CMP is the Signal Corps Regimental Noncommissioned Officer NCO Academy. Point of Contact (POC) Numbers: DSN 780-6057/6061 Commercial (706)-791-6057/6061 E-mail: frankm@gordon.army.mil
Comments and Recommendations	Send e-mail messages to the above listed e-mail address or send comments and recommendations on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to: Commander United States Army Signal Center ATTN: ATZH-LCA-C Fort Gordon, GA 30905-5200 Attn: Chief, Training Development
Foreign Disclosure (FD) Restrictions	The product developers in coordination with the USASC&FG foreign disclosure authority have reviewed this product. This product is releasable to students from all requesting foreign countries without restrictions.
Course Management Plan Approval	The following individuals have reviewed and approved this Course Management Plan for publication and implementation into the Basic Noncommissioned Officer Course (BNCOC).

Name/Signature	Rank	Title	Date Signed
MITCHELL C. FRANK	GS-12	Chief, Training Development	1 Aug 05
WILLIAM J. MYERS	GS-13	Chief of Training	1 Aug 05
RODERICK D. JOHNSON	CSM	Commandant	1 Aug 05

Appendix E
Course Management Plan (CMP)

CHAPTER 1

Course Structure

BNCOC provides soldiers selected for promotion to Staff Sergeant with an opportunity to acquire the leader technical and tactical values, attributes, skills, and actions (VASA) needed to perform mission assigned tasks.

The course Program of Instruction (POI) is divided into modules. Each training module is designed to include the skills and knowledge required to train soldiers to perform specific tasks. Course phase, modules, and lessons requiring specific sequencing will be identified in the Course Maps. Lesson plans outline management guidance and lesson content for the instructor's use in the presentation of information and the development of skills used to perform a task, subtask or supporting skill. Practical exercises (PE) will be used with some lessons to emphasize and reinforce skills and knowledge gained in preceding lessons. Examinations shall be administered IAW with this Course Management Plan to ensure learning took place. Examinations will be designed to test the skills developed and the knowledge acquired during that module. The examinations may include skills and knowledge acquired in preceding modules if they are applicable to or support the skills and knowledge being examined.

(Ref: AR 350-1, Chapter 3 para 3-48 and TRADOC 350-10, Chapter 5, para 5-5)

Study Assignments (SA) may be required in order to complete the course. The "SA" would be a self-development responsibility of the student. All required SA work will be completed prior to starting work on any practical exercises associated with the lesson. Implementing training organizations may choose to conduct this training in a group SGI setting.

Course Overview

a. Resident School and TASS Battalions shall implement a BNCOC Field Training Exercise or Situational Training Exercise (FTX/STX) (minimum of 72 hours continuous operation) conducted prior to the end of Phase II. The end of course FTX/STX serves as a culminating event and will evaluate (GO/NO-GO) the soldier's leadership and survival skills in an operational environment. Implementing organizations should include in the evaluations during their FTX/STX the soldier's ability to lead and perform the following tasks.

- Conduct a Tactical Road March
- Occupy an Assembly Area
- Apply Troop leading Procedures

- Move Tactically
- Direct Reacting to NBC Attack
- Consolidate and Reorganize
- Direct Reacting to Contact
- Direct Reacting to Indirect Fire
- Direct Reacting to Ambush
- Defend
- Conduct Continuous Operations

b. The 25U30 POI is divided into seven training modules containing the following subject areas:

MODULE A – Computer Technology

MODULE B - TACSAT

MODULE C – ABCS

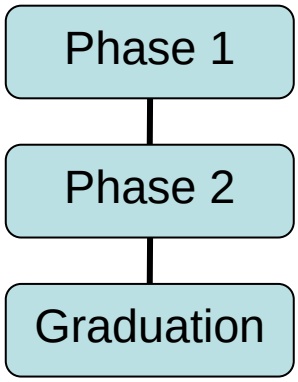
MODULE D – Common Signal Subjects

MODULE E – Combat Communications Planning

Appendix E
Course Management Plan (CMP)

Course Map	This section discusses the course map. This course map depicts the designed sequence of presentation for the MOS Technical Training BNCOC established during course design.

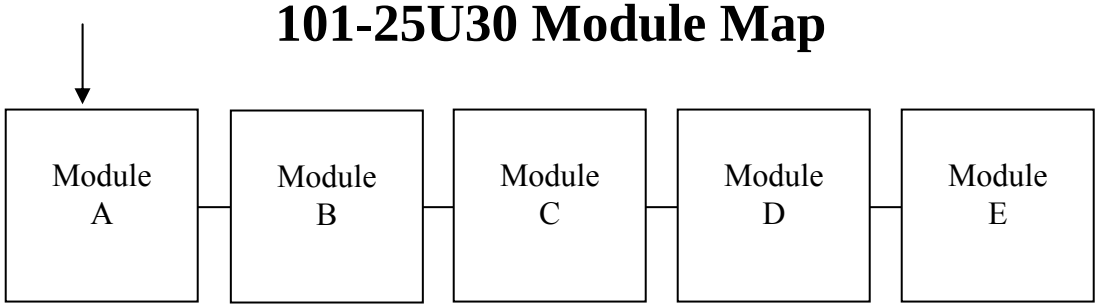
101-25U30 Phase Map



The Course is normally completed in the order shown above. However,

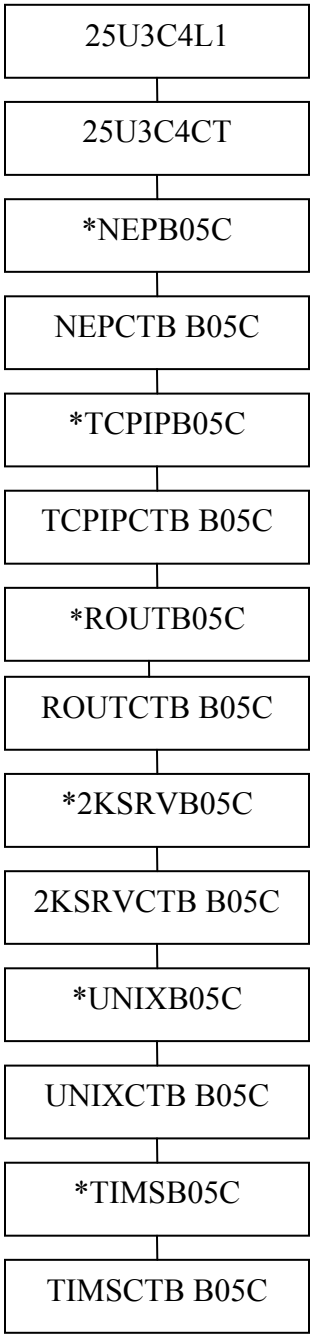
DA/TRADOC may authorize a waiver of this requirement.

101-25U30 Module Map

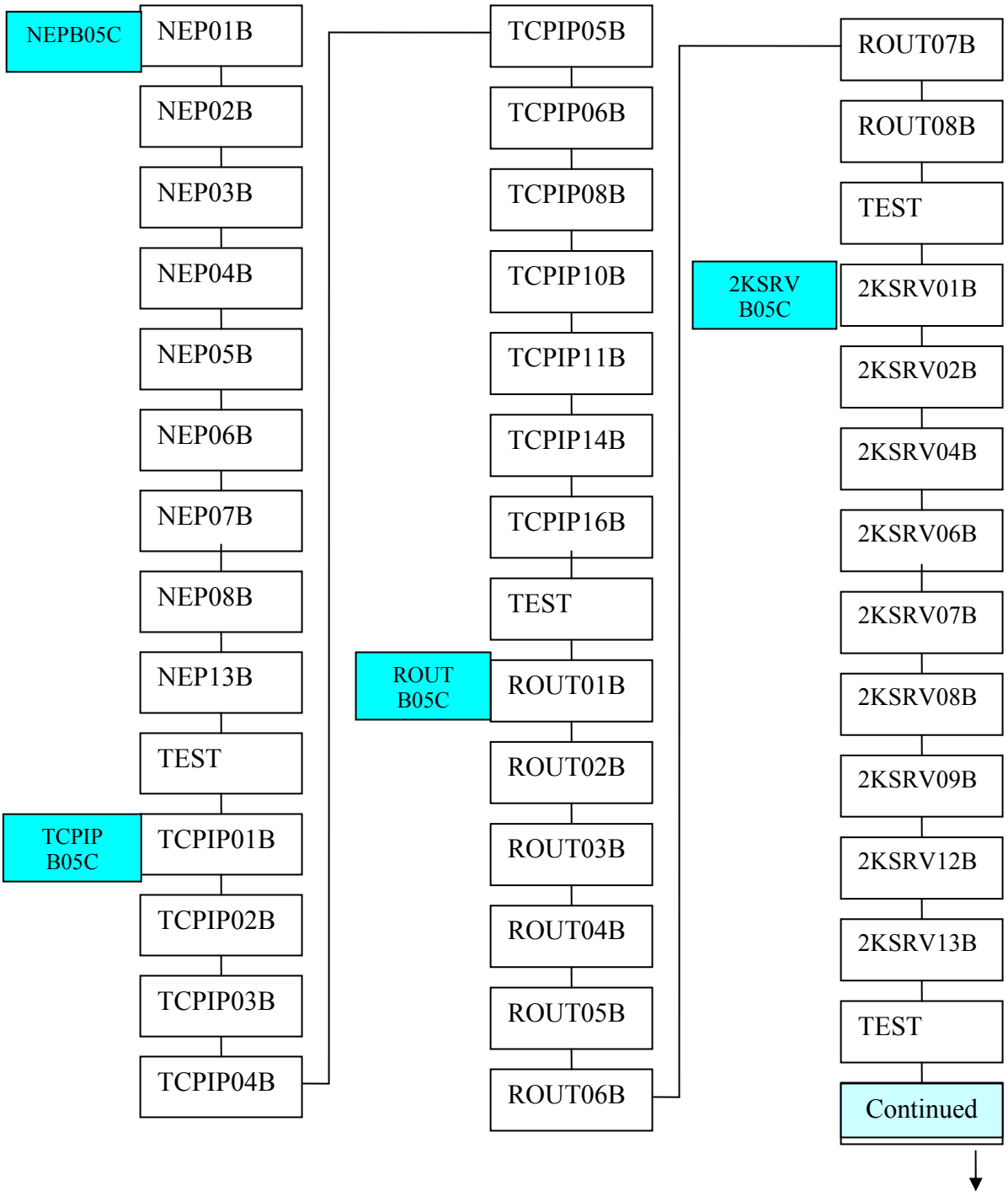


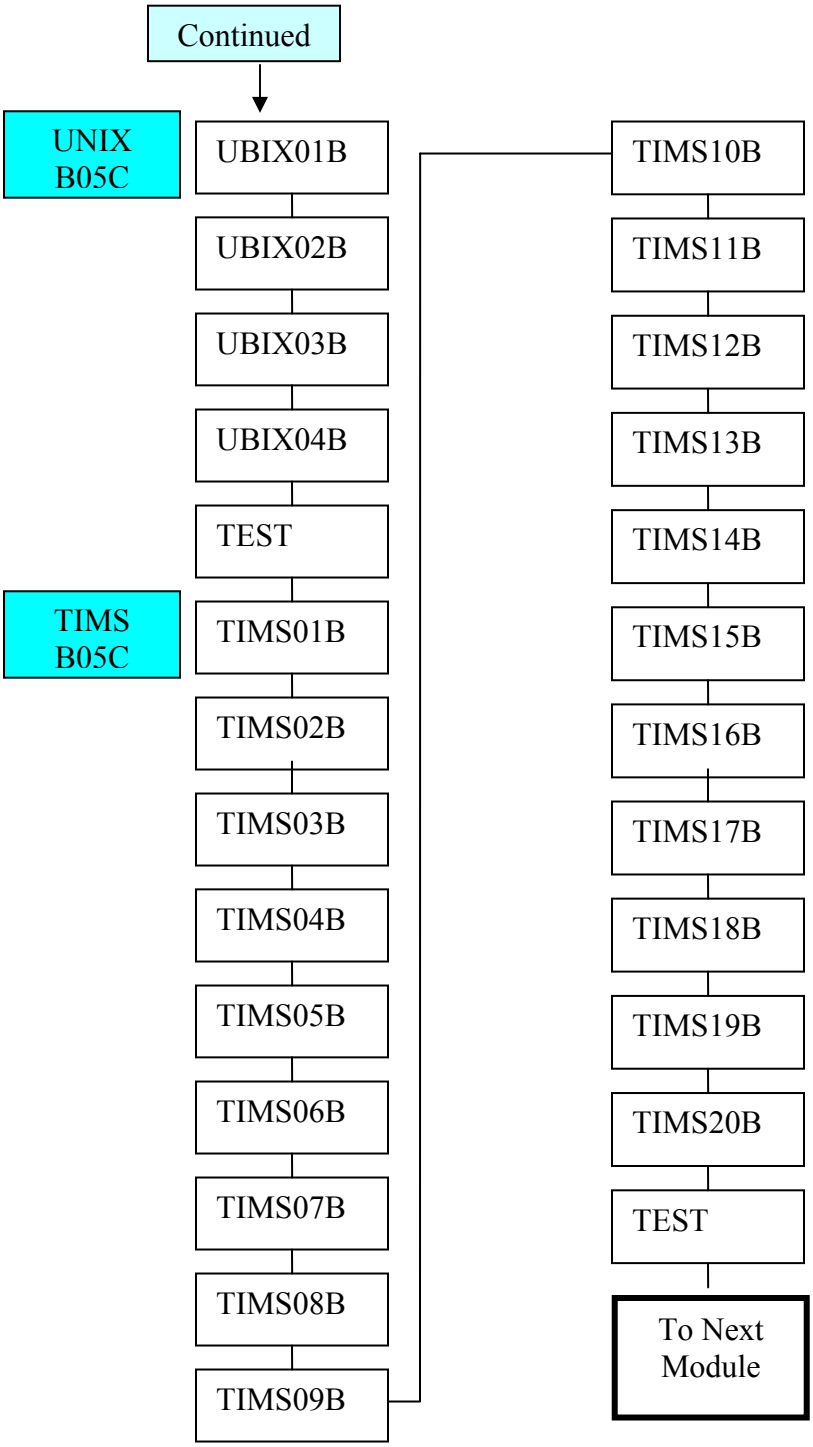
There is no mandatory sequence for the modules taught in 101-25U30 BNCOC. Sequencing of modules can be shifted to meet scheduling needs of the implementing organization.

101-25U30 BNCOC Lesson Map – Module A Computer Technology



*** See breakout - Lessons in this module will be taught in the order shown above.**


NEPB05C
NEP01B
NEP02B
NEP03B
NEP04B
NEP05B
NEP06B
NEP07B
NEP08B
NEP13B
TEST
TCPIP B05C
TCPIP01B
TCPIP02B
TCPIP03B
TCPIP04B
TCPIP05B
TCPIP06B
TCPIP08B
TCPIP10B
TCPIP11B
TCPIP14B
TCPIP16B
TEST
ROUT B05C
ROUT01B
ROUT02B
ROUT03B
ROUT04B
ROUT05B
ROUT06B
ROUT07B
ROUT08B
TEST
2KSRV B05C
2KSRV01B
2KSRV02B
2KSRV04B
2KSRV06B
2KSRV07B
2KSRV08B
2KSRV09B
2KSRV12B
2KSRV13B
TEST
Continued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TIMS12B
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TIMS14B
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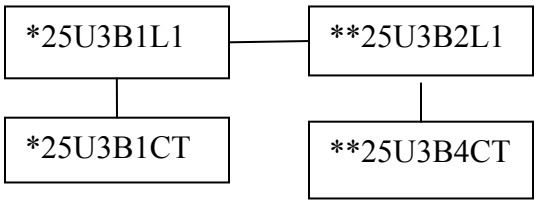
TEST
To Next Module

101-25U30 BNCOC Lesson Map – Module B TACSAT

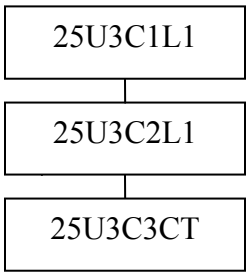


*** and ** may be presented in any order**

*** presented in the order shown with CT following associated lesson.**

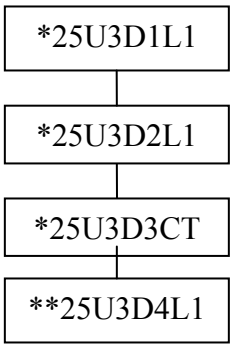
**** presented in the order shown with CT following associated lesson.**

101-25U30 BNCOC Lesson Map – Module C ABCS



Lessons in this module will be taught in the order shown above.

101-25U30 BNCOC Lesson Map – Module D
Common Signal Subjects

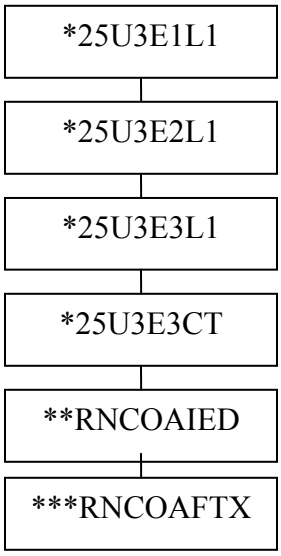


*** Lessons presented in the order shown above.**

**** Lesson may be presented at beginning or end of module**

Appendix E
Course Management Plan (CMP)

101-25U30 BNCOC Lesson Map – Module E
Combat Communications Planning



*** Lessons in this module will be taught in the order shown above.**

**** and *** presented in the order shown**

Training Synopsis	Refer to Student Evaluation Plan (Appendix A, enclosure 1) and POI (Appendix B) for an explanation of phase/module sequencing. Correlation of POI number and lesson description may be obtained utilizing these resources associated with this course.

Student Eligibility and Course Prerequisites	a. Attendees to BNCOC must meet the following eligibility criteria: □ Soldiers must meet enlistment requirements. □ Have not previously received promotion point credit for the course. □ Meet physical fitness and height/weight standards outlined in AR 350-15 and AR 600-9 upon enrollment. b. Attendees to BNCOC must meet the following mandatory prerequisites:

- Active Army or Reserve Component enlisted soldier who meets enlistment requirements.
- Selected by Human Resource Command (HRC), Active Army or selected by appropriate promotion authority for Reserve Component; NCOES for non-promotables.
  - Staff Sergeant or promotable Sergeant.
  - Qualified in his/her MOS.
- Soldiers over 40 Years old must complete the required Over-40 Cardiovascular Screening and receive final medical clearance prior to attending.
- Meet requirements outlined in AR 350-1, TRADOC Reg. 350-10, and TRADOC Reg. 350-18.
- Successfully completed PLDC at least six months prior to start date.
- No permanent profile that prohibits meeting graduation requirements.

NOTE: Per DA Message DTG: 171421Z Dec 03, USASMA Clarification (http://usasma.bliss.army.mil/qao/lastest.htm), "This message is provided for further clarification of the following paragraph. "Combat Operations" applies to those Soldiers conducting operations in Iraq. "Global War On Terrorism (GWOT) Deployment" applies to those Soldiers conducting operations in Kuwait and Afghanistan.

Primary Military Education (PME). The APFT requirement is waived for Soldiers returning from combat operations/GWOT deployment, reporting directly to a PME course (includes NCOES) with 30 or fewer training days. School commandants will ensure Soldiers returning from combat operations/GWOT deployment, reporting directly to a PME course for more than 30 training days, meet the APFT standards prior to graduation."

Height and Weight Standards

All students must meet height and weight standards in accordance with AR 600-9 to enroll into the course. All students will weigh-in during inprocessing. If a student exceeds the screening table weight, the NCO Academy or TASS Battalion will administer the tape test IAW AR 600-9. If the student exceeds the body fat standards, the student will be denied enrollment. The Commandant will deny enrollment, and will notify the first general officer in the student's chain of command. Additionally, the Commandant may direct that any student weigh-in at any time during the course. Should the student exceed the body fat standards, the Commandant will process the student for dismissal.
(Ref: TRADOC Regulation 350-10, para 2-6c and AR 600-9)

Appendix E
Course Management Plan (CMP)

Supplementation

Commandants may not supplement these mandatory prerequisites requirements.
(Ref: AR 350-41, Chapter 9, para 9-5d; AR 350-1, Chapter 3, para 3-8 thru 3-11; AR 614-200; AR 635-200, para 5-14; TRADOC Regulation 350-10,Chapter 2, para 2-6a - d, TRADOC 350-18, Chapter 3, para 3-24, and DA MSG, R 251850Z JUL 01, DA WASHINGTON DC//DAMO-TR SUBJECT: Clarification and Reinforcement of Army Training Policies)

Enrollment Requirements

1. Soldiers reporting for training must have in their possession a completed and properly signed Unit Pre-execution Checklist (signed by the soldier and his/her commander). The Unit Pre-execution Checklist is located at Appendix H, TRADOC Regulation 350-18 and the RNCOA Homepage http://www.gordon.army.mil/rncoa/default.htm . Soldiers reporting for training without a signed checklist will have 72 hours from the report date to provide the signed checklist and any supporting attachments. IDT students will have until the Saturday of the second MUTA-4 (or day three of the POI). Students failing to meet this requirement will return to their unit.

2. Students with a permanent designator of "3" or "4" on the PULHES block must include a copy of DA Form 3349 and the results of the Soldier's military medical review board (MMRB) as part of course application. Soldiers who have been before an MMRB, or similar board, awarded medical limitations and allowed to retain their occupational classification, will be allowed to attend appropriate courses and train within the limitations of their profile - provided they can otherwise meet course prerequisites and graduation requirements.

3. For students with permanent profiles, their profile must include an aerobic event. Soldiers with permanent profiles that permit an alternate event must meet course graduation requirements.

4. Do not enroll Soldiers with temporary profiles, other than shaving profiles (excepted as noted below). For Soldiers diagnosed as pregnant after enrollment, the attending physician must make a determination if continuing the course would be harmful to the pregnant Soldier. Pregnant Soldiers must provide a copy of the attending physician's recommendation. A Soldier medically dismissed for pregnancy after enrollment will be eligible to return to the course when the condition that led to the medical dismissal no longer exists. (Ref: TRADOC 350-10, Chapter 2, para. 2-6d).

NOTE: IAW ALARACT 140/2004 Subject: Selection and Scheduling of Soldiers for Army Schools, paragraph 6: "Soldiers with temporary medical profiles due to participation in OIF/OEF will be permitted by their immediate commanders to attend PME

(includes NCOES) within the guidelines of their temporary profile. Soldiers must arrive at the aforementioned courses of instruction with a copy of their current temporary profile and a memorandum signed by their commander stating the temporary profile is a result of injuries sustained due to participation in OIF/OEF."

5. Deny enrollment to Soldiers failing to meet any one of the above prerequisites.

Nonacademic Requirements

The following provides a brief description of administrative non-academic activities required during the course. They are not POI training requirements or supported by Instructor Contact Hours (ICH).

Activity	Synopsis
In-processing/ Weigh-in	Students shall undergo In-processing, weigh-in, and turn in medical screenings before the course starts. They will receive a briefing on the Student Evaluation Plan and it's location for individual review, lesson Advance Sheets, Independent Study Assignments (lessons), and required publications.
Commandant's Orientation	This allows for the Commandant's welcome, orientation, and briefing on local Standing Operating Procedures (SOPs). This includes a safety briefing, standards of conduct expected while attending the course, and introduction of the staff and faculty. It will also include graduation requirements. The local academy commandant will develop this briefing.
Introduction to BNCOC	SGLs/instructors conduct this session in the group rooms. They provide an overview of the Basic Noncommissioned Officer Course and explain the objectives and course standards. They also discuss course content, explain the small group process, and cover study requirements and techniques, and the Leadership Performance Evaluations. They will also explain the Student Evaluation Plan. Assign Student Discussion Leaders (SDLs), make lessons assignments, and issue the lessons.
Study Hall	This provides students time to adequately study and prepare for the next day's lessons and complete the Independent Study lessons. It also allows instructors to recognize and assist students in correcting poor study habits. Study hall is not mandatory. Training organizations must provide students a single point of contact at a designated location to provide guidance and support.

Commandant's Time/Training Support Activities	This is time used at the Commandants' discretion for remedial/refresher training/retesting, equipment issue/turn-in, travel time as required to/from training areas, physical fitness training sessions (sustainment), religious activities, and other non-POI requirements.
Student Counseling	SGLs must allow for event-oriented counseling for students failing the examinations/evaluations. Additionally, there are reception and integration, and end of course performance and professional growth counseling requirements. There are no ICHs for this counseling.
Out-Processing	Time used for students to clear Phase II activities and out-process.

Appendix E
Course Management Plan (CMP)

CHAPTER 2

SGL/Instructor to Student Ratio

a. Class sizes (the number of students in a class) will vary due to facility capacity and established minimum, optimum, maximum class size. Academies may adjust class size based on their own capabilities, anticipated student load and ATRRS loading, and the number of qualified SGLs/Instructors assigned. Waivers are required for any class under the minimum load or over the maximum. Academies must maintain a 1:12-16 SGL/instructor to student ratio (One SGL/instructor to 12-16 students). This ratio ensures adequate student control, safety, and supervision. It also facilitates teaching, coaching, mentoring, evaluating and developing individual students.

b. Courses taught in The Army School System Signal Battalions will use minimum class size for planning purposes only. The decision to train with smaller class sizes will be made by the trainer's contingent upon resource availability, local commander's approval, and ability to train to standard. The leadership will ensure that risk assessments are made prior to any training event, and that the decision to decrease the class size does not affect the safety or integrity of the training event.

Course Manager Guidance and Responsibilities

The course manager is responsible for ensuring the training is presented as designed. Specifically course manager(s) must:

a. Ensure required training resources are available for presenting the training as scheduled (or available when required by the student for training by distance learning). Training Support Packages for this course are available from:

CDR, USATSC
Section 1.05 Attn: ATIC-DLC-T

Section 1.06 Fort Eustis, VA 23604-5166

b. Ensure instructors receive support, materials, and equipment required for presenting this training.

c. Ensure staff and faculty is trained to present and supervise the training.

d. Continuously evaluate course effectiveness and efficiency and provide appropriate feedback to the training development proponent. Submit questions concerning this CMP or other training materials associated with Military Occupational Specialty (MOS) 25U30 to:

Commander
United States Army Signal Center
ATTN: ATZH-LCA-C
Fort Gordon, GA 30905-5200
Telephone: Commercial (706)-791-6057 or DSN 780-6061
Email: **frankm@gordon.army.mil**

e. Ensure staff, faculty, and students comply with safety and environmental protection, rules, regulations, laws, and course requirements.
f. Ensure facilities, material, equipment, and systems required for presenting this instruction are properly maintained.
g. Obtain and distribute required reference materials.
h. Ensure AC, NG, and AR soldiers meet the standardization requirements for this proponent course by ensuring the learning objectives are taught and evaluated.
i. Shall pay particular attention to the Student-to-Equipment ratio, which is an integral part of the Equipment Summary. The ratio contained in the POI may vary from the implementing organization's capabilities and thereby require increased time to execute specific parts of the POI.
j. Disseminate to the SGLs/instructors information in this CMP that pertains to the SGLs/instructors.
k. Course Manager's will conduct periodic and comprehensive instructor evaluations coupled with an effective remedial program. Periodic evaluations (annually at a minimum) should be conducted for each instructor. Evaluation guidelines and checklists are contained in TRADOC Reg. 350-70, Chap III-4.

SGL/Instructor Grade and Experience Requirements	Minimum instructor grade level for teaching this course is E-6 and a BNCOC Graduate. Additionally, instructors must be MOS qualified prior to presenting the training in this course. Further guidance on grade, standards, and experience is contained in AR 611-101, AR 611-112, AR 611-201, AR 614-200, TRADOC Reg. 350-70, TRADOC Reg. 350-10, and TRADOC Reg. 350-18.

SGL/Instructor Certification Requirements	Instructional staff will meet the following certification requirements and special instructor qualifications. a. Course Managers and school personnel who manage training, SAT personnel, or products will complete the Training Developer Middle Managers' Course provided by Deputy Chief of Staff for Training, TRADOC. b. Platform Instructors will complete the Total Army Instructor Training Course (TAITC). c. Small Group Leaders will complete the TAITC and Small Group Instructor Training Course (SGITC)*. d. Video Teletraining Instructors will complete the TAITC, SGITC*, and Video Teletraining Instructor Training Course (VTTITC) *only when working with courses using small group instruction. e. Certification time will not exceed the time available to the Reserve Component during one TATS Training Year. f. Instructor technical/tactical re-certification will be required when the instructor has not presented/taught the course or assigned lessons within a two-year period. g. AC, NG, and AR units charged with the responsibility of presenting this proponent course will establish a Chain of Command Certification Board to ensure instructors meet all course certification requirements. The Chain of Command Certification Board will ensure instructor competence through observation of the ability to train the course objectives. Documentation of mastery of course content, and instructional skills through certificates, diplomas, and other appropriate documentation may also be used to assist determination of an instructor's competence.

SGL/Instructor Guidance	a. Instructors/Facilitators/SGLs are directly in contact with the students and represent the command in the presentation of the instruction. They

serve as the role model for the students. They must be technically competent and professional in demeanor.

b. Each instructor/facilitator must:

1) Thoroughly study and be well versed in the material prior to presenting the lesson(s).
2) Manage the training and maintain an environment conducive to student learning.
3) Supervise and guide the learning process.
4) Provide immediate feedback on student performance.
5) Be alert to students having difficulty and intercede as appropriate.
6) Be able to explain the Student Evaluation Plan to the students, and post it in a conspicuous location for reference. As appropriate, provide the students with the Home Study Assignments/ Independent Study lessons and other required lesson materials before instruction starts. Thoroughly explain to the students the use/importance of these items and the student responsibilities.
7) Ensure students comply with safety and environmental protection rules, regulations, laws and course requirements.
8) Ensure the students understand the graduation criteria and course requirements prior to start of training.
9) Maintain Course and Student Records as required by local regulatory guidance and TRADOC Reg. 350-70, TRADOC Reg. 350-10, and TRADOC Reg. 350-18.
10) Counsel students as required by local regulatory guidance and TRADOC Reg. 350-70, TRADOC Reg. 350-10, and TRADOC Reg. 350-18.
11) Provide appropriate remedial training as required by local regulatory guidance and TRADOC Reg. 350-70, TRADOC Reg. 350-10, and TRADOC Reg. 350-18.
12) Continuously evaluate course effectiveness and efficiency and provide appropriate feedback to the training development proponent.

Student Counseling Requirements

SGLs/Instructors must counsel students. They will let the students know what the standards are during the Commandant's Orientation and the Introduction to BNCOC session. Additionally, they shall conduct, at a minimum, two performance and professional counseling sessions with each student during the term of the course.

a. The first type of counseling session shall be a Reception and Integration type counseling completed near the start of the course. During this session, the SGL/instructor identifies and helps fix any problem or concerns the student may have. During this session the SGL/instructor also clarifies any questions the student might have, and establishes the

one-to-one dialogue.

b. The second type of counseling session will be a Performance and Professional Growth type counseling conducted during mid course and near the end of the course. During this session, the SGL/instructor conducts a performance review that results in an agreement on a plan of action (Developmental Action Plan) that builds on the student's strengths, and establishes goals to improve the student's weaknesses.

c. Record the results of the counseling sessions using DA Form 4856-E (Developmental Counseling Form) in accordance with FM 22-100.

d. Additionally, the SGL/instructor shall conduct event-oriented counseling sessions after the examinations/evaluations with each student who fails or receives a NO-GO on the examination/evaluation. Using the DA Form 4856-E (Developmental Counseling Form), document the results of this counseling. Include a plan of action to improve and pass the retest.

e. When conducting the Performance Evaluation and the Leadership Performance Evaluations, the SGLs/instructors should comment in writing on the evaluation form on the student's strengths, weaknesses, and ways to improve. The SGLs/instructors will use the information from the counseling sessions when conducting the Performance and Professional Growth counseling and preparing the DA Form 1059 (Service School Academic Evaluation Report).

f. During the counseling, focus on the student's test scores, performance evaluations, leadership performance evaluations, and classroom participation. Inform the student of any shortcomings, and help identify corrective actions to take. Conduct positive counseling, especially for those students who perform well during the course.

g. During counseling and in official records, refer to examinations/ evaluations as "Written Examination," "Performance Evaluation," or "Leadership Performance Evaluations."

h. Include on the counseling form what actions the SGL/instructor agree to take to assist in the student's improvement.

i. Maintain a copy of the Developmental Counseling Forms on file in the student's records, but provide a copy, especially the one showing the developmental action plan, to the student. Counseling records will play a major role in the event the NCOA has to take adverse administrative action against a student.

j. In addition to evaluating students on Brief to Inform, Persuade and

Direct, and Memorandum for Decision, the Written Examination, and the Plans, Orders, and Annexes Exam, SGLs/instructors will evaluate students in an assumed leadership position, and on their ability to lead their classmates in the following activities using a Leadership Performance Evaluation:

- Conduct an Army Physical Fitness Training Session.
- Conduct an After Action Review.
- Conduct a Risk Assessment.
- Facilitate Small Group Instruction.

NOTE: Remember the student received training on the counseling process in Phase I, so it is imperative that all counseling sessions follow the same process.

Student Academic Records

The SGL/instructor will create a file for each student and maintain those files IAW AR 25-400-2, The Army Records Information Management System (ARIMS). (File Number 351-1f, Leaders Course Evaluations).

a. As a minimum, student records must contain copies of the following:

- The enrollment application (as applicable).
- The assignment/attachment order (if applicable).
- A copy of the Unit Pre-Execution Checklist with attachments.
- All student leadership position evaluations.
- Leadership Performance Evaluation Checklists.
- All counseling records (DA Forms 4856-E).
- Copy of DA Form 1059 (Service School Academic Evaluation Report).
- DA Form 705 (Army Physical Fitness Test Scorecard).
- DA Form 3349 (Physical Profile) (if applicable).
- Examination/Evaluation scores (Maintain answer sheets with TCO).

b. In accordance with TRADOC Reg. 350-10:

- Maintain records on graduates for a minimum of 12 months after graduation then destroy.
- Maintain examination answer sheets and associated student papers on disenrolled and nongraduate students for 24 months and then destroy.
- Maintain student examinations answer sheets separately with the TCO and destroy after graduation.

Service School Academic Evaluation Report (AER)

a. Academies and TASS Battalions must prepare a DA Form 1059, Service School Academic Evaluation Report (AER) for each student upon successful completion or up to the point of disenrollment from the course. Do not issue an AER to a student denied enrollment into the course.
b. All comments must be on a face-to-face personal basis and not comments taken from a "one comment fits all" list.
c. The academy must provide the students a copy of their AER on graduation day.
d. The AER is the student's record of completion of the Technical Phase and provides the student's chain of command a clear and concise evaluation of the students' performance during training. Prepare and distribute the AERs IAW AR 623-1 and the Student Evaluation Plan.

Student Recognition

a. Present all students who successfully complete the course meeting all graduation requirements with a copy of DA Form 1059 (Service School Academic Evaluation Report).
b. Academies must input graduation data IAW the Army Training Requirements and Resource System (ATRRS) policies and regulations.
c. Honors for the Technical Phase will be IAW with regulatory guidance and local policy.

Student Guidance

a. The student is responsible for acquiring the skills and knowledge required to meet graduation requirements. This includes successfully completing any Read Ahead Refresher Package, self-development requirements, homework assignments, practical exercises, participating in all training activities, and all practical and written examinations.
b. The student is to be provided the Student Evaluation Plan Appendix A at the start of the Phase 2 portion of the course. The importance and use of these items, and the student's responsibilities must be thoroughly explained to the student (s).
c. Practical exercises and performance examinations (PT) are graded as GO/NO-GO; however, the student must complete each test in accordance with the established standard order to receive an overall GO for the PE/PT. All performance examinations will be included in the grade for the module being tested.
d. Students must complete each written examination in accordance with the established standard in order to receive a passing grade for the module being tested.
e. Students must achieve the established minimum standard or greater on each test, resulting in a total of 1005 accumulated points, in order to graduate from the course.

Appendix E
Course Management Plan (CMP)

Student End of Course Critique	Students must complete the End Of Course Critique (EOCC) that provides constructive feedback concerning the efficiency and effectiveness of the training and training materials.

Appendix E
Course Management Plan (CMP)
CHAPTER 3

Control Procedures for Student Measurement Instruments (Tests)	a. This chapter outlines the procedures NCO academies must follow for test administration to ensure the proper level of test control. These procedures cover the implementation and control required for the examinations and evaluations given throughout the course of instruction. b. Restrict access to paper-based copies of proposed or final test items, scoring/answer keys, or test results to those personnel demonstrating a valid need for the information. c. Immediately investigate suspected compromises and take appropriate actions to reduce the impact of test/test item compromises. d. The examinations and evaluations in this course help ensure the student can demonstrate overall mastery of the course material. They will demonstrate this through situational based open-book criterion referenced written examinations and hands-on, performance-oriented evaluations.
Test Control Officer (TCO) Requirements	a. The following requirements are necessary to secure and safeguard the examinations: 1) Appoint an individual, in the rank of SFC or above, as the Test Control Officer (TCO) IAW TRADOC Reg 350-70 and an alternate Test Control Officer of equal or higher rank. The TCOs responsibility is to maintain control over all examination material. 2) An examination booklet cover sheet must be prepared for each examination and marked IAW current TRADOC guidance. All examination materials will be assigned a control number immediately after reproducing the examination. Upon receipt of test materials, the TCO must conduct a 100 percent quality control check of all examination materials to ensure there are no missing pages, all pages are legible, and the materials are marked as required. 3) Prior to issuing examination materials to the SGL/instructor (or whomever the NCOA designates as a test proctor), place a control number on the examination answer sheets. Local policy will dictate where the examination control number appears on the answer sheet. Ensure the control number on the answer sheet corresponds to the control number on the examination material/booklet issued with it. 4) Issue each test administrator/SGL/instructor only the number of examination materials and answer sheets required to test his students. Inventory the examination materials and answer sheets with the test administrator/SGL/ prior to issuing them. 5) The test administrator accepts responsibility for the examination material while it is in his possession. When returning them to the test control officer, the test proctor and TCO will again inventory the examination materials to ensure proper accountability. 6) When not in use, store all examination materials where only authorized personnel have access to it. Examination materials include the examination, answer key, completed answer sheets,

	blank paper used to record answers, and changes to test material. **NOTE:** Do not store answer keys in the same drawer or container as the examination. 7) Under no circumstances should the SGL/instructors know, in advance, which version of the examination you will use. If designated as test proctors, do not issue the examination materials until just prior to administering the examination. Collect all examination material immediately after the test administrator administers the examination. Test administrator will not grade examinations in a group room with students present. b. Upon receipt of changes to an examination, the TCO will remove and destroy the old versions and replace them with the current changes. The TCO must control and safeguard changes to the same standard as current test material
Security of Test Components	a. The Test Control Officer (TCO) must apply the following common controls to all test materials and test administration situations: 1) Positively verify every student's identity before administering the test. 2) Ensure that all personnel who handle or may handle testing materials in its transmission or administration are made aware of these procedures. 3) Access to all testing materials will be on a need to know basis. 4) Label all controlled test material **"Examination (Testing) Materials—Sensitive in Nature."** FOUO is no longer appropriate. This requirement applies to paper copies or diskettes. Include this warning on all pages (front and back) of all controlled testing material, whether paper or electronic in nature. 5) In addition to the controls listed above, ensure you keep all sensitive testing material not actually in use under the following controls: a) Keep all copies of all sensitive materials in a locked container when not in use. b) Make sufficient copies immediately before administration. c) Make minimum copies required for single administration. d) Destroy extraneous/unneeded materials by shredding or burning. e) Allow NO unauthorized copying/scanning of material.
Security of Electronic Media Test Components	a. The following minimum additional controls apply for electronic media files: 1) Do not store or transfer diskette/CD-ROM based sensitive material to an uncontrolled system. 2) Electronically secure storage medium (diskette/CD-ROM) via password protection if possible (and secure passwords); or physically secure diskette/CD-ROM with a single locking device. 3) Restrict access when viewing material on-screen.

Actions for Loss, Compromise, or Possible Compromise

a. Actions for Loss, Compromise, or Possible Compromise of Sensitive Test Materials. Follow the following procedures for loss, compromise, or possible compromise of sensitive test materials:

1) Investigate every possible unauthorized disclosure of sensitive test material and substantiate or refute every possible compromise. If you cannot substantiate the possible compromise, no further action is necessary.

2) If you substantiate the compromise, you must immediately do a risk assessment and mitigate any serious consequences from the loss. Immediately report all losses or compromises to:

Commander
United States Army Signal Center
ATTN: ATZH-LCA-C
Fort Gordon, GA 30905-5200
Telephone: Commercial (706)-791-6057 or DSN 780-6061
Email: frankm@gordon.army.mil

3) The Commandant must:

- Ensure a thorough investigation of the compromise, or possible compromise, or loss. Initiate proper actions to prevent a recurrence of loss or compromise of test materials.
- Decide what risk mitigation factors to employ.
- Maintain a record of the results of the investigation and actions taken, if any.
- If warranted, initiate investigation under AR 15-6.

Scheduling Written Exam

Scheduling Written Examinations. There are paper-based and performance examinations based on the mandatory lesson training materials. Tests will be, at the least, administered at the end of each module. Training on a subsequent module will not start until the test for the preceding module has been completed. **DO NOT** schedule an examination to take place within 24 hours of another major examination. The intent of the 24-hour period is to ensure that the student does not have to study for more than one major examination at a time. This does not apply to retests.

Open Book Written Exams

Open-Book Written Examinations. All written examinations are open-book. The examinations require the student to apply knowledge to solve problems in an environment that simulates the soldier's duty position. Students may use Advance Sheets, Practical Exercises, applicable publications issued for the course, personal notes, and calculators. All material used during the examination must be the student's own or issued by the Academy for the individual student's use. The intent is to test the student's knowledge of the subject matter or their ability to research and find the correct answer.

Test Standards	The determination of satisfactory completion of the course rests with the SGL/instructor and the commandant, based upon satisfactory completion of each subject area. Provide remedial/refresher training and retest all soldiers rated NO-GO or failing an examination/evaluation. You may administer one retest. Dismiss students who do not meet established academic criteria. Infractions of discipline, demonstrated lack of motivation, and inability to meet course standards are valid reasons for a student's disenrollment/ dismissal.
Evaluating Results of Written Exam and Performance Tests	a. Evaluating Written Examination Results and Retest. 1) To pass each module the student must achieve the minimum passing grade or higher establish for each written examination. 2) If a student fails the initial examination, provide remedial/refresher training, and retest the student. If a student fails the retest, dismiss the student from the course. 3) If a student fails the examination, the one retest will cover the entire test and not just the portion the student failed. 4) Award students passing the retest their initial test score for grade averaging and class standing. Regardless of the student's actual grade point achieved on any retest, the maximum allowable credit is equal to the minimum established percentile for each test. However, record the final retest score in the student record to establish the level of proficiency attained. b. Leadership Performance Evaluations. In addition to the written examinations and performance evaluations, each BNCOC student must assume a leadership position in order to demonstrate their leadership ability and skills.
After Action Review (AAR)	a. Conduct a test review or After Action Review (AAR) following each examination in order for students to know what questions they missed and to learn from their mistakes. To conduct a proper AAR while not compromising the exam, USASMA recommends the following procedures: 1) At the beginning of the exam, give each student a blank piece of paper along with the examination and answer sheet. Have the students write their names and student numbers on the blank piece of paper and have them number on the paper 1 through 50. Tell them this is a review sheet **(NOT** an answer sheet) to use in the AAR following the exam. Tell the students that after they have completed the exam, to put their answers on the review sheet. Once they have completed the exam and filled out their review sheets, the students turn this sheet into the instructor along with the examination materials and the answer sheet. Immediately upon completion of the examination, test administrators/ SGLs/instructors must turn in

the answer sheets to the TCO for grading.

2) After receiving the results, begin the AAR. Hand out the review sheets. Conduct the AAR by going over each question and discussing the answers. At the conclusion of the AAR, collect all copies of the review sheets. To ensure there is no compromise of the examination, turn-in all review sheets along with the examination to the TCO.
3) Student Counseling. Counsel those students who fail the examination or receive a "NO-GO" on the evaluation. Include a plan of action to improve and pass the retest. Explain how and what remedial/refresher training will take place. Document the counseling using the DA Form 4856-E (Developmental Counseling Form).

Destruction, Transfer and Loan of Sensitive Test Materials

a. Actions for Destruction, Transfer, and Loan of Sensitive Test Materials. The following applies to the destruction, transfer, and loan of sensitive test materials:

1) Destruction of Test Materials – Academy and TASS battalions shall destroy test materials they no longer need IAW such procedures as they designate (e.g., burning, shredding, purging of files, reformatting diskettes, etc.).
2) Transfer of Test Materials - Academy and TASS battalions may transfer surplus tests to another academy that needs them. The commandant or TCO must approve and monitor all transfers of sensitive test materials.
3) Loan of Test Materials - When a need arises, the Academy and TASS battalions may borrow a test from the nearest Active Duty, National Guard, or Army Reserve TCO. In such cases, the academies involved must take proper security precautions in handling test material.

Test Administration

a. Examination Administration Procedures. Small Group Leaders(SGLs)/Instructors will issue the examination/evaluation Advance Sheet to the students at the beginning of the course and brief them on the following procedures prior to the examination/ evaluation:

1) Students should review all lesson materials and notes prior to taking the examination.
2) Students may use any reference material available to them during the examination. This includes Advance Sheets, Army publications, commercial publications, personal notes, and calculators subject to the following restrictions:

a) Students must not damage recoverable publications/materials. This

means that students shall not tab, fold, crease, highlight, or write on pages of recoverable publications/materials. **Students may tab reference material with a non-permanent adhesive tab such as** *Post-it® Notes* **or other means that will not mark or damage the recoverable publications/materials.** Students may highlight and make marginal notes only in the non-recoverable reference materials.

b) All material used during examinations must be the student's own. Students **may not** use notes, summary sheets, or other material written by someone else.

c) Proponent's intent is to ensure students either know the lesson material or know how to research and find the correct answers. Proponent expects students to understand the information presented during the course and use this knowledge in future assignments.

d) Students will bring all authorized references listed on the Advance Sheets to the test site.

b. Criterion Test Instruction (CTI) documents outline the procedures for administration of the formal criterion test, while the actual examinations determine the student's ability to perform one or more learning objectives and tasks. The CTI contains the evaluation criteria, directions to the test administrator, directions to the student, directions for scoring, and student score sheet. In cases where necessary, the CTI will contain an instructor procedural guide, which outlines detailed (step-by-step) procedures the instructor must use to evaluate student performance.

c. Administer the test(s) IAW the guidance contained in the CTI material.

d. Because of accreditation requirements associated with NCOES, all examinations will be retained in an approved Test Control Office (TCO) IAW AR 611-5, TRADOC Reg. 350-70, TRADOC Reg. 350-10, and TRADOC reg. 350-18.

e. Comments or questions concerning the examinations should be addressed to:

Commander
United States Army Signal Center
ATTN: ATZH-LCA-C
Fort Gordon, GA 30905-5200
Telephone: Commercial (706)-791-6057 or DSN 780-6057
Email: frankm@gordon.army.mil

f. Testing materials will be ordered through the TASS Branch at the Signal Center.

Directorate of Training
TASS Branch
ATTN: ATZH-DTS-TASS
163 2nd Avenue
Fort Gordon, GA 30905-5901
DSN 780-1073, Commercial (706) 791-1073

Appendix E
Course Management Plan (CMP)

CHAPTER 4

Program of Instruction	a. The POI is provided as a separate document and is issued with this CMP. **See Appendix B** 1) Times identified for Practical Exercises and Performance Examinations in the IDT and ADT sections of the POI are based on the time required for one soldier or a team to perform the required activity and assumes a one-to-one student-to-equipment ratio. Training activities implementing this POI must evaluate their ability to accommodate the required training based on their student-to-equipment availability. In order to meet training and testing requirements, the course length may need to be increased due to Student-to Equipment Ratios other than one-to-one. Under no circumstance will the course exceed 460 hours (resident POI course length) without Proponent and TRADOC approval. 2) Instructor contact hours are based on the number of instructors required to conduct the training, based on the applicable lesson student to equipment ratio and a class size of 12 to 16 students. The following should be used to determine instructor requirements: a) SGI or Conference – 1 instructor b) Practical Exercise 1 (hands-on equipment) – 2 instructors (minimum) * c) Practical Exercise 3 (performance based, no equipment) – 1 instructors d) Written Examinations – 2 instructors e) Performance Examinations – 2 instructors (minimum) * * The number of individuals or teams being evaluated simultaneously and/or the density of equipment determine Instructor requirements for hands-on training and examinations.
Training Material/Equipment	a. The equipment required to administer the Program of Instruction is listed in the Equipment Summary of the POI. Training organizations are responsible for providing the required equipment to execute the POI. b. Within the POI, the REMARKS section of the module lesson plans may provide for some variables in equipment usage.
Facility Requirements	a. The facilities required to support and administer this Program of Instruction are contained in the Facilities Summary of the POI. b. The facility requirement is based on single optimum class iteration.
References	Required reference materials for each lesson are indicated in the individual lesson plans. This precludes the requirement to change the CMP each time a reference update occurs.

Appendix E
Course Management Plan (CMP)
Student Evaluation Plan

Index of Student Handouts

This Appendix Contains

This Appendix contains the item listed in the following table-

ITEM	Article II. PAGES
SH-1, Student Evaluation Plan (SEP) for 25U BNCOC	3
SH-1 Enclosure 1 Academic Grading and Test Plan	9
SH-1 Enclosure 2 DA Form 1059, Service School Academic Evaluation Report	21

NOTE: The SGL must explain the Student Evaluation Plan to each student at the beginning of the course and post a copy in a conspicuous location.

Appendix E
Course Management Plan (CMP)

STUDENT HANDOUT 1

STUDENT EVALUATION PLAN (SEP) FOR 25U BNCOC

Overview	The Student Evaluation Plan (SEP) explains how the Signal Corps Regimental Noncommissioned Officer Academy (RNCOA), conduct MOS 25U BNCOC Technical Training and if students have demonstrated a sufficient level of competency to pass the course. It establishes student responsibilities and training graduation (pass/fail) criteria, and lays out the testing strategy used to evaluate the student on the training. It specifically identifies course completion requirements to include the minimum passing score (including GO/NO-GO and Satisfactory or Superior) for each written examination and performance evaluation. It identifies specific lessons tested by each examination/evaluation, and describes the counseling and retesting policy. It also includes requirements for the End of Course (EOC) Record Army Physical Fitness Test (APFT).
Applicability	This SEP applies to Active Army, Army National Guard (ARNG), and U.S. Army Reserve (USAR) Soldiers attending the 25U Basic Noncommissioned Officer Course (BNCOC). This course provides Soldiers selected for promotion to Staff Sergeant with an opportunity to acquire the leader and tactical skills, knowledge and the behaviors needed to lead a platoon size element.
Student Requirements	1. Read the attached Student Evaluation Plan and its enclosures. 2. Abide by the policies and procedures of this SEP.
SGL/Instructor Requirements	Explain this SEP to the students at the beginning of the course. Post it in a conspicuous location for reference by the students.

Appendix E
Course Management Plan (CMP)

ATZH-LCA-D

MEMORANDUM FOR Students Attending 25U Basic Noncommissioned Officer Course (BNCOC)

SUBJECT: Student Evaluation Plan (SEP) for the 25U Basic Noncommissioned Officer Course (BNCOC), Course Number, 260-25U30

1. This Student Evaluation Plan (SEP) establishes student responsibilities, training, and graduation (pass/fail) criteria, by detailing how this Academy will determine if the student has demonstrated a sufficient level of competency to pass, and specifies the testing strategy used to evaluate the student on the training.

2. This SEP informs students, Small Group Leaders (SGL)/instructors, and other personnel of the course graduation requirements. Small Group Leaders (SGL) will explain this plan to the students at the beginning of the course and post it in a conspicuous location for reference by the students.

3. This SEP includes:
   a. Student Responsibilities.
   b. Counseling.
   c. Other Evaluations – APFT, FTX
   d. General Standards.
   e. Student Grievances and Redress.
   f. Student Recognition.
   g. Challenging Training.
   h. Academic Grading and Test Plan is (Enclosure 1).
   i. DA Form 1059, Service School Academic Evaluation Report (Enclosure 2).

4. STUDENT RESPONSIBILITIES.

   a. This course uses the Small Group Instruction (SGI) Technique of Delivery. This technique places the responsibility for learning on the student through participation in small groups led by small group leaders (SGLs) who serve as role models and instructors throughout the course. The SGL uses small group processes, methods, and techniques to stimulate learning. The SGL is an instructor who facilitates counseling, coaching, learning, and team building in SGI.

   b. The Small Group process is a technique for learning in small groups that uses student experiences, requires intensive student interaction, and makes each student responsible for his/her own learning. Cooperation takes precedence over competition. SGI provides individualized learning, team building, and maximum exchange of ideas. It also requires students to serve as Student Discussion Leaders (SDLs) and lead some training.

c. It is the students' responsibility to learn to perform the lesson training objectives of this training. This includes completing the homework assignments, completing the Practical Exercises (PEs), and fully participating in classroom/group room discussions and training activities.

d. The Academy will dismiss students who fail a retest/reevaluation, fail to meet performance standards, fail to meet standards of conduct, and require extraordinary assistance to remain in the course.

5. COUNSELING.

a. Students will participate in at least four counseling sessions conducted by the SGLs during the course. When a student receives formal counseling, the SGL will complete a DA Form 4856-E (Developmental Counseling Form). At a minimum, each student will receive:

1) An initial (reception and integration) counseling.
2) Two performance and academic growth for academic progress. One scheduled for midcourse and the other scheduled for end of course; however the soldiers will be counseled twice in these areas.
3) At least one counseling will cover performance while serving in an evaluated leadership position.
4) Students will receive additional counseling whenever their academic standing reaches borderline failing status or if they fail any examination/ evaluation, or fail to comply with the standards of conduct. Students must attend a mandatory study hall if he/she is failing or is in danger of failing the course.

b. All counseling will include a developmental action plan. The leadership position, mid-course and end of course counseling's will serve as a basis for comments on the DA Form 1059 (Service School Academic Evaluation Report).

6. OTHER EVALUATIONS.

a. Physical Fitness Test (APFT). Students must take and pass a record APFT prior to the end of the course. The standard APFT will be administered within the last 14 days of the course, but not later than 7 days prior to graduation. Students with permanent profiles will take the APFT with alternate test events; the APFT must include an aerobic event. The passing grade is 180 points (60 points per event) and is a graduation requirement. Students who fail the initial test will retest no sooner than 7 days from the initial test failure, but not later than the day prior to graduation. Students who fail the APFT retest will be dismissed for failure to meet APFT standards and will not graduate. Students failing the initial APFT and found medically unqualified to retest within the required period of time will receive a medical dismissal. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

b. FTX Evaluation. This is a requirement for graduation effective 1 October 2005. The FTX evaluates the student on the 13 combat leader common skills the students become familiar with in COMMON CORE. Students are expected to put cumulative training into the proper

format to successfully complete the 72 hours of continuous operations. Training focuses on the environment in which the NCO will operate. Training is based upon FM 7-8, FM 7.0, FM 7.1, and ARTEP 11-067-30-MTP. Students will be evaluated on the following classes:

1) Conduct a Tactical Road March
2) Occupy An Assembly Area
3) Apply Troop Leading Procedures
4) Move Tactically
5) Direct Reacting to Contact
6) Consolidate and Re-organize
7) Direct Reacting to Contact
8) Direct Reacting to Indirect fire
9) Direct Reacting to Ambush
10) Employ Air Defense Measures
11) Direct Breaking Contact
12) Defend the Perimeter
13) Conduct Continuous Operations

NOTE: See DA MSG regarding APFT in Chapter 1, "Student Eligibility and Course Prerequisites" regarding deployed Soldiers.

7. GENERAL STANDARDS.

a. Minimum Achievements. Students must complete all graded requirements/graduation requirements, all homework assignments, all Practical Exercises, and all Performance and Leadership Position Evaluations. Students will attend all classes and training activities. Students will participate in all training activities and may serve as Student Discussion Leaders (SDLs), where they will lead the discussion of certain classes. Students must complete each graduation requirement to the established standard. Failure to pass any of the graduation requirements will constitute failure to meet course standards and the student will not graduate. Students will receive only one retest.

b. Standards of Conduct. Students will conduct themselves in a manner expected of a Noncommissioned Officer. This includes demonstrating law abiding personal conduct and behavior, both on and off duty. The NCO Academy Commandant may relieve students from the course for any conduct or behavior that violates local, state, or federal law, including the Uniform Code of Military Justice (UCMJ) or for any conduct or behavior that violates any DoD, Army, or local Regulation or policy. This includes, but is not limited to, substantiated cases of lying (oral or written, sworn or unsworn), cheating, plagiarism, and improper relationships, e.g., senior-subordinate or student-cadre. Students shall be at their appointed place of duty on time. Students demonstrating a pattern of lateness may receive dismissal consideration.

c. Physical Fitness Standards. Students must meet and maintain physical fitness standards. Students will maintain physical fitness standards by participating in physical fitness training sessions a minimum of three times per week, Monday, Wednesday, and Friday. Students will conduct an AAR after each training session. SGLs will evaluate students on their ability to lead the physical fitness training sessions. Students with permanent medical profiles will take part within their profile limitations. The Commandant will consider administrative dismissal for students that receive a temporary profile that precludes them from meeting the minimum graduation requirements of the course.

d. Remedial/Refresher Training and Retesting. SGLs will formally counsel students failing an initial examination/evaluation. They shall provide remedial/refresher training and offer one retest. They will coordinate remedial/refresher training and retesting during non-POI time. They shall provide a retest for the Written Examinations no earlier than 24 hours of the initial examination. They shall provide a retest for the performance evaluations within 72 hours of the initial evaluation.

e. Student Elimination From the Course. The Commandant may remove students from the course before course completion for disciplinary reasons, lack of motivation, and other valid reasons, such as illness or injury, and academic deficiencies. Failure of any student to maintain standards during the course may constitute an infraction of the UCMJ or may simply indicate a lack of motivation or aptitude. Students whose actions during the training constitute a violation of the UCMJ may receive a suspension or dismissal from the course. Commandants may require them to report to the court-martial convening authority. SGLs will counsel those students whose actions demonstrate a probable lack of motivation, and may consider them for dismissal/disenrollment for motivational, disciplinary, or academic reasons.

8. STUDENT GRIEVANCES AND REDRESS. Students having a grievance purely academic in nature will address that grievance to SGL/instructor and then to the Branch Chief, whose decision is normally final. Students may also address their grievance to the Commandant, if necessary. Students having a grievance involving discrimination or violation of policy should use the chain of command up to the Commandant. Students may seek the assistance of the Inspector General (IG) at any time, but first must inform the chain of command if he/she desires to see the IG during duty time.

9. STUDENT RECOGNITION. Students successfully completing this course will receive a DA Form 1059 Service School Academic Evaluation Report (AER). Additional certificates of training, honors, and achievement may be awarded; examples include, but are not limited to: Distinguished Graduate, Honor Graduate, Commandant's List, Leadership Award, Iron Squad/Platoon recognition, Physical Fitness Certificate.

10. CHALLENGING TRAINING. BNCOC 25U30 MOS Technical Training does not have a test-out policy. Students may not get credit or take any tests prior to receiving the training without the approval of the Chief of Training or Commandant.

11. Any questions concerning this SEP will go through the SGL, and then to the Chief of Training.

12. Point of contact for the RNCOA is Chief, Training Development, Commercial (706) 791-6057, DSN: 780-6057, e-mail: frankm@gordon.army.mil .

RODERICK D. JOHNSON
CSM, USA
Commandant

Appendix E
Course Management Plan (CMP)

Student Evaluation Plan (SEP) for 25U BNCOC (Enclosure 1)

ACADEMIC GRADING AND TEST PLAN

1. The RNCOA Technical Training for BNCOC MOS 25U30 will use written examinations, performance evaluations, and leadership performance evaluations to ensure students can demonstrate overall mastery of course material and meet course graduation requirements.

2. The Academy will evaluate academic subject matter on a basis of 100 weight points per written examination distributed according to this document. They shall calculate weight point achievement to a percentage computed to the second decimal place (00.00%) to determine student's completion of training. To pass each module the student must achieve the minimum passing grade or higher established for the following:

- Written Examinations
- FTX (Shared Training Exercise) Hands on evaluation
- Performance Examinations

(a) The Leadership Performance Evaluations are evaluated but are not included in numbered scores for purposes of academic GPA. They are considered for the total soldier concept.

(b) The student must pass each module with a minimum total of 595 accumulated points in order to qualify academically for graduation.

3. The Academy will provide remedial/refresher training to those students failing an examination/evaluation and offer them one retest. The retest will cover the entire test and not just the portion the student failed. Should a student fail the retest, the SGL will initiate a dismissal packet through the Commandant from the course if it is a graduation requirement.

4. The Academy will award students passing the retest their initial test score for grade averaging and class standing. Regardless of the student's actual grade point achieved on any retest the maximum allowable credit is equal to the minimum established percentile for each test. However, record the final retest score in the student record to establish the level of proficiency attained.

5. The major examinations/evaluations are:

a. Written Examination. The Written Examination, may be an open-book, performance-based, or multiple-choice examination that requires the student to select the best correct answer by applying knowledge to solve problems. Students may use their Advance Sheets, Practical Exercises, publications, personal notes, or calculators. Students must demonstrate their knowledge of the subject in selecting the correct answer. To pass each module the student must achieve the minimum passing grade or higher established for the specific examination. This is a graduation requirement. Students who fail the initial examination will undergo remedial/refresher training and get one retest. The Academy will drop/dismiss from

the course any student who fails the Written Examination retest for failure to meet course standards. The flowchart in this enclosure graphically depicts the flow process for the Written Examination.

b. FBCB2 Exam: Examination covers POI File Number 25U3B4CT. This examination consists of a written and hands on exam. This examination evaluates the soldiers understanding of Force XXI Battle Command Brigade-and -Below. It tests the soldier's knowledge of operating the FBCB2 to include startup procedures, status functions, administrative functions, map functions, shutdown procedures, and PMCS. Area included in this exam:

1) Force XXI Battle Command Brigade-and-Below (FBCB2) 2U3BL1

Students must score at least 90 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

c. Networking Essentials Exam: Examination covers POI File Number NEPCTB/B05C. Examination evaluates the soldier's understanding of Networking Essentials. It tests the soldier's knowledge of Local Area Network media, topologies, architecture, operating systems, standards, protocols, connectivity, design, installation and troubleshooting. Lessons covered within this examination are the following:

1)	Identify a Computer Network	NEP01B
2)	Network Media	NEP02B
3)	Network Architecture	NEP03B
4)	Survey Network Operating Systems	NEP04B
5)	Analyze Network Standards	NEP05B
6)	Define Network Protocols	NEP06B
7)	Identify Elements of Network Connectivity	NEP07B
8)	Design and Install a Network	NEP08B
9)	Troubleshoot a Network	NEP13B

Students must score at least 80 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

d. TCP/IP and Subnetting Exam: Examination covers POI File Number TCP/IPCTB/B05C. Examination evaluates the soldiers understanding of Networking with TCP/IP and Subnetting. It tests soldier's knowledge of IP Addressing, Subnetting, and Implementing IP Routing. Areas included in this exam are:

1)	Intro to Networking with TCP/IP and Subnetting	TCP/IP01B
2)	Installing and Configuring TCP/IP	TCP/IP02B
3)	Architectural Overview of the TCP/IP Protocol Suite	TCP/IP03B
4)	IP Addressing	TCP/IP04B
5)	Subnetting	TCP/IP05B

6)	Implementing IP Routing	TCP/IP06B
7)	NetBIOS over TCP/IP	TCP/IP08B
8)	IP Internetworking Browsing and Domain Functions	TCP/IP10B
9)	Host Name Resolution	TCP/IP11B
10)	Connectivity in Heterogeneous Environments	TCP/IP14B
11)	Troubleshooting Microsoft TCP/IP	TCP/IP16B

Students must score at least 80 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

e. Router Exam: Examination covers POI File Number ROUTCTB/B05C. Examination evaluates the soldiers understanding of router operations. It tests soldier's knowledge of Internetworking, TCP/IP and router configuration and protocols. Lessons covered within this examination are the following:

1)	Intro to Internetworking with CISCO Routers	ROUT01B
2)	Basic Router Configuration on CISCO Routers	ROUT02B
3)	Configure a Router	ROUT03B
4)	Configuring IP Routing	ROUT04B
5)	Managing Network Environment	ROUT05B
6)	Access List Configuration on CISCO Routers	ROUT06B
7)	Routing (Static and Dynamic)	ROUT07B
8)	Router Configuration Review	ROUT08B

Students must score at least 80 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

f. Windows 2003 Server Exam: Examination covers POI File Number 2KSRVCTB/B05C. This examination evaluates the soldiers' ability to understand the skills and knowledge necessary to install and configure Microsoft Windows 2000 Server. It tests soldier's knowledge on installing and configuring Microsoft Windows 2000 Server, administers NTFS File System, administer Print Services, implement Network Protocols and Services, and perform System Monitoring and Optimization. Areas included in this exam are the following:

1)	Windows 2003 (W2K3) Server Operating System (OS) Introduction	2KSRV01B
2)	Installing Windows Server 2003	2KSRV02B
3)	Administering A W2K3 File System	2KSRV04B
4)	Administering W2K3 Active Directory Services	2KSRV06B
5)	Administering A W2K3 Server	2KSRV07B
6)	Administering a W2K3 Print Services	2KSRV08B
7)	Network Protocols and Servers	2KSRV09B
8)	Reliability and Availability	2KSRV12B

9) Monitoring & Optimization 2KSRV13B

Students must score at least 80 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

g. Unix Exam: Examination covers POI File Number UNIXCTB/B05C. Examination evaluates the soldiers understanding of Unix file structure and operating conventions. It tests soldier's knowledge of Unix File Structure and Operating Conventions, and Screen Editor and Script Files. Lessons covered within this examination are the following:

1)	Unix Operating Systems Overview	UNIX01B
2)	Unix File Structure and Operating Conventions	UNIX02B
3)	Unix Commands and Utilities	UNIX03B
4)	Unix Screen Editor (VI) and Script Files	UNIX04B

Students must score at least 80 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

h. Tactical Internet Management System (TIMS) Exam: Examination covers POI File Number TIMSCTB/B05C. This examination evaluates the student's ability to monitor radio systems that comprise the Tactical Internet Network. It tests soldier's knowledge of monitoring and configuring radio systems such as EPLRS, SINGARS, GPS, and NTDR. Lessons covered within this examination are the following:

1)	TIMS Introduction and Overview	TIMS01B
2)	Tactical Internet Familiarization	TIMS02B
3)	TIMS Hardware Configuration	TIMS03B
4)	EPLRS Radio Set	TIMS04B
5)	Introduction to the SINGARS ASIP	TIMS05B
6)	Introduction to the NTDR-12CR Near Term Digital Radio	TIMS06B
7)	Troubleshooting	TIMS07B
8)	On-Line Tools and the Context Sensitive Help Functions	TIMS08B
9)	Administrative Functions	TIMS09B
10)	Planning Function	TIMS10B
11)	Operational Data Reports	TIMS11B
12)	Planning Package Operations	TIMS12B
13)	Configuration and Initialization Tools	TIMS13B
14)	Monitoring Status and Operations	TIMS14B
15)	EPLRS Network Manager	TIMS15B
16)	Initiate and Execute a Unit Task Reorganization (UTR)	TIMS16B
17)	Star Office	TIMS17B
18)	Security and C2 Protect Tools	TIMS18B

19) What's Up Unix TIMS19B
20) End of Course Review TIMS20B

Students must score at least 80 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

i. AN/PSC-5 SPITFIRE Exam: Examination covers POI File Number 25U3B1CT. Examination covers the introduction and overview of the AN/PSC-5 Spitfire. Lesson covered within this examination:

AN/PSC 5 Spitfire 25U3B1L1

Students must score at least 90 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

j. SCAMP Exam: Examination covers POI File Number 25U3B4CT. Examination covers the introduction and overview of the AN/PSC-11 SCAMP terminal. Lesson covered within this examination:

1) AN/PSC-11 (SCAMP) 25U3B2L1

Students must score at least 90percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

k. Maneuver Control System (MCS) Exam: Examination covers POI File Number 25U3C3CT. This examination evaluates the soldiers' ability to understand the Army Battle Command System (ABCS) and Maneuver Control System. It tests soldier's knowledge to perform Basic System Operations on the Maneuver Control System Workstation. Areas included in this examination are:

1) ABCS Overview 25U3C1L1
2) Maneuver Control System (MCS) 25U3C2L1

Students must score at least 90percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

l. Common Signal Subjects Exam: Examination covers POI File Number 25U3D3CT. Examination covers aspects of the COMSEC awareness program as well as the introduction and overview of the AN/PSC-11 PLGR. Subject covered within this examination:

1) Communications Security (COMSEC) Awareness - CBT 25U3D1L1
2) AN/PSN-11 Precision Lightweight GPS Receiver - 25U3D2L1

Students must score at least 85 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

m. Combat Communications Planning Exam: Examination covers POI File Number 25U3E3CT. Examination evaluates the soldiers' ability to select radio sites and antenna systems. Areas included in this examination are:

1)	Select a Radio Retrans site - CBT	25U3E1L1
2)	Antenna Systems - CBT	25U3E2L1
3)	Conduct Operational Readiness Insp. - CBT	25U3E3L1

Students must score at least 85 percent to pass. Students who fail the initial evaluation will undergo remedial/refresher training and get one retest. This is a graduation requirement. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

i. Physical Fitness Test (APFT). Students must take and pass a record APFT prior to the end of the course. The standard APFT will be administered within the last 14 days of the course, but not later than 7 days prior to graduation. Students with permanent profiles will take the APFT with alternate test events; the APFT must include an aerobic event. The passing grade is 180 points (60 points per event) and is a graduation requirement. Students who fail the initial test will retest no sooner than 7 days from the initial test failure, but not later than the day prior to graduation. Students who fail the APFT retest will be dismissed for failure to meet APFT standards and will not graduate. Students failing the initial APFT and found medically unqualified to retest within the required period of time will receive a medical dismissal. The flowchart in this enclosure graphically depicts the flow process for Performance Evaluations.

j. FTX Evaluation. This is a requirement for graduation effective 1 October 2004. The FTX evaluates the student on the 13 combat leader common skills the students become familiar with in COMMON CORE. Students are expected to put cumulative training into the proper format to successfully complete the 72 hours of continuous operations. Training focuses on the environment in which the NCO will operate. Training is based upon FM 7-8, FM 7.0, FM 7.1, and ARTEP 11-067-30-MTP. Students will be evaluated on the following classes:

1. Conduct a Tactical Road March
2. Occupy an Assembly Area
3. Apply Troop Leading Procedures
4. Move Tactically
5. Direct Reacting to Contact
6. Consolidate and Re-organize
7. Direct Reacting to Contact
8. Direct Reacting to Indirect fire
9. Direct Reacting to Ambush

10. Employ Air Defense Measures
11. Direct Breaking Contact
12. Defend the Perimeter
13. Conduct Continuous Operations

Appendix E
Course Management Plan (CMP)
Student Evaluation Plan (SEP) for 25U BNCOC (Enclosure 2)

DA FORM 1059, SERVICE SCHOOL ACADEMIC EVALUATION REPORT

1. SGLs will evaluate each student's academic performance on the DA Form 1059, Service School Academic Evaluation Report (AER). The AER will explain the student's accomplishments, potential, and limitations during the course. All entries will reflect the actual performance of the student.

2. The students will be provided an original copy of the AER on graduation day. SGLs will prepare the AER according to AR 623-1 and this SEP.

3. Negative counseling is anything other then academic i.e. missing formation, failing to prepare, lack of motivation, etc. SGLs shall consider the following when making their evaluations:

4. When completing DA Form 1059, Academic Evaluation Report, SGLs will use the following criteria:

a. Item 13, Performance Summary. For the Performance Summary block, students may receive one of four evaluations, based on the following:

1) EXCEEDED COURSE STANDARDS. This rating is limited to no more than 20 percent of the graduating class and is based on the total soldier concept. If more than 20 percent exceed course standards, student academic scores will determine the outcome. Students may achieve all superior ratings on their DA Form 1059 and not exceed course standards. It is possible for a graduating class to have no student exceeding course standards, based on the criteria below. Students must:

a) Pass the INITIAL End of Course APFT.
b) Pass all INITIAL Written Examinations with an overall average of 90 percent equivalent or higher.
c) Receive an INITIAL "GO" on all Leadership Performance Evaluations.
d) Receive at least three SUPERIOR ratings in the Demonstrated Abilities block (Item 14) of the DA Form 1059 with one being in Leadership Skills, and no UNSATISFACORY (UNSAT) ratings.
e) Receive no negative counseling statements
f) Participate fully in all BNCOC activities.
g) Complete the FTX

2) ACHIEVED COURSE STANDARDS. Students must:

a) Pass the Written Examinations
b) Receive a "GO" on at least four of the five Leadership Performance Evaluations.
c) Receive at least three SATISFACTORY (SAT) or above ratings in the Demonstrated Abilities, block (Item 14) of the DA Form 1059.
d) Receive no more than ONE negative counseling statement

e) Participate fully in all BNCOC activities.
f) Complete the FTX (Shared Field Training Exercise)

3) MARGINALLY ACHIEVED COURSE STANDARDS. Students must:

a) Receive a "NO-GO" on three or more Leadership Performance Evaluations.
b) Receive no more than two UNSATISFACTORY (UNSAT) ratings in the Demonstrated Abilities block (Item 14) of the DA Form 1059.
c) Receives at least the minimum passing grade or above on all written examinations
d) Receive no more than TWO negative counseling statements
e) Fail to participate fully in all BNCOC activities.
f) Complete the FTX (Shared Field Training Exercise)

4) FAILED TO ACHIEVE COURSE STANDARDS. A student will fail to achieve course standards if any of the following apply:

a) Fails to meet height and weight standards IAW AR 600-9 after enrollment.
b) Fails the APFT retest.
c) Receives less than the minimum passing grade on a Written Examination retest.
d) Receives three or more UNSATISFACTORY (UNSAT) ratings in the Demonstrated Abilities block (Item 14) of the DA Form 1059.
e) Relieved from the course for disciplinary reasons or violations of the standards of conduct outlined in paragraph 7(b) of the SEP cover memorandum.
f) Relieved from the course for academic reasons.

b. Item 14, Demonstrated Abilities. For the Demonstrated Abilities block, students may receive one of four evaluations in the five categories listed below, based on the following:
(Use Table 1 to establish rating determined by minimum established pass grade)

1) WRITTEN COMMUNICATION. SGLs will base the Written Communication rating primarily on the Research paper. SGLs may consider other class writing assignments, such as memoranda or Operations Order.

a) SUPERIOR – To receive a "SUPERIOR" rating a student must achieve 90 percent equivalent or above on any graded written communication. Students can receive no unsatisfactory ratings.
b) SATISFACTORY – To receive a "SATISFACTORY" rating a student must achieve 70 – 89 percent equivalent on any graded written communication.
c) UNSATISFACTORY – To receive an "UNSATISFACTORY" rating a student must achieve below 70 percent equivalent on any written communication. Should a student receive an "UNSATISFACTORY" rating for any written communication, he/she shall receive a "Marginally Achieved Course Standards," on DA Form 1059.

2) ORAL COMMUNICATION. SGLs will base the Oral Communication rating on the Leadership Position Evaluation, oral presentations such as Research briefings and class participation in addition to the other briefings.

a) SUPERIOR – To receive a "SUPERIOR" rating a student must receive all of the following: an overall “Superior” rating on the above mentioned oral presentations; “Superior” ratings on Items 3, 4 and 5 on the Leadership Evaluation Form; no negative counseling statement from his performance in Leadership positions and no “NO-GO” ratings on any oral communication requirements during the course.
b) SATISFACTORY – To receive a "SATISFACTORY" rating a student must receive all of the following: an overall “Superior” rating on the above mentioned oral presentations; a “Satisfactory” rating on at least two of the three Communication Items (# 3, 4 or 5) on the Leadership Evaluation Form; no negative counseling statement from his performance in Leadership positions and no "NO GO" ratings on any oral communication requirements during the course.
c) UNSATISFACTORY – To receive an “UNSATISFACTORY” rating a student must: receive at least ONE negative counseling statement for poor oral communication skills (e.g., excessive use of profanity, distinctiveness, or voice control); receive three unsatisfactory ratings for communication (Items 3, 4 and 5) of the Leadership Evaluation Form. Should a student receive an “Unsatisfactory” rating for the above mentioned oral presentations, he/she shall receive a “Marginally Achieved Course Standards” on DA Form 1059.

3) LEADERSHIP SKILLS. SGLs will base the Leadership Skills rating primarily on the Leadership Position Evaluation and other Leadership Performance Evaluations ratings.

a) SUPERIOR – To receive a "SUPERIOR" rating a student must receive a first time “GO” on all Leadership Performance Evaluations, an overall “Superior” rating on the final Leadership Position Evaluation, no negative/derogatory Spot Reports (after final inquiry as determined by the SSGL) and no negative counseling statements from his performance while in any other leadership position.
b) SATISFACTORY – To receive a "SATISFACTORY" rating a student must receive a "GO" on at least three of the Leadership Performance Evaluations, no more than ONE “Unsatisfactory” rating from his performance while in any leadership position, no more than two negative/derogatory Spot Reports (after final inquiry as determined by the SSGL).
c) UNSATISFACTORY – To receive an ‘UNSATISFACTORY” rating a student must receive a “NO-GO” rating on three or more of the Leadership Performance Evaluations, TWO or more “Unsatisfactory” ratings from his/her performance while in any leadership positions, three or more negative/derogatory Spot Reports (after final inquiry as determined by the SSGL), or failure of the APFT retest. A negative counseling statement for apathy, poor attitude, or failure to fully participate in training events will result in an AUTOMATIC "Unsatisfactory" rating.

4) CONTRIBUTION TO GROUP WORK. SGLs will base the Contribution to Group Work rating primarily on the student’s participation in the lesson discussions, practical exercises and class projects.

a) SUPERIOR – To receive a "SUPERIOR" rating a student must consistently enhance training by sharing his/her experiences, receive no negative counseling statements regarding class/group participation or failure to complete reading/homework assignments, or failure to prepare for class, and contribute above and beyond that of fellow classmates
b) SATISFACTORY – To receive a "SATISFACTORY" rating a student must actively participate in classroom discussions, and receive no more than ONE negative counseling statement for poor class participation, disruptive behavior, or lack of participation.
c) UNSATISFACTORY – To receive an 'UNSATISFACTORY" rating a student must receive TWO or more negative counseling statements for poor class participation, disruptive behavior, lack of participation, or failure to complete reading/homework assignments.

5) EVALUATION OF STUDENT'S RESEARCH ABILITY. SGLs will base the Evaluation of Student's Research Ability rating to include Research Report and other activities or assignments requiring research such as FTX preparation.

a) SUPERIOR – To receive a "SUPERIOR" rating a student must achieve 90 percent equivalent or above on all graded research assignments or activities.
b) SATISFACTORY – To receive a "SATISFACTORY" rating a student must achieve 70 – 89 percent equivalent on all graded research assignments or activities.
c) UNSATISFACTORY – To receive an "UNSATISFACTORY" rating a student must receive less than 70 percent equivalent on all graded research assignments or activities. Students may also receive two or more negative counseling statements for failure to complete reading/homework assignments or failure to prepare for classes.

5. Honors may be awarded to students who meet the criteria below. The GPA is established by adding the scores of all academic tests/evaluations *(does not include leadership evaluations)* and dividing the sum by the total number of tests and evaluations. Scores will be rounded to two decimal places (i.e. 98.72%).

a. **Distinguished Graduate -** The distinguished graduate will be selected based on the Total Soldier concept and the following criteria.

1) Possess the highest overall GPA within the class, but not less than the top 95 percent.
2) Successfully completed all examinations, evaluations and annexes the first time administered.
3) Has not received any adverse counseling.
4) Must have attended all class functions (this includes all community/special projects). Community projects must have been coordinated and executed by the students. Must have participated in class projects to include any class organized breakfasts or dinners.
5) Must have received a "SUPERIOR" rating on all Leadership Evaluations.
6) Must have received a "SUPERIOR" rating on the Small Group Leader (SGL) End of Course evaluation.

7) Must have taken and successfully passed the End of Course Army Physical fitness Test.

b. **Honor Graduate/Graduates** - The Honor Graduate/Graduates will be selected based on the Total Soldier concept and the following criteria.

1) Possess the next highest overall GPA within the class, (must be at top 90 percent equivalent or higher).
2) Must not exceed the top 20 percent of class enrollment (distinguished graduate is included in the top 20 percent)
3) Successfully completed all examinations and evaluations the first time administered.
4) Has not received any adverse counseling.
5) Must have attended all class functions (this includes all community/special projects). Community projects must have been coordinated and executed by the students. Must have participated in class projects to include any class organized breakfasts or dinners.
6) Must have received a "SUPERIOR" rating on all Leadership Evaluations.
7) Must have received a "SUPERIOR" rating on the Small Group Leader (SGL) End of Course evaluation.
8) Must have taken and successfully passed the End of Course Army Physical Fitness Test.

c. **Commandant's List** - The Commandant's list graduate(s) will be selected based on the Total Soldier concept and the following criteria.

1) Must possess an academic average of 90 percent equivalent or higher.
2) Will not be included in overall honors reserved for the top 20 percent of the class enrollment.
3) Selected based on GPA ranking.
4) Successfully completed all examinations, evaluations and annexes the first time administered.
5) Has not received any adverse counseling.
6) Must have taken and successfully passed the End of Course Army Physical Fitness Test.

d. **Distinguished Leadership Award**. The Distinguished Leadership Award is based on leadership observations in the garrison and field environments respectively and voted by the class. This award is presented to the student who demonstrates those traits of leadership that is in keeping with the highest traditions of the Noncommissioned Officers Corps. All NCOs in the class are eligible for the Distinguished Leadership Award.

Appendix F
Master Training Schedule

MASTER TRAINING SCHEDULE
101-25U30 Signal Support Systems Specialist, BNCOC
Regimental Noncommissioned Offices Academy
Fort Gordon, Georgia 30905-5491

					Effective Date:	**01 MAY 2006**			
					Effective For Class:	**25U30 - 020 - 06**			
ACADEMIC HOURS				LESSON PLAN TITLE	LP NUMBER	HOURS & METHODS OF INSTR			
				MODULE A - COMPUTER TECHNOLOGY					
1	-	37		FBCB2	25U3C4L1		0.5	CO	
							3.3	CO	
							1.1	CP	
							8.5	DP	
							23.3	PE	
						37.2	0.5	CO	
38	-	42		FBCB2 Exam/AAR	25U3C4CT		0.4	CO	
							4.0	TE	
							0.2	TR	
						4.7	0.1	CO	
						41.9	**FBCB2 HRS**		
				NETWORKING ESSENTIALS PLUS					
43	-	47		What is a Computer Network?	NEP01B / B05D		0.1	CO	
							2.6	CO	
							2.2	P3	
						5.0	0.1	CO	
48	-	47		Network Topology	NEP02B / B05D		0.1	CO	
							1.0	CD	
							1.2	CO	
							1.0	CP	
							1.2	P3	
						4.6	0.1	CO	
53	-	57		Network Hardware	NEP03B / B05D		0.1	CO	
							2.9	CO	
							1.0	P1	
							1.0	P3	
						5.1	0.1	CO	
58	-	62		Ethernet Technologies	NEP04B / B05D		0.1	CO	
							3.5	CO	

Appendix F
Master Training Schedule

							2.0	P3
						5.7	0.1	CO
63	-	65		Token Ring, FDDI, and Other LAN Technologies	NEP05B / B05D		0.1	CO
							1.3	CO
							1.0	P3
						2.5	0.1	CO
66	-	67		Serial Protocols, 802.2, LLC, NetBIOS, NetBEUI	NEP06B / B05D		0.1	CO
							1.0	CO
							1.0	P3
						2.2	0.1	CO
68	-	74		TCP/IP Protocols	NEP07B / B05D		0.1	CO
							4.6	CO
							2.0	P3
						6.8	0.1	CO
75	-	77		Switching and Routing	NEP08B / B05D		0.1	CO
							1.2	CO
							1.6	P3
						3.0	0.1	CO
78	-	80		Network Management and Security	NEP13B / B05D		0.1	CO
							1.5	CO
							1.0	P3
						2.7	0.1	CO
						40.0	**N+ HRS**	
				**********				
				Graduation and Outprocessing				
				**********				
				Total Academic Hours (ACH):	**460.0**			
				Course Length:	**12 weeks - 2 days**			
			This MTS reflects the instruction of lessons based on a 38 hour week, but not necessarily reflect the week, day or hour a student receives instruction. For sequence of Modules and Lessons, please refer to the ***Course Management Plan (CMP)*** **for this course.**					
					DATE APPROVED:			
					SIGNED:			
						John L. Murray CSM, USA Commandant		

Appendix G
Test Control SOP

ATZH-LCA-C-TCO (1f) 13 FEB 06

MEMORANDUM FOR REGIMENTAL NONCOMMISSIONED OFFICER (RNCOA) Test Control and Alternate Test Control Officer, (TCO/ATCO)

SUBJECT: Test Control Standing Operating Procedures (SOP)

1. References:

a. TRADOC Memorandum, Subject: Test Policy and Procedures Memorandum and Enclosures, 6 Oct 01.
b. TRADOC Reg 350-70, Chapter VI-7, Student Performance Measurement/Testing, 9 Mar 99
c. TRADOC Reg 350-18, The Army School System, Chapter 3, paragraph 3-11, 26 May 00.
d. TRADOC Reg 350-10, Institutional Leader Training and Education, Chapter 2, paragraph 2-9, 12 Aug 02.
e. Course Management Plan (CMP).
f. TRADOC PAM 350-70-5, Systems Approach To Training: Testing, 20 Aug 04.
g. USASC&FG Reg 350-22, Test Control Policies and Procedures, 23 Jan 06

2. Purpose: To prescribe procedures for administrative records, procurement, administering, handling, storing, scoring, scheduling, disposition, and security of test documents at Test Control Facility, Salzman Hall, Room 221.

3. Scope: This policy reflects the current operational procedures for test administration for the RNCOA.

4. Appointments: The Commandant will appoint/relieve in writing, the TCO/ATCO. The TCO/ATCO must be a noncommissioned officer in the pay grade of E-7 or above and be a graduate of ANCOC course. The Commandant may also appoint a civilian GS-5 or above when there are no senior noncommissioned officer available. The Commandant will also appoint from each Branch, ANCOC/BNCOC Small Group Leaders (SGLS) a C2 Contractor as Test Administrators/ Examiners and Handlers to administer specific tests. The SGL/Instructor must be present during the entire testing session. At no time does anyone other than the TCO/ATCO will issue a test or test materials to another person. Test Administrators/ Examiners and Handlers must be graduates of the Course and must hold the rank of SSG or above for BNCOC and SFC or above for ANCOC. They must receive a briefing from the TCO/ATCO.

Since the Test Control Facility is maintained in room 221 of Saltzman Hall, The TCO and ATCO must be on appointment orders assigning unaccompanied access to that room. Personnel authorized unaccompanied access are the Commandant, Deputy Commandant, and Chief of Training. All others will be escorted. All appointment orders will be placed on the exterior of the door to the room that contains Sensitive testing material. The TCO must provide a copy of

all appointment /relieve orders mailed or faxed to USASMA-DOTD, 11291 SGT E. Churchill St., Fort Bliss, TX 79918-8002.

5. Storage of Test Material: All testing material for each Branch will be stored in separate locked file cabinets located in room 221 of Salzman Hall. This room will be designated as the Testing Control Facility. The room will be secured with a metal bar secured with a series 200 pad lock and the keys for each file cabinet will be maintained in a key box in the Test Control Facility. The only persons authorized access to the key box containing the test cabinet key, are the TCO/ATCO. The TCO/ATCO will only signed for keys to entrance door of the Facility. The Key to the key box will be kept inside the Test
Control Facility. The following items to be secured inside the Test Control Facility are:

a. Locked cabinets containing sensitive testing materials.
b. Locked cabinets containing sensitive CD or Diskettes.
c. Locked cabinets containing student academic records.
d. Locked cabinets containing student answer test sheets.

6. Marking of Test Material: Only the Test Control Officer (TCO) or Alternate Test Control Officer (ATCO) will open test material received from Training Development (TD) and USASMA through distribution. Mark test components as "**Sensitive Examination (Testing) Materials**" on the front/back (top or bottom) covers and front of every page of the test if not already marked. All electronic versions to include all portable medium (CD or Floppy) of sensitive test material will have the warning **"DO NOT COPY, PRINT, TRANSMIT, OR SAVE UNLESS SPECIFICALLY AUTHORIZED".** When opening electronic testing materials, the first page displayed will be a cover letter containing the warning. Sequentially serial number all test components to include CD ROMs and Diskettes, using the school's office symbol ATZH-LCA-C as the prefix to the serial number. The test version (A, B, C) or (1, 2, 3) and the serial number (001, 002). Do not use serial numbers of previously destroyed materials for new test materials.

Example: ATZH-LCA-C-A8CT-VA-001-020

The TCO/ATCO will conduct a 100 percent inventory of all test materials upon receipt and account for them using the DA Form 5159 (or a locally generated form). The TCO/ATCO will store all test materials in a locked room or secured containers (Test and Solutions/Answer Keys in separate drawers) with access limited to authorized personnel only. Proper key control to these sensitive containers must be exercised as with other sensitive keys (See Item 23).

7. Inventory of Test Material: The TCO/ATCO will conduct an inventory of all test material quarterly as a minimum and maintain records for one year, using DA Form 5159. This quarterly inventory will include reproduction/destruction documents. Record test material being signed out or removed in the "NOTE" section of DA Form 5159, or record on FG Form 1256 Test Sign-out Roster. If using a log, attach it to the DA Form 5159 for that quarter and the annotation "see attached log" made in the "NOTE" section of DA Form 5159 (or a locally generated form). The inventory must include all items listed on DA Form 5159. Additional inventories may be necessary upon reproduction of exam booklets.

Appendix G
Test Control SOP

8. Retention of Student Testing Records: The TCO/ATCO will separately maintain all answer sheets and associated paperwork for graduates until course completion in their Branch/Section test file cabinet located in the Test Control Facility. Once the course is completed, then destroy by burning, melting, shredding, or chemical decomposition. Test answer sheets of graduates and non-graduates for non-academic reasons will be destroyed upon course completion. Academic failure test answer sheets will be retained for a period of 24 months. Retained answer sheets are placed in a sealed envelope and the TCO/ATCO signature placed over the seal. The course name, class number, class date, name of the student, and an assigned serial number (ATZH-LCA-C-A8CT-V1-011) will be placed on the front of the envelope. The serial number will be annotated on the quarterly inventory. Once the 24-month retention period for test material reached, then the material is authorized for destruction (See section number 19 of this document). Academic failure answer keys and completed answer sheets (Practical Exam sheets) will be stored in a different drawer from other test components. Answer keys will consist of only the answer without the questions.

9. Reproduction/Receipt of Test Materials: Only the TCO/ATCO has authorization to reproduce and/or destroy test materials IAW CMP guidance. They will inform the Battalion Commander of all reproductions and maintain a reproduction log (Locally generated and attached to DA 5159) for 12 months. All examinations and components will be marked "**Sensitive Examination (Testing) Materials**" and assigned a serial number (Example; ATZH-LCA-C-A8CT-V1-001) when reproduced. Upon receipt of test material, it will be marked with the appropriate markings if not already marked. Conduct an inventory upon reproduction/ receipt of test items.

10. Testing Sessions: The TCO/ATCO will issue examinations on previously coordinated testing times/dates and remain available until the completion of all testing requirements. Test Examiners must secure the pocket folder/attaché case with the TCO/ATCO during the grading of the test and pick it back up with the test results approximately ten minutes before the AAR. Do not allow loitering in or around the TCO/ATCO office during the grading period.

11. Duties and Responsibilities:

a. The TCO/ATCO will issue Test Examiners the exact number of examination booklets, answer sheets, AAR sheets, scratch paper needed to test his/her class, and placed in a pocket folder or attaché case for transporting exam items. The Test Examiners must read the TCO SOP and conduct an inventory of all materials prior to signing for them.
During the inventory the examiners must look for marks, missing pages and unserviceable tests. Once the Test Examiners sign for the materials, they are solely responsible for all the components.

b. Advise the Commandant and Chief of Training on matters pertaining to test control procedures and administration.

(1) Maintain a testing facility Standing Operating Procedure (SOP) containing the following as a minimum:

(a) A records system for administrative operations of the testing facility.

(b) Procedures for requisitioning, handling, storing, scheduling, administration, and scoring of tests.

(c) Disposition of test materials.

(d) Procedures for transmitting test results to the proper personnel.

(e)Procedures governing security of test materials IAW this CMP.

(2) Designate in writing personnel authorized access to and handling of test materials, and ensure:

(a) Thorough indoctrination of all personnel in the testing facility.

(b) All personnel, upon their assignment to the testing facility, review the testing facility's SOP and quarterly thereafter. Maintain written documentation for a period of one year.

(c) That personnel who administer and score tests, understand and practice correct procedures for administering and scoring each assigned test.

(d) To monitor all procedures prescribed in the testing facility SOP.

(3) Establish a Quality Assurance (QA) Program to inspect testing sessions to ensure the proper handling and administering of all tests. RNCOA TCO/ATCO will inspect test sessions quarterly. Records will be maintained until the next accreditation visit. This will ensure that only authorized personnel handle test booklets, scoring keys, and completed answer sheets.

(4) Exercise close supervision over all phases of test receipt, storage, protection, issue, administration, scoring, and destruction.

(5) The following are TCO responsibilities that are necessary to secure and safeguard all examinations. The TCO will:

(a) Maintain control over all examination materials. TD will hand carry all test materials only to the TCO/ATCO via return receipt mailing. USASMA will send all examination materials for Stand Alone Common Core (SACC) via distribution to the TCO/ATCO.

(b) Upon receipt of test material, conduct a 100 percent quality control check of all test material. Check examination booklets to ensure that there are no missing pages and that all pages are legible. Stamp or mark all examination booklets with a control number immediately upon receipt from the print plant or from the person reproducing the examination. This is an essential requirement to maintain accountability of examination materials. Remember, the master must also have a control number, as well as CDs, floppy disk, etc.

(c) Prior to issuing examination booklets to the Test Examiner, place a control number on the examination answer sheet on upper right hand corner. Ensure the control number on the answer sheet corresponds to the control number on the examination booklet issued with it.

(d) Issue each Test Examiner only the number of examination booklets and answer sheets required to test his students. Inventory the examination booklets and answer sheets with the Test Examiner prior to issuing them. The Test Examiner accepts responsibility for the examination materials while they are in his/her possession. When the Test Examiner returns the examination materials to the TCO, the TCO will inventory them to ensure proper accountability.

(e) Store all examination material not in use where only authorized personnel have access to it. Examination material includes the examination booklets, exam item sheets, completed answer sheets, and changes to test material.

(f) Maintain a copy of the written Criterion Test Instructions (CTI) and for the Stand Alone Common Core (SACC) tests, Test Administration Guidance (TAG), at all times, see Appendix A, CMP.

(g) Ensure that the Test Examiners do not know in advance what questions are on the examination.

(h) Test Examiners examination material must be signed out on FG FORM 1256 prior to their administering the examination. The TCO or ATCO, other than the Test Examiner who gave the exam will collects all examination material for grading. The Test Examiner who gave the examination will not grade examinations.

(i) Upon receipt of new tests or changes from the TD, remove and destroy the old versions and replace them with the new versions or changes.

(j) Control and safeguard changes to the same standard as current test material.

(k) Maintain an inventory of Branch test material using DA Form 5159 (or a locally produced form). Inventory will be conducted quarterly and additional inventories may be necessary upon reproduction of exam booklets. Maintain records for a period of one year.

12. Test Administrators/Examiners: Must be SGL/Instructor qualified, must be on written orders, and briefed at least quarterly by the TCO/ATCO. Written documentation is required. Maintain the review sheets for one year. All examiners will comply with this SOP, test examiner's checklist, and all related references and guidance in the Test Control Facility.

a. Have students verify that they are physically and mentally capable to take examination by either signing DA Form 5160 or a locally generated form.

b. Be present during all phases of testing.

c. Respond as rapidly as possible to students with questions (raised hand).

d. Ensure that the classroom is set up and ready for administration of student testing.

e. Inventory student references ensuring they are free of markings/highlighting.

f. Ensure all required test components are present.

g. Ensure all examinees remain quiet during testing.

h. Ensure adequate climatic conditions exist in testing room.

i. Ensure lighting is adequate.

j. Enforce no food/drinks policy in testing room. Exception to this policy is water.

k. Not provide a meaning for a test question nor prompt a correct answer.

l. Circulate through the classroom on a random basis to observe any suspicious activity, or position yourself so as to have visual observation of all examinees without creating a distraction.

m. At no time leave the examinees unattended after issuing the exams.

n. Provide student with time remaining warnings, e.g., 60, 30, and 5 minute intervals verbally or written on the board.

o. Allow students to use any reference material available to them during the examination, for example: student handouts, publications issued for the course, personal notes, calculators, and computers.

p. Positively verify every student's identity before administering the test. This can be through visual identification or if the student is unknown to the Test Examiner, have the student

place their identification card on their desk. Go to each student and verify name and SSN with ID card.

q. Assign one Test Examiner for every 25 students and inform him/her which section of the room he/she is responsible for.

r. Strictly adhere to all examination start times published in the training schedule. This means all students will start/stop at the same time. You must post the times on the board so that all students can read them.

Example: START 0900-STOP 1100.

s. Test examiners must read the test instructions out loud verbatim from the Test Administration Guide (TAG) or from the Criterion Test Instructions (CTI). Stress that you will inform them of their score upon completion of the grading of all examinations.

t. Test examiners are responsible for their own relief during testing periods and must have readily available another qualified examiner to provide relief for personal hygiene breaks.

u. Test examiners will never leave any test materials unattended/unsecured and must remain in the Building .

v. After the allotted time for the examination expires, and the students stop: The SGL/Instructor will collect all test materials as quickly as possible. Strictly account for all test booklets, answer sheets, AAR sheets, and scratch paper in roster number order. Before dismissing examinees check test booklets to ensure that no pages are missing or contain markings.

w. The examiner must place test items inside the pocket folder/attaché case (provided by TCO/ATCO).

x. Test examiners must report any suspected test compromise, test loss, or incidents of cheating to the TCO/ATCO immediately.

13. Test Proctor Responsibilities: At this time not applicable within the RNCOA.

14. Testing Conditions and Standards: The following testing and environmental conditions should bring out the students' best performance. Test examiners must ensure that:

a. The test facility is reasonably free from environmental distractions.

b. The students are fully aware of the reasons and importance for taking the test.

c. Students are comfortable and rested.

d. The testing room is quiet. Frequent or loud noises may interfere with the test performance, therefore, never conduct ordinary business in the test location.

e. Instructions are loud enough and clear so all students can hear and understand them.

f. The testing room and working surface are adequate and comfortable. Lighting should be such that there are no shadows or strong glares on working surfaces.

g. The testing room's ventilation, temperature, and humidity provide comfort for the students. Unless it's unavoidable, students should not test when the environmental conditions are so extreme that it interferes with their concentration.

h. The space allotted for each student is sufficient enough to hold all his/her associated testing materials.

i. No student will give or receive help during the test. The use of partitioned booths or alternate seating helps to prevent collaboration.

j. Students may **NOT** have cell phones or beepers in their possession during testing.

k. Computers may be used that have references stored on them but must not be able to communicate with other student computers.

15. Grading of Tests: The TCO or ATCO are the only personnel authorized to grade tests. **The tests will be graded in the Test Control Facility Salzman Hall Room 221.** After the examination all examiners must turn in their student's test answer sheets in roster number order for grading. The primary means of grading the test will be done using the hand scoring method. When scoring, use the procedures below:

a. Scoring procedures: Some tests must be hand-scored; others, when special answer sheets and pencils are used, may be scored either by hand or by optical scanner scoring machines. All machine-scored tests may also be hand-scored for quality control.

b. Test Standards: To receive a "GO," student must receive a score of 70% on all written/hands-on/performance tests.

c. Hand Scoring: The guidance below applies to all tests that are hand-scored and have only one correct answer for each question.

(1) Counting right answers: Prior to hand scoring ensure that only one answer per question is marked. If more than one answer is marked then the answer is wrong. Place the right scoring key, printed side up, over the answer sheet. Be sure that the edge of the key opposite the identification margin of the key is aligned with the edge of the answer sheet opposite the identification margin of the answer sheet. Count all marks that appear through the holes. This is the number of right answers. Record this number on the top of the answer sheet.

(2) Counting wrong answers: Align the right scoring key over the answer sheet. Count all unmarked answer spaces. This is the number wrong. Record this number on the top of the answer sheet.

(3) Any test failures must be checked independently by a second person. When recounting, total the number of wrong answers and right answers. The total should equal the highest possible score for the test.

d. Calculate Percentile Score: To count incorrect answers, align the appropriate scoring key over the student's Answer Sheet. Record the number of wrong answers on the student's Answer Sheet and convert the score into a percentile score.

e. Once all tests are graded, the TCO/ATCO will complete a Matrix Sheet and provide a copy to TD. Then provide the test score to the SGL/Instructor. The Matrix Sheet will be maintained in the Test Control Facility for test failure records only. If there are any test failures, the SGL/Instructor will identify and focus the remedial training on those ELOs that the student failed. Counsel those students who fail the test. Include a plan of action to improve and pass the retest. Explain how and what remedial training will take place. Document the counseling using the DA Form 4856 (Developmental Counseling Form). A mandatory remedial training period for the soldiers in question will be conducted. The retest will be conducted no sooner than 24 hours after and no later than 48 hours of the initial test. A different version of the test will be

administered. If the soldier fails the retest appropriate remedial actions will be taken IAW USASC & FG Reg 350-5.

16. AAR procedures will be as follows:

a. At the beginning of the exam, issue each student a test booklet and answer sheet.
b. Have the students write their names and student numbers on their answer sheet.
c. Once the students complete the exam, the students will turn in the test booklet and test answer sheet to the Test Examiner. After the TCO/ATCO grades the examinations, the Test Examiner may begin the AAR. Prior to the AAR, the Test Examiner will pass out the answer sheets. The Test Examiner will conduct the AAR by using one test booklet and go over each question and discuss the correct answers with the students. At the conclusion of the AAR, the Test Examiner will collect all answer sheets and turn them into the TCO to store in student's record.

17. Test Item Certification Committee (TICC): The TCO/ATCO must conduct a test item analysis of the results of each examination to identify any test item discrepancies, such as 40 percent or more of the students failing a particular test item (question). Detailed instructions on anomalies to evaluate will be given to the TICC prior to their analysis task. In the event of such a failure rate, the Commandant or Chief of Training must convene a TICC of no less than three cadre personnel. The TICC committee will be made up of the Supervisor of TD, NCOIC of TD, The TD personnel on specific CMF, TCO/ATCO, Senior SGL, and SGL/Instructor.

a. The most important aspect of test item analysis is the TICC. If more than 40 percent of the students answer an item incorrectly, or designated anomaly is detected the TICC must review the test item for validity based on the following as a minimum:

(1) Is it a valid test item (grammatically correct with only one correct response)?
(2) Did review of the TSP ensure the material was taught?
(3) Did the SGL/Instructor adequately present the material?
(4) Does it appear to be a trick question?
(5) Was the item explicit enough for respondent to easily understand it?
(6) Is the item overly complex (requires several readings for the reader to understand)?
(7) Are the distracters too closely worded (not distinguishable)?

b. The TCO will coordinate with the TD on specific CMF to determine if the question is valid or needs rewriting. If the TD determines a question is not valid, the TD then makes a recommendation to the TCO of a potential defective test item to determine corrective action. Once TCO has been notified, the TCO will contact the Commandant or Chief of Training to make the determination whether to award credit to all students for that test item.

18. Test Scheduling: TCO/ATCO must administer all retests IAW the training schedule. The SGL has responsibility for preparation of the testing facilities, such as; buildings and classrooms being unlocked, reference material in place, and coordinating students for any retest.

Appendix G
Test Control SOP

19 Actions for Loss, Compromise, or Possible Compromise of Sensitive Test Material:

a. Immediately notify the Commandant or Chief of Training.
b. Stop all testing with the version that was compromised. Testing may continue with alternate forms of the test, if authorized.
c. Impound all complete tests and answer sheets of the compromised form of the test.
d. Place these test materials in a locked container.
e. Resume testing with the test in question only when directed to do so by the SGL.
f. The TCO/ATCO will take the following actions:

(1) Immediately notify the Commandant or Chief of Training.
(2) Ensure that a thorough investigation of the compromise, possible compromise, or loss has been made and that proper actions are initiated to prevent recurrence of loss or compromise of test materials.
(3) Decide the risk mitigation factors to be employed.
(4)Maintain a record of the results of the investigation and actions taken, if applicable.
(5) If warranted, initiate investigation under AR 15-6.
(6) Immediately conduct a risk assessment if compromise is substantiated or cannot be definitely refuted (i.e., suspected but unsubstantiated).
(7) Take the following procedures for mitigation:

(a) Withdraw test from use.
(b) Re-test one or more students using non-compromised/unsuspected versions.
(c) Request assistance from CTD
(d) Take no action (i.e., in the case of unsubstantiated).

20. Destruction of Testing Materials: When test materials are Destroyed, a Memorandum for Destruction must be made and maintain a record on file for one year with the following.

a. Date of destruction.
b. Test serial number, number of copies and versions.
c. Person responsible for the destruction and a witness.
d. Student's test sheets results with scratch papers.

**Burning, shredding, or pulping to stop recognition or reconstruction of protected information accomplishes destruction. The primary means of destruction will be shredding.

21. Loan or Transfer of Test Material: At this time not applicable.

22. Quality Control: The TCO/ATCO will inspect testing sessions to ensure proper handling and administering of tests IAW CMP guidance. Inspections will be based on course schedule and amount of testing sessions. A copy of the observations/ recommendations will be maintained on file for 1 year as part of the Test Control's Quality Assurance Program.

Appendix G
Test Control SOP

23. Key control Procedures: Will be IAW AR 190-51 Physical Security "Key Control". The TCO/ATCO is responsible for safeguarding the keys to the test control material containers. When not in use, keys for the test containers will be maintained in a key box located in the Test Control Facility Office to ensure there is no test compromise. Coordinate with the Key Control Officer/NCO on matters related to the issue, turn-in, changing and/or replacing lost keys. Keys to the test control material containers will be inventoried monthly by the TCO using DA Form 5513. When DA Form 5513 is full, it will be retained on file for 90 days, and then destroyed. Keys will be turned in upon removal of a TCO/ATCO from appointed duties and signed out to the new appointed TCO/ATCO.

24. This SOP will govern all the TCO activities in the RNCOA Test Control Office, Salzman Hall, Room 221. All test examiners need to strictly adhere to this SOP. The TCO/ATCO must ensure that a current copy of this SOP is posted within the facility.

25. It is the TCO/ATCO responsibility to advise the Commandant and Chief of Training on all matters of test procedures/control.

26. POC is the TCO/ATCO, 791-1597.

BONITA L.HUNTER
SGM, USA
Commandant

Appendix H
ASAT Course and Lesson Development Tool

Creating a Course

On the Power Panel Select the Individual Tab

- Select Create/Edit Course Masters and a dialog box will appear
- Type course id (113-SAT-(Last Name))
- If course does not exist, create course by:
  - Insert record
    - Click Insert Record Icon or select Data (insert record)
    - Enter Course Number, Version, Title, TATSC and Foreign Disclosure,
    - Save Record (File Save or Update Database Icon [pickle jar])
    - Enter Change History Data and click OK

Opening a Course

On the Power Panel Select the Individual Tab

- Select Create/Edit Course Masters
- A dialog box will appear
- Type course id or course title
- Once the search results are displayed, double click on the row number of course to be opened

Note: *You now have the Course Tabs displayed*

The Course Tabs will be used to enter Course Information for creating/editing a CAD or POI.

Course Data

Title: *(Cover Page and First Page of CAD)* Used to change course title
TATS Course: *(First Page of CAD)* Yes for Guard and Reserve, No for Active
Foreign Disclose Statement: *(Cover Page)* Drop down menu changes to FD 1-4
Activity: *(Not Displayed)* Enter Fort Gordon, GA

Foreign Disclose Statement: *(Cover Page of POI)* Read only, displays current Foreign Disclose Statement

Purpose: *(First Page of CAD)* The Purpose tab is a Block Data tab that is used to enter a concise statement of the course purpose, describing the specialty, duty positions, generic equipment systems, or functions for which graduates will be qualified.

Scope: *(First Page of CAD)* The Scope tab is a Block Data tab that is used to enter the major subject areas, topics, or general tasks covered by the course.

Prerequisites: *(First Page of CAD)* The Prerequisites tab is a Block Data tab that identifies the course entry requirements for this particular course. These entry requirements are what personnel must successfully complete prior to qualification for entry into training for which they are being considered (not specialty/MOS or course graduation prerequisites).

Eligibility: Not Used

Appendix H
ASAT Course and Lesson Development Tool

Curriculum: No Used

Remarks: *(Second Page of CAD)* Any additional information you want to tell TRADOC

Supersedes: *(Cover Page of POI)* The Supersedes tab is a Block Data tab is used to enter the course Id, phase, version, title, and approval date of the superseded POI. If the POI is not superseded, please enter "None".

Lesson Links: *(Not Displayed in POI)* Allows the user to link one or many lesson plans to the selected Course. Click on the Select All button and type the course number or title in the dialogue box. Link the lesson by double clicking the lesson title. The lesson will turn purple when linked.

Lesson Distribution: *(Not Displayed in POI)* A view only display tab and is not editable. This tab shows all the lesson linkages made to the selected Course Master.

Phases: *(Not Displayed in POI)* This tab is a drill down tab that shows the various course phase components. The user may also add, delete and modify phases to this particular course.

Specialties: *(First Page of CAD)* This is a picklist tab that lists the Specialty code and description for which the course provides qualification training, e.g., MOS, AOC, ASI, SQI. This tab is used to link a specialty record(s) to the course. Click the view all button, select all, find the specialty and link it to the course.

ITP: *(First Page of CAD)* This tab is a picklist link tab that allows the user to link the Individual Training Plan(ITP) Id that is directing the course training strategy and requirements; e.g., MOS, AOC. This tab is used to link the appropriate supporting ITP to the course. Click the view all button, select find the ITP and link it to the course.

CMP/Student Eval: *(Not Displayed in the POI)* The Course Management Plan (CMP) is a document that provides the course managers and the instructors the information required to manage and conduct the course. It is required for exported training courses, phases, or modules. The CMP starts upon the approval of the course design. The CMP will contain information necessary for managing and conducting the course. Format and component guidance is in TRADOC Reg. 350-70. Samples are at Appendix E, of that regulation of Lesson Plans, TSPs, and CMP formats and components.

Collective Tasks (via Lessons): *(Not Displayed in the POI)* Displays collective tasks that have been linked to the course via a lesson.

Collective Tasks (Planned): *(Not Displayed in the POI)* Allows the Training Developer to link Collective Tasks that are planned to be taught in a course. Once a course is established, the Collective Tasked (Planned) tab is not used.

Individual Tasks (via Lessons): *(Individual Task Summary of POI)* Displays Individual Tasks that have been linked to the course via a lesson.

Individual Tasks (Planned): *(Not Displayed in the POI)* Allows the Training Developer to link Individual Tasks that are planned to be taught in a course. Once a course is established, the Individual Tasks (Planned) tab is not used.

Change History: *(Not Displayed in the POI)* This view-only tab displays when a user makes a change to a record and either, closes a record, uses the File/Save menu option, or uses the Update Database toolbar button, a Change History Window displays for the user to annotate what changes were just made to that record.

Creating a Phase

This tab is a drill down tab that shows the various course phase components. The user may also add, delete and modify phases to this particular course

- **Delivery Group:** *(Header of POI)* An alpha character is automatically inserted with each record, sequentially, starting from "A".

- **Phase Id:** *(Header of POI)* Used to enter the Phase Identifier. Add a phase Id starting with number 1. This is a 2 character numeric field, and is not system driven. The user must add this information.

- **Status:** *(Header of POI)* This is a drop-down window selection of the following items:

  Draft
  Commandant Approval
  Return without Action
  Returned For Action
  MRAD Validated
  DCST Validated
  SMDR Approved
  Suspended

CAD/POI? This drop-down window selection allows identification of this phase to be either a Course Administrative Data (CAD) or a Program of Instruction (POI). Select one.

Management Category: *(Header of POI)* Used to select a management category from the drop down list box. Select one of the following items:

Mobilization
Resident
ADT
IDT
Distance Learning

Appendix H
ASAT Course and Lesson Development Tool

Status Date: This date is computer generated and changes when the status in the "Status" field changes.

- Double click row number to open Phase

- **Phase details:** *(Second Page of CAD)* Security Classification, Implementation (3 years from the time of creation), ATRRS: Type (Type of Audience), ITRO, Contract, Fiscal Year

- **Variable:** *(Second Page of CAD)* This tab is a Detail Tab showing the course length, academic hours, class size and Instructor Contact Hours (ICH) information. This window allows the user to edit or add information to the course.

- **Validation:** *(Second Page of CAD)* This tab is a Detail Tab showing the Validation information for this Course Phase. This window allows the user to edit or add information to the course phase.

- **Proponents:** *(Third Page of CAD)* This tab is a detail data type tab which allows the user to select information concerning the proponents for this course, such as design and development, instructor provided support, Army course, and training evaluation proponent. A proponent is an organization or staff element that is responsible for the subject matter material in its area of interest.

- **Training Locations:** *(Third Page of CAD)* Select view all. Double click training location to link to course

- **Course Masters:** Read only Tab that displays information from Course Tabs. Select back to main TAB

- **Phase/Admin:** The Approval tab is a Block Data tab used to enter the name and full address of the agency that is the approval authority. The POI Approval date is computer generated
    - **Phase Scope:** *(Second Page of CAD*) This tab is a Block/Memo Data Tab. The Scope Tab should reflect the major subject areas, topics, or general tasks covered by the course.
    - **Special Information:** *(Second Page of CAD)* This tab is a Block/Memo Data Tab. Information added in this tab should be used to identify special or additional information for student selection (such as special approval), for preparation of orders (such as course length for specific students) or for explaining a course phase. If a course has separately scheduled phases, describe the scope of each phase in a separate paragraph. If a course is to be taught at other locations (not listed in the ATRRS table of ASAT) make note of the exact location, to include any administrative type information of that location. Note: with single phase courses leave blank
    - **Curriculum:** This window is a Block Memo Data Tab. Enter curriculum information, if appropriate.

- **Remarks:** *(Second Page of CAD)* This tab is a Block/Memo Tab. This is a text window. Information can be added/edited/deleted at the discretion of the proponent.
- **Supersedes:** (Cover Page of POI) When document(s) are being replaced or obsolete upon approval of this CAD/POI, enter the type of document, title and date, to clearly define what is being replaced. Enter "None" if there is no suppression date.
- **Prerequisites:** *(Second Page of CAD)* This tab is a Block/Memo Tab. Information on this window identifies the training that must be successfully completed to qualify for entry into a succeeding phase. Use this tab to view/edit/add information, as required.
- **Lesson Sequence:** This tab is a display only tab that allows editing of two fields only. The user can sequence the lessons that are displayed by entering sequential numbers, as desired.
- **Memo of Transmittal:** *(Last Section of POI)* The Memo of Transmittal Tab is a Block Data tab that is used to enter a transmittal letter to submit a Program of Instruction (POI) or a Course Administrative Data (CAD) to TRADOC. This is the textual information requested by HQ TRADOC, DCSOPS&T, and Training Operations Management Activity requesting proponents to specify the reasons for the submission of a CAD/POI for validation.
- ***Note:*** *For classroom environment copy and paste memo of transmittal is located on desktop.*
- **HQ Memo:** read only. Select back to main menu

Creating a Module

- Select module TAB from the Phase Tabs
- Create Module by selecting Insert Record Icon
- Module A will appear
  - Select version
  - Pull Down Menu for Type- (Training or Mandatory)
  - Enter Module Title

NOTE: Repeat above steps for every module you plan to develop/create

- Save Modules by selecting update database with your changes Icon (Pickle Jar)

Entering Module Information

- Double click on row number to open module for entering information
  - **Module Detail:** The Module Detail Tab shows the Type and Title of the module. This information was carried over from the previous window. However, this detail tab will allow the user the ability of changing the module title and type again, if desired.

  - **Purpose:** *(Training Module of POI)* The Module Purpose tab is a Block Data tab that is used to enter an explanation of the selection of the lessons being linked to

this particular module. Some examples of purpose statements might be because of Major Subject Areas, Major Topics, Training Objectives, Systems, Organizations, etc. A clear purpose will give the user the understanding of why a selection of lesson(s) were made, for this module.

- **Remarks:** *(Training Module of POI)* The Module Remarks tab is a Block Data tab that is used to enter any information that is required or desired by the user/developer with reference to this module.

- **Technique of Delivery:** *(Training Module of POI)* The Technique of Delivery Tab is a view only display tab and is not editable. The tab shows the roll up of the Instruction Time for the Techniques of Delivery selected (via lessons) and linked to this module. If changes are required they can be made in the "Module Lessons" tab.

- **Module Lessons:** *(Training Module of POI)* A PickList Link tab allows the user to connect the current record to one or more records in another ASAT table, optionally including additional information that may be contained in the link. External objects such as multimedia can also be linked using this tab type. Picklist tabs can be identified by the three buttons (View Linked, View All, View Not Linked) and the two status fields (current view and number of rows displayed) at the bottom of the tab. Many of the features on a PickList Link tab are the same as those on a Grid View, therefore, these tabs act very much like a grid with some extra functionality.

  - Field Descriptions:

    - **Lesson Id:** This field displays the lesson Id number.
    - **Version:** This field displays the lesson version number.
    - **Lesson Title:** This field displays the title of the lesson.
    - **Technique of Delivery:** Select the technique of delivery from a drop-down window.
    - **Sequence:** It displays the sequence (numerically) of the lesson supporting the mandatory training sequence assigned at the Phase level. This sequencing will provide input to the Course Management Plan. ***NOTE:*** *This sequencing does not appear in a POI.*
    - **Transition Statement:** Enter the transition statement for each lesson when there is more than one, if applicable. See note above.

Importing Multimedia/Handouts

Before you start this procedure you must have created a document (PowerPoint or word) that you want to import into ASAT. ***NOTE:*** *Make a note of where you saved the document on your computer.*

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ASAT Course and Lesson Development Tool

From the Power Panel select the Support Tab
Select Multimedia Data
Filter box appears (enter sat- or search criteria)
Insert record (use insert record icon or right click in displayed area.
Enter Multimedia Name (sat-YourLastName)
Save Document (Pickle Jar)
A screen will appear (Select the Multimedia file to Store in database)
Find the document you created and double click the file name to save it to the database.
NOTE: *The row number will go gray and the Extension column will be filled.*

Creating a Lesson Plan

From Power panel select the Individual Tab
Create/Edit Lesson Outlines/Plans
Filter box appears (enter search criteria)
Insert record (use insert record icon or right click in displayed area.

Enter following fields:
Lesson ID, Version, Status, Effective Date, Title, School, Foreign Disclosure statement, installation, Risk Assessment level, Management Category and POC

Open lesson (double click on number, save lesson when prompted)

Lesson Tabs:
Lesson data (filled from creation)
Risk assessment Note
Foreign Disclosure Statement (Read only data)
TSP
View all
Enter search criteria
Select desired TSP by double clicking title
Select view linked to ensure correct TSP has been linked
Administrative Data
Courses Tab
View all
Enter search criteria
Select desired course(s) by double clicking title
Select view linked to ensure correct course(s) has been linked
Ind. Tasks taught
This screen allows you to link Individual Tasks, which are taught completely by a lesson, to the lesson and if desired, copy task data into the lesson.
Ind. Tasks supported
Not used
Ind. Tasks reinforced
Not used
Knowledges

Not used

Skills

Not used

Col. Tasks taught

This pick list shows the supported collective tasks and associated task performance steps included in the lesson.

Col. Tasks supported

Not used

Test lessons

If the training is tested as part of a separate lesson, this screen will allow you to identify the following: Lesson number in which the terminal learning objective is tested, the time required to test the lesson material and review the test results, and provides a brief description of the test.

Prerequisite lessons

View all
Enter search criteria
Select desired lesson(s) by double clicking title
Select view linked to ensure correct lesson(s) has been linked

Supporting products

View all
Enter search criteria
Select desired product(s) by double clicking title
Select view linked to ensure correct product(s) has been linked

Study assignments

Enter desired information

Instructor requirements

Enter desired information

Instructor materials

Enter desired information

Student materials

Enter desired information

Instructional guidance

Enter desired information

Approvals

View all
Double click to link
Enter grade, position and date
Select view linked to ensure correct approval person has been linked

Back to main tabs

Introduction tab

Introduction data tab

Method of instruction
Instructor to student ratio
Time of instruction
Technique of delivery

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Motivator tab
Enter desired information (include COE)
Safety tab
Enter desired information
Environmental tab
Enter desired information
Evaluation
Enter evaluation information
Instructional lead-in
Enter desired information
Back to main tabs

Terminal learning objective tab
TLO – Action statement
TLO – Description - Not used
TLO – Condition
TLO – Standard
TLO Learning Steps / Activities
Insert Record
Enter step number
Enter title
Note: *Double click on row number of step to open learning step / activates window*
Step activity data tab
Select edit on step/activity
Enter outline needed by instructor on how to Teach lesson e.g. when to change slides and important notes.

Enabling Learning Objectives (Optional)
Insert Record
Enter title
Double click on ELO row number to open ELO
Insert Learning Steps / Activities record
Enter step number
Enter title
Note: *Double click on row number of step to open learning step / activates window*
Step activity data tab
Select edit on step/activity
Enter outline needed by instructor on how to Teach lesson e.g. when to change slides and important notes.

Note: *If using Terminal learning objective tab the Enabling Learning Objectives tab will no longer be selectable and vise versa.*

Back to main tabs
Summary tab - Section IV of the Lesson Plan
Student evaluation - Section V of the Lesson Plan

Practical exercises

- Insert Record
- Insert Record ID and Title
- Open Record

Practical Exercise Data

- TLO/ELO/Learning Step (Choose from dropdown menu)
- Method of Instruction
- Technique of Delivery
- Procedures (EDIT) – Write PE Procedures
- Solution (EDIT) – Write PE Solution

Introduction

Motivator

Safety

Environmental

Evaluation

Instructional Lead-in

Instructor Resources

Student Resources

Special Instructions

Feedback Requirements

Step summary

This read only tab provides a quick view of the following fields entered for a learning step/activity. The data must be entered in the appropriate fields for the step on the Step/Activity Data tab to display on this screen.

Resources tab

Facilities

- View all
- Double click to link
- Select view linked to ensure correct facility has been linked

Equipment

- View all
- Double click to link
- Select view linked to ensure correct equipment has been linked

Instructor type

- View all
- Double click to link select type

Support personnel

- View all
- Double click to link select type

TADSS

- View all
- Double click to link
- Select view linked to ensure correct TADSS has been linked

DODIC

- Enter any ammunition requirements for lesson to be given

Multimedia

View all
Double click to link
Enter **VGT or Handout** in Step Multimedia ID field
Select view linked to ensure correct multimedia file has been linked

Test questions
Insert record
Enter estimated time
Enter estimated difficultly
Enter type
Question text (edit)
Allows you to enter the actual question that will appear on the test
Answer text (edit)
Allows you to enter the answer(s)

Back to main tabs

Remarks

Enter desired remarks (Not printed on Lesson Plan)

Category items

Not used

Glossary

Not used

Index

Not used

Change history (read only)

Used to view all changes to the lesson plan

Developing a TSP

- Go to the Power Panel
- Select Individual
- Double Click on Create/Edit Training Support Package (TSP)
- At the Criteria dialog box, type the Product ID and select OK or enter
- To insert a new record, select the Insert Icon
- At the blank white line, type in the TSP ID; TSP Title; Status (proposed or active); Comments to School Organization; POC and Effective Date
    - To type the effective date, double click on the effective date and a date block will appear
- Save the date using the Save Icon (pickle jar)
- Double click on the number to open the TSP
- The TSP data tab will appear with the blocks already filled in (you can change anything with a white background))
- Click the description tab and type in a description for the TSP
- Click the Users Box and type in the users
- Click the Supersedes box and type what ever TSP the one you are creating supersedes (if none, then state none)
- Periodically hit the save button so that you won't lose what you have typed
- Click the Select Lessons tab select view all
- At the dialog box, type in the Lesson ID or Lesson Title

Appendix H
ASAT Course and Lesson Development Tool

Print POI

- Go to the Power Panel
- Select Individual
- Double Click on POI Reports (RTF)
- At the dialog box type in course ID
- Click OK or enter
- Select POI report you are trying to run by highlighting the report and select OK
- At the display panel, select lessons or validated (use lessons to print POI) and click OK
- At the Run report screen, click OK and your POI will appear in Microsoft Word format

Print TSP or Lesson Plan

- Go to the Power Panel
- Select Individual
- Double Click on TSP/Lesson Report (RTF)
- You will come to the TSP/Lesson RTF Report Options Menu
    - You have three options
        - Entire Training Support package(for the entire Support Package)
        - Lessons Only (This is if you want to print the Lesson Only)
        - Lessons via a Course/Phase (For lessons in a particular phase or course)
- After selecting the type of report you want, click OK. You will then see a screen that says *Processing Report*
- Then click OK after the report has been run and the report will show in Microsoft Word format

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PE-1 IDENTIFY INDIVIDUAL TASK STATEMENTS

INTRODUCTION

A task is a series of actions leading to a meaningful outcome. For example, we can say that baking a cake is a task. It takes a series of actions to bake a cake: measure butter, stir ingredients, grease pans, etc. Baking a cake results in a meaningful outcome – a cake! So we can call baking a cake a task because it fits our simple definition above.

For job/task analysis a task is a unit of work performed by a job incumbent. In the eyes of a job/task analyst a task can be defined as follows:

TASK

The lowest level of behavior in a job that describes the performance of a meaningful function.

Army cooks bake cakes. Is this action a task in the eyes of a job/task analyst? We can say yes. Here's why baking a cake is the lowest level of behavior for a cook that describes the performance of a meaningful function. If we look at such actions as measure butter, stir ingredients, and grease pans by themselves we see they don't describe meaningful functions! Usually, a cook will not measure butter and do nothing with it. However, a cook will measure butter as a step in baking a cake.

In order for the execution of a performance to be a task it must conform to the six point profile. These are as follows.

1. A task has identifiable start and stop points.
2. A task is directly observable or results in an observable product or accomplishment.
3. A task is measurable.
4. A task is performed for its own sake.
5. A task is a highly specific action.
6. A task is performed in relatively short periods of time.

A task is an action statement that conforms to the six step profile above. A performance step (sub-task) is an action statement that conforms to the six step profile except for item number four. It is not performed for its own sake, that is, there are other steps to be performed before the entire task is complete.

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Indicate which of the following are individual tasks statements.

____a. Repair a SINCGARS radio.

____b. Perform operational check.

____c. Repair suspension system.

____d. Apply first aid measures to a chemical casualty.

____e. Understand battle tactics.

____f. Perform inventory control duties.

____g. Restore an FJ-524 radio.

____h. Know foreign policy.

____i. Turn off buzzer.

____j. Perform PMCS on a TA-312 telephone.

____k. Measure ground distances on a map.

____l. Load frequencies.

____m. Maintain Tactical Local Area Network

____n. Monitor indicators.

____o. Transmit messages using a UGC-74 teletypwriter.

____p Repair wheeled vehicles.

____q. Maintain an M16-Series Rifle.

____r. Perform visual inspection

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Practical Exercises
PE-2 Job Analysis Template

JOB TITLE: _____

TASKS: **DIFFICULTY**

1. _____ **T OT NFT**
2. _____ **T OT NFT**
3. _____ **T OT NFT**
4. _____ **T OT NFT**
5. _____ **T OT NFT**

Choose one task from above and complete the following.

TASK NUMBER: _____

TASK: _____

Condition: _____

_____

_____

Standard: _____

_____

_____

_____

References: _____

_____

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Practical Exercises

Performance Steps:

1.

2.

3.

4.

5.

6.

7.

Skills the soldier must have-

S1

S2

Knowledge the soldier must have-

K1

K2

Performance Measures	**GO**	**NO/GO**
1.		
2.		
3.		
4.		
5.		
6.		
7.		

Appendix I
Practical Exercises
PE-3 WRITE LEARNING OBJECTIVES

Instructions: Given the task statement and scenario below, develop an action, condition and standard statement.

TASK: Repair a SINCGARS radio

You are creating lesson plans as a training developer in the 94E10 COMSEC/Radio Maintainer/Repairer course. One of your responsibilities is to develop action, condition and standard statements for each Terminal Learning Objective. Use the following information to create your statements for the task listed above.

You are to develop a TLO to repair a SINCGARS radio.

Information given:

- SINCGARS Radio
- AN/GRM-122
- ON-373B
- Student must repair 5 of 6 faults within 60 minutes on a hands on PE

ACTION:_____

_____

_____

CONDITIONS:_____

_____

_____

_____

STANDARDS:_____

_____

_____

_____

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WRITE LEARNING OBJECTIVES

TASK: Repair a Tactical Local Area Network (TLAN)

You are creating lesson plans as a training developer in the 25U10 Communications Computer Operator/Maintainer course. One of your responsibilities is to develop action, condition and standard statements for each Terminal Learning Objective. Use the following information to create your statements for the task listed above.

You are to develop a TLO to repair a Tactical Local Area Network (TLAN)

- Tactical Local Area Network
- AR 25-2
- Fluke DSP 4300 LAN Analyzer
- LAN toolkit
- Network Map
- Student will repair 4 of 5 network deficiencies within 60 minutes

ACTION:_____

_____

_____

CONDITIONS:_____

_____

_____

_____

STANDARDS:_____

_____

_____

_____

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PE-4 Convert the task developed from PE 2 into a learning objective.

Task Number: _____

Terminal Learning Objective

Action:_____
_____
_____

Condition:_____
_____
_____

Standard:_____
_____
_____

Enabling Learning Objective A

Action:_____

Condition:_____
_____
_____

Standard:_____
_____
_____

Learning Step / Activity 1. _____
Method of Instruciton:_____
Instructor to Student Ratio:_____
Time of Instruction:_____
Media:_____

Learning Step / Activity 2. _____
Method of Instruciton:_____
Instructor to Student Ratio:_____
Time of Instruction:_____
Media:_____

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Enabling Learning Objective B

Action:_____

Condition:_____
_____
_____

Standard:_____
_____
_____

Learning Step / Activity 1. _____
Method of Instruciton:_____
Instructor to Student Ratio:_____
Time of Instruction:_____
Media:_____

Learning Step / Activity 2. _____
Method of Instruciton:_____
Instructor to Student Ratio:_____
Time of Instruction:_____
Media:_____

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A TEST TO END ALL TESTS

DIRECTIONS: In each item, select the one best or most logical answer by circling the letter of your choice. Your score will be the number of correct choices.

NOTE: This set of test items make up part of an unusual test. I'm sure you have never seen one quite like it. **Do not let this bother or distract you.** Take this test just like you would any multiple-choice test. There is one and only one correct answer to each item.

1. _____ _____ _____ _____?

   a. 0
   b. 0
   c. 0
   d. 1

2. _____ _____ _____ _____ _____ _____?

   a. _____
   b. _____
   c. _____
   d. _____

3. _____ an:

   a. A_____
   b. Z_____
   c. L_____
   d. M_____

4. It is bi_____ and therefore has:

   a. one
   b. two
   c. three
   d. four

5. If _____ pig---- _____ you _____ color or _____ hue _____:
   a. car
   b. man
   c. red
   d. dog

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6. Opposite _____ day _____:

   a. light
   b. fight
   c. night
   d. right

7. _____?

   a. App_____
   b. _____
   c. App_____
   d. App_____

8. _____ _____ _____ James Monroe _____ _____ _____?

   a. compromise
   b. treaty
   c. doctrine
   d. meeting

9. Which _____ _____ _____ false?

   a. all
   b. some
   c. few
   d. many

10. Which measuring _____ _____ _____ _____?

   a. dog
   b. radio
   c. calorie
   d. fertilizer

11. Name _____ foods _____ _____?

   a. potato
   b. apple
   c. vegetables
   d. donut

12. _____ doctor _____ _____ _____ of --------itis ?

   a. cancer of _____ _____
   b. inflammation of _____ _____
   c. hardening of _____ _____
   d. physical disorder of _____ _____

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Practical Exercises

Directions: Circle the Test Item Action for each objective listed below. Each action must meet the following criteria:

a. Must contain one and only one action verb.
b. Must be observable.
c. Must be measurable.
d. Must require the same skill as the objective.

Objective 1:

Given 20 rounds of M16A1 ammunition, an M16A1 rifle magazine, and an M16A1 rifle, load the magazine within 30 seconds. Each round must feed into the weapon without causing a malfunction.

Objective 2:

Given a 200-word rough draft, type a letter, without error, at a minimum speed of 40 words per minute.

Objective 3:

Given a soldier who has a suspected fracture in a field environment splint the suspected fracture with available material without cutting off blood circulation. The joints above and below the fracture must be immobilized.

Objective 4:

Given the standard tool kit, a replacement seal, and a M75 pump containing a mechanical seal, install the replacement seal. There should be no fluid leakage from the new seal..

Directions: Circle the Test Item Condition(s) for each objective listed below. Conditions should address:

Objective 1:

Given the equation, determine the rate of acceleration for a train that takes 10 seconds to increase speed from 20 mph to 30 mph.

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Objective 2:

Given 20 rounds of M16A1 ammunition, an M16A1 rifle, and an M16A1 rifle magazine, load the magazine within 30 seconds. Each round must feed into the weapon without causing a malfunction.

Objective 3:

After being given a 200-word rough draft, you must type a letter without error at a minimum speed of 60 words per minute.

Objective 4:

In a field environment, you encountered a soldier who has a suspected fracture. You must splint the suspected fracture with available material without cutting off blood circulation. The joints above and below the fracture must be immobilized.

Directions: Circle the Test Item Standard for each objective listed below. Standards must meet the following criteria:

Objective 1:

Given the mathematical formula for Ohm's Law, known values for current and resistance, and a calculator, determine the applied voltage, correct to three decimal places.

Objective 2:

Given a multimeter and a quantity of color-coded resistors, identify the resistors that are no longer within the tolerance stated in the TM.

Objective 3:

You have been given the monthly base pay of a Sergeant (E5) and the number of his dependents. You must calculate the amount of federal tax to be withheld to the nearest dollar.

Objective 4:

Given a 300-word rough draft, the student will type a letter without error at a minimum speed of 35 words per minute.

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Practical Exercises

Directions: Each of the following examples can be improved. Briefly indicate the changes that need to be made and explain why.

Example 1

Which of these is the artist who is best known for his prints of tomato soup cans and Marilyn Monroe?

a. Picasso
b. Andy Warhol
c. Leonardo Da Vinchi
d. Ludwig Von Beethoven

Example 2

To avoid infection after receiving a puncture wound to the hand, you should:

a. Always go to the immunization center to receive a tetanus shot.
b. Be treated with an antibiotic only if the wound is painful.
c. Ensure that foreign objects have been removed from the wound.
d. Never wipe the wound with alcohol unless it is still bleeding.

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Example 3

Technicle advances in farm equipment

a. encourage urbanization because fewer people liveon farms
b. higher food prices
c. revolutionizd the industry
d. never occurs rapidly
e. both a and c
d. none of the above

Example 4

All of the following are correct procedures for putting out a grease fire in a pan on the stove except:

a. Do not move the pan.
b. Pour water into the pan.
c. Slide a fitted lid onto the pan.
d. Turn off the burner controls.

Example 5

A word used to describe a noun is called an:

a. Adjective.
b. Conjunction.
c. Pronoun.
d. Verb.

Appendix I
Practical Exercises

Directions: Using the information on the Systems Approach to Training, use the space provided on the next page to write five short answer test items based on the information given. Remember to write the answer first, then the question.

SYSTEMS APPROACH TO TRAINING

SAT is the Army's training development process. It is a disciplined, logical approach to making collective, individual, and self-development training decisions for the total Army. SAT determines whether or not training is needed; what will be trained; who will receive the training; how, how well, and where the training is presented; and the training support/resources required to produce, distribute, implement, and evaluate those products. SAT involves all five training related phases: analysis, design, development, implementation, and evaluation.

Training development is a vital component of TRADOC's mission to prepare the Army for war. As such, it is the responsibility of every civilian and soldier in management and training-related roles in the TRADOC headquarters, schools, field units, and supporting contractor offices. Management, at all levels, needs to have a working knowledge of the process, and ensure its efficient implementation. Doing so will save scarce resources: personnel, time, process, and unnecessary product development dollars.

SAT PROCESS: The Army's Systems Approach to Training (SAT) process is a flexible, efficient, and effective system engineering approach to developing education and training. It has been successfully used to design hard skill (technical, procedural) and soft skill (leadership, artistic, and management) training and education. Education/training provides the means to improve soldier and unit performance. Identifying and incorporating improvements to the SAT process and the management of that process is a continuous, on-going action.

a. The SAT model fully meets the need for training units and individuals (commanders and staff) as well as for developing training using automated development and delivery tools. It is restrictive where necessary yet provides the flexibility to use any method needed to provide efficient and effective education and training. When properly applied and managed, the SAT process provides exactly the types of information and data needed to develop education/training for the digital units and initial brigade force teams and to assist in the sustainment of unit readiness.

b. AR 350-1, Army Training and Leader Development, establishes the SAT as the Army's education and training development process. Appendix B provides an executive summary of this process.

c. The SAT process is delineated in TRADOC Regulation 350-70, Systems Approach to Training Management, Processes, and Products. The model identifies and defines collective and individual task(s) (with condition and standard) that the unit and Soldiers (including leader tasks) must perform in order to accomplish their missions. These tasks form the foundation for Army training/education. Resource requirements for implementing training are identified during the design phase.

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Practical Exercises

SAT DEVELOPMENT BACKGROUND:

a. Research and studies on ways and methods for improving training and education are ongoing efforts in both the military and civilian communities. For example, in the 1960s, the civilian community proved the value of learning objectives, which were implemented in DoD service training. The Army Research Institute (ARI) and Navy have published a number of reports and books on education and training and appropriate information has been adopted, e.g., results of team training research has been added to the 1999 version of TR 350-70, Systems Approach to Training (SAT) Management, Process, and Products.

b. Florida State University (FSU) developed the ISD model (Inter-service Procedures for Instructional Systems Development) through an Army contract in the mid-70s. The ISD model was adopted by the DoD and implemented in all the services. In this model, training development information is used in follow-on phases (training analysis, design, development, implementation, and evaluation (quality assurance/quality control)) to ensure required, efficient, and effective training/education is provided when and where needed. It uses spiral development to speed up and improve the provided education/training.

c. In the early 80s, the Army modified the ISD model by including the identification of unit missions and the identification of collective and individual tasks that support mission accomplishment. This modification gave us collective to individual task linkages and the unit training products, e.g., training strategies, drills, and exercises. The result was today's SAT model.

d. In the 1991-1992 timeframe, TRADOC contracted to have an independent agent determine the most efficient and effective process for the Army to develop training and to produce a functional description (operational concept document) detailing that process. The contractor determined that the SAT process was the most efficient process for the Army to use and provided a detailed Automated Systems Approach to Training (ASAT) Functional Description. This ASAT functional description (Operational Concept Description) was adopted by the DOD led Automated-Training, Evaluation, Acquisition, and Management (A-TEAM) team as the foundation for automating training development across the services.

e. In 1995, TRADOC Regulation 350-70 was first published. This regulation consolidated 17 separate publications into one to eliminate confusion caused by duplicated, conflicting, and outdated policy as well as to identify and implement process improvement. This was a major undertaking involving workgroups and included input from all schools and affected organizations.

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Practical Exercises

Question 1

Question 2

Question 3

Question 4

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Directions: Read the following examples of Essay test items. Each of these items may or may not need improvement. Indicate what changes (if any) should be made.

1. Restate the definition of the term, "task," that was discussed in Lesson 1.

2. Should the U.S. government be able to hold suspected terrorists indefinitely?

3. What are the 5 phases of the Systems Approach to Training?

4. Compare and contrast the national tax policies of the Democratic and Republican parties over the last 20 years. What are the similarities and differences?

5. Read the following paragraph. Tell which statements are facts and which are opinions.

> In 2001, the secretary and chief of staff of the Army made it a requirement that all soldiers, DA civilians, and Non-Appropriated Fund employees obtain AKO accounts. More than one million people now have AKO accounts, with more than 40,000 of them visiting the site on any given day. "This is not about a portal. This is about doing your work," said COL Bob Cox, the Army's chief technology officer. "The more stuff you move to the web, the more you empower the soldier," said COL Howard Olsen, commander of EREC. "We're giving enlisted soldiers the tools to finally manage their careers. That's a powerful thing."

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Practical Exercises

Following are four restricted response essay questions that together constitute a science unit test. After each question is the keyed answer provided by the teacher and Jane Smith's answer. You are to do two things:
First – decide the maximum marks (points) of each question. (The entire test has a maximum score of 40 points, 10 points per question.)
Second – evaluate Jane Smith's answers with the answer key and award her points according to the degree of correctness of her answer.

#1 What is the shape of a quartz crystal?
Answer Key: Hexagonal
Maximum Marks: ___10____
Jane's answer: "Six-sided hectogon."
Jane's score: _____

#2 What is a saturated solution?
Answer Key: A solution that contains as much dissolved substance as it can for a particular temperature.
Maximum Marks: ___10_____
Jane's answer: "Large crystals contain a great deal of substance that has been formed. This process of forming crystals is called crystallization. It occurs in both the laboratory & in nature.
Jane's score: _____

#3 Write a paragraph describing how you can grow very large crystals.
Answer Key: Any answer that says size of crystal is directly related to the rate of crystallization.
Maximum Marks: ____10____
Jane's answer: "Large crystals contain a great deal of substance that has been formed. This process of forming crystals is called crystallization. It occurs in both the laboratory & in nature.
Jane's score: _____

#4 Name three major categories of rocks.
Answer Key: Igneous, Sedimentary, and Metamorphic
Maximum Marks: ___10_____
Jane's answer: "The three kinds are fire-formed, settled, and those that have changed their form."
Jane's score: _____

Source: *Educational Assessment of Students (2nd Edition)* by Anthony J. Nitko (pp.174), 1996 by Prentice-Hall Inc.

Appendix I
Practical Exercises

Hands-On Checklist Development

Directions: You will be working in groups for this practical exercise. Here is a process task and a narrative description of that task. Construct an **evaluators** hands-on checklist for this task. **Follow the six steps in your handout on Hands-on Test Development contained in your reference book.** Copy your checklist onto a sheet of chartboard paper. You will write only the checklist, not the test administrator's manual, although you should have some idea in mind about conditions as you complete the checklist.

TASK: Perform safety checks on hand grenades.

GIVEN: Standard issue US hand grenade with extra safety clips and load carrying equipment (LCE).

The following must be performed in sequence:

Identify the hand grenade by type, color and usage. Inspect the grenade for defects and correct defects if possible. Check the fuse to ensure it is screwed tightly on the body of the grenade. Check the safety clip to ensure that it is present and is in the correct position. Check the safety pin to ensure the clip is in the correct position. If the clip is not in the correct position, carefully push it into place while holding the safety lever down. Ensure the clip is not bent. If it is bent, carefully bend it back into position. Check the safety ring; reject a grenade with a cracked safety ring. Check grenades for dirt, wiping dirty or grimy grenades with a cloth. Attach the grenade to an ammo pouch. Slip the grenade safety lever over the small strap on the ammo pouch. Push the grenade down until it is firmly seated against the side of the pouch. Ensure that the pull ring is pointed downward. Wrap the carrying strap around the fuse including both the safety lever and the pull ring. Be sure to check grenades periodically while moving to ensure the fuse is tight and the strap is secure.

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Directions: The following questions were extracted from Test A. You are to rewrite each question so it can be used on Test B.

1. Alternating current is changed to direct current by means of a--

    A* rectifier.
    B. transformer.
    C. condenser.
    D. generator.

2. A hexagon has how many sides?

    A. Four
    B. Five
    C* Six
    D. Seven

GLOSSARY

GLOSSARY OF TRAINING AND TRAINING DEVELOPMENT TERMS

A

Accreditation
The recognition afforded an educational institution when it has met accepted standards of quality applied by an accepted, professional accreditation agency.

Action verb
Verb that conveys action/behavior and reflects the type of performance that is to occur (e.g., place, cut, drive, open, hold). Action verbs must reflect behaviors that are measurable, observable, verifiable, and reliable.

After-action review (AAR)
A professional discussion of an event focused on performance standards. It enables soldiers to discover for themselves what happened, why it happened, how to sustain strengths, and how to improve on weaknesses. It is a tool leaders, trainers, and units can use to get maximum benefit from every mission or task.

Analysis
One of five phases of the training development process. It is the process used to determine if training is required; determine who (soldiers/units) needs training; identify the critical tasks they must be able to perform for survival on the battlefield; and identify the standards, conditions, performance measures, and other criteria needed to perform each task. The five types of training analyses:

- Needs Analysis
- Mission Analysis
- Collective Critical Task Analysis
- Job Analysis
- Individual Critical Task Analysis

Army Training and Evaluation Program (ARTEP)
The cornerstone of unit training. It is the umbrella program to be used by the trainer and training manager in the training evaluation of units. The ARTEP is a complete program enabling commanders to evaluate and develop collective training based on unit weaknesses, then train the unit to overcome those weaknesses and reevaluate. Success on the battlefield depends on the coordinated performance of collective and individual skills that are taught through the ARTEP MTP.

Army Training Requirements and Resource System (ATRRS)
The Army training management system. It projects inputs, resource requirements, and student accountability and updates military personnel training records. It provides the data for Congressional Military Manpower Training Reports (MMTR), etc.

GLOSSARY

B

Battlefield Operating Systems (BOS)
Regimental commanders and squadron commanders must coordinate the seven operating systems and synchronize their activities in time, space, and purpose. The operating systems are listed below.

- Intelligence
- Maneuver
- Fire support
- Mobility and survivability
- Air defense
- Combat service support
- Command and control

C

Career management field (CMF)
A grouping of related military occupational specialties that provides visible and logical progression of a soldier's career to grade SGM.

Check-on-Learning
An informal, required, check to determine if students are learning the lesson content. It can be as simple as asking one or two review questions or as complex as asking students to demonstrate skill performance. Quizzes, practical exercises, and check questions are "check-on-learning" examples.

Concept Based Requirement System (CBRS)
The Concept Based Requirement System (CBRS) is the TRADOC process that analyzes warfighting concepts and identifies doctrine, training, leader development, organization, and materiel for soldiers (DTLOMS) to meet battlefield deficiencies. These initiatives serve as triggering circumstances for the needs analysis process.

Condition

- **Task condition:** The task condition describes the field conditions under which the task will be performed. The condition expands on the information in the task title by identifying when, where, and why the soldier performs the task and what materials, personnel, and equipment the soldier must have to perform the task.
- **Learning objective condition:** The learning objective condition describes the training situation or environment under which the student must perform the learning action statement. It includes any pertinent influence on learning objective performance, including identification of materials, facilities, and equipment the student must have to perform the objective.

Conference
A method of instruction that develops the training material through an instructor guided student discussion.

GLOSSARY

Constraints
Limiting or restraining conditions or factors such as policy considerations, time limitations, environmental factors, and budgetary and other resource limitations.

Content validity
Tests are intended to measure the extent to which students learn the content of the instruction and the extent to which students learn the content of the job. The extent to which the test measures this intent is referred to as content validity. If a test has content validity, it will answer the question: "Did the student learn the content of the instruction/the job?"

Course
A complete series of instructional units (phases, modules and lessons) identified by a common title or number.

Course administrative data (CAD)
A resident course document that provides critical planning information used to determine student input requirements for new and revised courses.

Course documentation
Consists of the documents that show the current content of a course (instructional materials, tests, student evaluation plan, etc.) and its developmental history (job analysis, task performance specifications, training strategy, course design, etc.).

Course Management Plan (CMP)
A document that tells the course manager and instructors how to manage the course.

Criterion
The standard by which something is measured. In Army training the task or learning objective standard is the measure of soldier/student performance. In test validation, it is the standard against which test instruments are correlated to indicate the accuracy with which they predict human performance in some specific area. In evaluation it is the measure used to determine the adequacy of a product, process, or behavior.

Criterion-referenced grading
A way of grading students in relation to a predetermined standard (go or no-go). The standard is based on job requirements.

Criterion-referenced instruction (CRI)
The instruction aimed at training students to perform established learning objectives (performance criteria) to the prescribed standard. CRI is the selected instructional methodology for training within the Army.

GLOSSARY

Critical task selection board
A management device that serves a quality control function in critical task selection. The board reviews the total task inventory and job performance data and recommends tasks for approval to the appropriate authority as critical tasks.

Cue
A word, situation, or other signal for action. An initiating cue is a signal to begin performing a task or task performance step. An internal cue is a signal to go from one element of a task to another. A terminating cue indicates task completion.

D

Demonstration
A method of instruction by which an instructor shows the students how to perform process or procedure.

Design phase
A major phase in the training development process. Determines how to train. Translates analysis data into a blueprint for training. It identifies resource requirements, training structure, learning objectives, training sequence, student evaluation/graduation requirements, and test design.

Development phase
A major phase in the training development process. Converts the design into resident and nonresident training materials, e.g., lesson plans, student handouts, media, etc.

Difficulty-importance-frequency model
One of several models available for use in selecting tasks for training and training site. Using this model, the proponent identifies those tasks as critical based on the difficulty, importance, and frequency of job task performance.

Doctrine
Fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives. It is authoritative but requires judgment in application.

E

Enabling learning objective (ELO)
A learning objective that supports the terminal learning objective. It consists of an action, condition, and standard. Enabling learning objectives are identified when designing the lesson. A terminal learning objective does not have to have enabling objectives, but it may have two or more.

GLOSSARY

Enabling skills and knowledges
Those skills and knowledges required for the performance of a task performance step. They are identified when conducting task analysis.

Environmental considerations
The environment factors, concerns, and regulations that must be taken into account when conducting task analysis, designing training, and/or implementing training.

Evaluation phase
A major phase in the training development process that assesses how effectively training objectives are achieved to standard by units and soldiers and how well they can meet job performance and mission requirements. This phase provides feedback to the other phases of the training development process to improve effectiveness and efficiency.

F

Fidelity
In job performance measurement, the extent to which an objective (action, conditions, and
standard) approximates those of a task. In training devices or simulators, the accuracy with which simulators reflect that which they simulate.

G

Go/no-go- -pass/fail
The evaluation criteria whereby students cannot partially pass. They either pass (go: meet the standard) or fail (no-go: do not meet the standard).

Graphic Training Aid (GTA)
A Graphic Training Aid (GTA) provides a means for trainers to conduct and sustain task-based training in lieu of using extensive printed material or an expensive piece of equipment. The uses of GTA range from quick reference memory aids to simulation games for a battalion.

H

Hands-on
Student practice of training on actual equipment, simulators, and training aids.

Hazard
A condition with the potential of causing injury to personnel, damage to equipment or structure, loss of material, or lessening of ability to perform a mission, a task, or a learning objective. ***Example:*** A river crossing has hazards that might include water depth and current, hypothermia, fatigue, debris on or under the water, change in conditions caused by weather, and swimming ability of the soldiers, etc.

GLOSSARY

I

Implementation
The actual conduct of training by any method of instruction using the validated training materials created during the design and development phases. A major phase in the training development process.

Individual task analysis
The process used to identify the individual task performance specifications. It describes how the task is actually performed, under what conditions it is performed, and how well the individual must perform it. It results in the task performance details needed to establish the individual training strategy and to design and develop follow-on training.

Individual training plan (ITP)
A document prepared for each enlisted military occupational specialty, warrant officer military occupational specialty, commissioned officer specialty code, or separate functional training program that describes the overall plan to satisfy training requirements and document the long range training strategy.

Instructional site
A physical location where specific instruction is to be accomplished (i.e., school, unit, job site). Despite semantic preferences, recognition of a basic distinction between form of training (self-study, supervised on-the-job training) and location of training (resident or job site) is important. In this context, site and setting are designations of training location, not training form. In analysis the analyst is concerned with site (location) selection, not training form selection, which is the task of the designers and developers.

Instructor contact hour (ICM)
The manpower workload factor, which represents one instructor work hour devoted to conducting training. The instructor contact hour for each lesson is related to optimum class size and computed by multiplying the number of academic hours times the number of student groups times the number of instructors required per group.

Item analysis
The process of determining whether a test item is functioning as intended. Alternatively, the use of results on individual test items to determine effectiveness of the item. It can be used to obtain feedback on training deficiencies, score exceptions, and improve future versions of the test.

GLOSSARY

J

Job (or duty)
For training development and training purposes, it is an MOS by skill level; BC by rank; AOC by rank; warrant officer MOS (Military Occupational Specialty) by skill level; ASI (Additional Skill Identifier); SQI (Skill Qualification Identifier); SI (Skill Identifier); LIC (Language Identifier Code); or other special category. Special categories include but are not limited to common tasks (for a specific skill level), additional duty assignments, and civilian jobs the Army is required to train.

Job aid
A checklist, procedural guide, decision table, worksheet, algorithm, or other device used by a soldier as an aid in performing duty position tasks. It gives the soldier directions and signals when to take action. A job aid is also called a job performance aid.

Job analysis
The process used to identify individual critical tasks (including leader tasks) a job incumbent must perform to successfully accomplish his/her mission "and duties as well as survive on the battlefield. They are the critical tasks for that job. They may be one of four types –

- Common soldier tasks
- Common skill level tasks
- Critical individual tasks
- Shared tasks

K

Knowledge
Information or fact required to perform a skill or supported task.

L

Learning activity
The specific behavior a student performs during a particular episode of learning.

Learning hierarchy
The relationships among objectives in which some objectives must be mastered before others can be learned. We can describe these as independent, dependent, and interdependent training objectives.

Learning objective (LO)
A precise three-part statement describing what the student is to be capable of accomplishing in terms of the expected student performance under specific conditions to accepted standards. Learning objectives clearly and concisely describe student performance required to demonstrate competency in the material being taught. LOs focus the training development on what needs to be trained and focuses student learning

on what needs to be learned. Both terminal and enabling objectives are learning objectives.

Learning step
A student activity that leads toward achievement of a learning objective. Learning steps are determined when the objective is broken down into its component parts. Often an explicit hierarchical relationship consisting of terminal learning objective, enabling learning objective, and learning step in maintained. Learning steps are identified and delineated in the lesson, training support package, or Army Correspondence Course Program outline during the design phase. It should be performance oriented.

Lesson
The basic building block of all training. The level at which training is designed in detail. The lesson is structured to facilitate learning. A lesson normally includes telling or showing the soldiers what to do and how to do it, an opportunity for the soldiers to practice, and providing the soldiers feedback concerning their performance. A lesson may take the form of an instructor presented lesson, an SGI-presented lesson, or a self-paced lesson, such as a correspondence course or CBI lesson.

Lesson plan
The detailed blueprint for presenting training by an instructor or small group leader (SGL). It prevents training from becoming haphazard and provides for training standardization. It is built on the lesson outline and includes all the details required for the presentation. It must be of sufficient detail that a new instructor can teach the lesson with no decrement of training.

M

Maximum Class Size
The largest number of students in a class that can be trained with acceptable degradation in the training effectiveness due to manpower, facility, or equipment constraints.

Mean
Arithmetic average calculated by adding up all scores and dividing the total by the number of scores.

Media
A means of conveying or delivering information. ***Examples*** of training media are paper, film, videotape, broadcast television, and computer program.

Methods of instruction
A way of presenting instruction to the students. Examples of methods of instruction are conference, demonstration, and practical exercise.

GLOSSARY

Mission
A series of related tasks that comprise the major capabilities and/or requirements imposed on a unit by its parent organization or table(s) of organization and equipment. ***Examples:*** Defend in sector, conduct a hasty attack, and delay. Missions may be imposed to support the parent unit.

Mission analysis
Mission analysis identifies unit organizational and functional structure, develops a mission matrix, derives a mission by echelon list, and identifies critical collective tasks.

Mission essential task list (METL)
A compilation of collective mission essential tasks, which must be successfully performed if an organization is to accomplish its wartime mission(s).

Mission Training Plan (MTP)
An MTP provides comprehensive training and evaluation outlines and exercise concepts and related training management aids to assist field commanders in the planning and execution of effective unit training. It provides units a clear description of "what" and "how" to train to achieve wartime mission proficiency.

N

Needs Analysis
The process used to identify valid –

- Non-training solutions to the performance deficiency.
- Training solutions to identified unit and individual performance deficiencies.
- Training development requirements. A training/training development requirement is established if the needs analysis results in the identification and implementation approval for a solution that justifies producing or revising training or training products. Proponents will develop or revise training or training products ***only*** when based upon a needs analysis to avoid unnecessary TD workload.

New equipment training (NET)
An initial transfer of knowledge, gained during equipment development, from the materiel developer/provider to the trainer, user, supporter.

0

Observation interview
A dialogue wherein a jobholder is observed in the job environment performing all or a substantial part of the job. The jobholder performs the job while the analyst asks questions.

GLOSSARY

Occupational Data, Analysis, Requirements and Structure Program (ODARS)
A comprehensive system for collecting, processing, storing, and analyzing training and occupational information provided by job incumbents and their supervisors through the administration of survey questionnaires. ODARS provides imperial data for identifying individual critical tasks to training proponents.

Occupational survey
A system of collecting detailed military training and occupational information using computer processing, retrieval, and analysis.

Operating tempo (OPTEMPO)
The annual operating miles/hours for systems in a particular unit required to execute the commander's training strategy. It is stated in terms of the miles/hours for the major system in a unit; however, all equipment generating significant operating and support cost has an established operating tempo.

Optimum Class Size (OCS)
The largest number of students in a class that can be trained with no degradation in training effectiveness. The constraining factor is the availability of equipment, facilities, and manpower. OCS serves as the basis for determining equipment and resource requirements.

P

Performance-based instruction
Instruction which develops student performance proficiency via task-based learning objectives written with an action verb. Students prove competency by actual performance of the objectives to the established standards.

Performance deficiency
The inability of a unit or individual to perform the required tasks to the established standard.

Performance measures
The actions that can be objectively observed and measured to determine if a task performer has performed the task to the prescribed standard. These measures are derived from the task performance steps during task analysis.

Performance oriented training
Training in which learning is accomplished through performance or the actual doing of the tasks
or supporting learning objectives under specific conditions until an established standard is met.

GLOSSARY

Performance step
A single discrete operation, movement, or action that comprises part of a task.

Performance test
An evaluation of the actual performance of the task or learning objective using the conditions under which it will be performed and the absolute standards for acceptable performance.

Planning, Programming, Budgeting, and Execution System (PPBES)
A system that provides key decision points for training development managers when dealing with manpower and dollars. An integrated system for the establishment, maintenance, and revision of the Five-Year-Program and the DoD Budget. The DCST, HQ TRADOC, is responsible for resourcing training.

Practical exercise (PE)
The practical exercise is the hands-on application of the performance required in enabling or terminal learning objectives. Gives the student the opportunity to acquire and practice skills, knowledges, and the behaviors necessary to perform the training objective successfully.

Predictive Validity
The extent to which the test predicts how well students will actually perform on the job. If a test has predictive validity, it will answer the question: "Will the students be able to perform on the job?" It involves administration of the test and comparison of the test results to other indicators of student performance capability.

Process standard
A standard for a task, which consists of a series of steps resulting in the soldier obtaining a single result. The task is evaluated by observing the process and by scoring each step or element as it is performed in terms of sequence, completeness, accuracy, or speed (such as, put on the protective mask or take oral temperature).

Product standard
A standard for a task, which terminates in a product or outcome that is observable and measurable. The task is evaluated by looking at the product or outcome in terms of completeness, accuracy, tolerance, clarity, error, or quantity.

Program of instruction (POI)
The program of instruction is a requirements document that provides a general description of course content, duration of instruction, types of instruction, and resources required to conduct peacetime and mobilization training in an institutional setting.

Program of Instruction Management Module (POIMM)
Provides an automated means for training developers to build a POI and CAD in accordance with TRAS.

GLOSSARY

Proponent agency
An Army organization or staff that has been assigned primary responsibility for materiel or subject matter experts in its area of interest.

Proponent school
The TRADOC school designated by the CG, TRADOC, or appropriate MACOM as training proponent to exercise supervisory management of all combat/training development aspects of a materiel system, functional area, or task. It analyzes, designs, and develops training/training products for proponent area.

R

Reliability
The extent to which the test/test item gives consistent results each time it is used (has reliability). Any time a test item is examined for validity, it must also be examined for reliability.

Risk assessment
The process used to identify potential hazard associated with training, set values on the risk elements, compare risks against training benefits, and eliminate unnecessary risks. It is an expression of potential loss in terms of hazard severity, accident probability, and exposure to hazard.

S

Sequencing
In training design, the proper ordering of instruction which allows the student to make the transition from one skill or body of knowledge to another and assures that supporting skills and knowledge are acquired before dependent performances are introduced.

Skill
The ability to perform a job related activity that contributes to the effective performance of a task performance step.

Soldier Manual of Common Tasks (SMCT)
A document that contains the critical tasks which every soldier must be able to perform in order to fight and win on the battlefield. It provides the conditions, standards, and performance measures for each common soldier critical task.

Soldier training publication_(STP)
Publications that contain critical tasks and other training information used to train soldiers and that serve to standardize individual training for the whole Army. They provide information and guidance in conducting individual training in the unit and aid the soldier, officer, noncommissioned officer (NCO), and commander in training critical tasks. They consist of Soldier's Manuals, Trainer's Guides, Military Qualification Standards Manuals, and Officer Foundations Standards System manuals.

GLOSSARY

Standard
A statement that establishes criteria for how well a task or learning objective must be performed. The standard specifies how well, completely, or accurately a process must be performed or product produced.
- The task standard reflects task performance requirements on the job.
- The learning objective standard reflects the standard that must be achieved in the formal learning environment.

Standardization
As applicable to Army training:
- The development and implementation of performance standards that the Army employs in training and in combat.
- Units and soldiers performing the same task will be trained to perform that task to the same standard.
- Training products are produced in one format by the training proponent and used by other training activities.

Stem
The part of a multiple-choice test item that asks a question.

Structure manning decision review (SMDR)
An annual process that compares the total Army training requirements for a fiscal year against the training capability of a given TRADOC school and resolves the differences.

Student Evaluation Plan
A plan that details how the proponent school will determine if the student has demonstrated a sufficient level of competency to pass the specified course or training. It specifically identifies course completion requirements to include the minimum passing score (or GO/NO GO) for each written or performance examination, final grade requirement, minimum course attendance requirements (if applicable), and specific tests that must be satisfactorily completed to graduate. It very specifically identifies how the student's performance will be evaluated. Counseling and retesting policy are delineated. Other evaluations, such as the Army Weight Control Program and Army Physical Fitness Test that impact on graduation are identified and their requirements are included.

System training plan (STRAP)
The master training plan for a new system. It outlines the development of the total training strategy for integrating the item into the training base and gaining units; plans for all necessary training support, training products, and courses; and sets milestones to ensure the accomplishment of the training strategy.

Systems Approach to Training (SAT)
The Army's training development process. It is a disciplined, logical approach to making collective, individual, and self-development training decisions for the total Army. It determines whether or not training is needed; what is trained; who gets the training; how,

how well, and where the training is presented; and the training support/resources required to produce, distribute, implement, and evaluate those products. The SAT involves all five training related phases: analysis, design, development, implementation, and evaluation.

T

Task
A clearly defined and measurable activity accomplished by individuals and organizations. It is the lowest behavioral level in a job or unit that is performed for its own sake. It must be specific; usually has a definite beginning and ending; may support or be supported by other tasks; has only one action, and therefore, is described using only one verb; generally is performed in a relatively short time (however, there may be no time limit, or there may be a specific time limit); and it must be observable and measurable. The task title must contain an action verb and object and may contain a qualifier. Types:

- **Collective task:** Derived from unit missions. Requires group participation for its accomplishment (e.g., operate an M105 Howitzer). It may also be a mission requirement, such as secure a bridgehead, which can be broken down into supporting individual tasks. It describes the exact performance a unit must perform in the field under actual operational conditions.
- **Common task**
- **Common collective task:** A collective task that is trained and performed in the same way by every unit in the Army. ***Example:*** Set up a personnel decontamination station.
- **Common skill level task:** An individual task performed by every soldier in a specific skill level regardless of MOS or branch, e.g., a task performed by all captains.
- **Common soldier task:** An individual task performed by all soldiers, regardless of rank. ***Example:*** All soldiers must be able to perform the task, "Perform mouth-to-mouth Resuscitation."

Note: There are common soldier tasks that apply to all Army civilian employees as well, e.g., "Maintain security of classified information and material."

- **Critical collective task:** A collective task that is critical.
- **Critical common collective task:** A common collective task that is critical.
- **Critical common skill level task:** A common skill level task that is critical.
- **Critical common soldier task:** A common soldier task that is critical.
- **Critical individual task:** An individual task that is critical.
- **Critical shared task:** A shared task that is critical.
- **Critical task:** A collective or individual task a unit or individual must perform to accomplish the mission and duties and to survive in war or military operations other than war (MOOTW). Critical tasks must be trained.
- **Individual task:** The lowest behavioral level in a job or duty that is performed for its own sake. It should support a collective task; it usually supports another individual task.
- **Organizational level critical task:** Common skill level task shared by other skill levels, e.g., captains and company first sergeants may perform the same tasks.

GLOSSARY

- **Shared task:**
  Individual: An individual task performed by soldiers from different jobs and/or different skill or organizational levels. Shared tasks are usually identified when conducting an analysis of a specific job. ***Example***: The lieutenant and sergeant in the same platoon perform some of the same tasks.
  Collective: A task that may apply to some units that have different proponents or to different echelon/TOE units within a single proponent's authority. The task, conditions, standards, task steps, and performance measures do not change.

Task-based training
Training developed and implemented to train units and soldiers to perform critical tasks and supporting skills and knowledges to established performance standards. Critical tasks focus training on what really needs to be trained.

Task learning difficulty
An individual critical task selection factor. A statistical rating collected when conducting job analysis that indicates the time, effort, and assistance required by a student to achieve performance proficiency.

Task performance specifications
The specifications that describe how the task is actually performed, under what conditions it is performed, and how well the individual must perform it. They are the task performance details needed to establish the individual training strategy and to design and develop follow-on training. The specifications are--

- Task title
- Task performance standard
- Task number
- Task performance condition
- Performance steps
  -- Supporting skills and knowledges for each performance step
  -- References required for performance step
  -- Safety factors, hazards, and considerations associated with for each performance step
  -- Environmental factors and considerations associated with for each performance step
  -- Equipment and materials required to perform the performance step
  -- Supporting individual task(s) performed as part of or in support of the individual task being analyzed
- Performance measures
- Supported individual task(s)
- Supported collective task(s)
- Supported Battlefield Operating System (BOS)
- Task certification requirements if applicable

GLOSSARY

Task Performance Steps
The required unit/individual actions that must be performed to accomplish the critical task. Each step must be specific and detailed and contain only one action or unit of work. ***Note:*** A collective task step may be a supporting individual or collective task.

Task selection board
A group of subject matter experts who evaluate task performance data and recommend to the approving authority those individual tasks that they determine to be critical.

Task selection factors
Statistical factors collected by survey on all tasks listed in the individual total task inventory. These factors are applied by using a task selection model to identify which individual tasks are critical to job performance.

Task selection model
A model used to apply statistically valid task selection factors to identify critical individual tasks. There are a variety of models available for use. Those commonly used are as follows:

- **Difficulty-importance-frequency model:** An individual critical task selection model that uses difficulty, importance, and frequency factors.
- **Eight-factor model:** An individual critical task selection model that uses percent performing, percent time spent performing, consequence of inadequate performance, task delay tolerance, frequency of performance, task learning difficulty, probability of deficient performance, and immediacy of performance.
- **Four-factor model:** An individual critical task selection model that uses percent performance, and task learning difficulty.
- **Probability of task criticality model:** An individual critical task selection model used by the Occupational Data, Analysis, Requirements and Structure Program (ODARS).
- **Training emphasis (TE) model:** An individual critical task selection model that uses the training emphasis factor to determine if a task is critical or not. The TE factor is collected from supervisors of jobholders. It reflects how much emphasis the task should be given in training for a specific task. The TE is the most useful single training factor for critical task selection.

Technical manual (TM)
A publication that describes equipment, weapons, or weapons systems with instructions for effective use. It may include sections for instructions covering initial preparation for use and operational maintenance and overhaul.

Terminal learning objective (TLO)
The main objective of a lesson. It is the performance required of the student to demonstrate competency in the material being taught. A TLO describes exactly what the student must be capable of performing under the stated conditions to the prescribed standard on lesson completion. There is only one TLO per lesson regardless of presentation method or media, and it has only one verb. The terminal learning objective

may cover one critical task, part of a critical task (i.e., a skill or knowledge), or more than one critical task. The terminal learning objective may be identical to the critical task being taught or there may be a disparity between them. Where there is a disparity, it is the terminal learning objective standard that the student must achieve to demonstrate competency for course completion.

Test

A device, technique, or measuring tool used to --

- Determine if a student or group can accomplish the objective to the established standard.
- Determine it training does what it is designed to do efficiently and effectively.
- Measure the skill/knowledge, intelligence, abilities, or other aptitudes of an individual or group.
- Collect data as a basis for assessing the degree that a system meets, exceeds, or fails to meet the technical or operational properties ascribed to the system.
- **Criterion-referenced test:** A test that establishes whether or not a unit or soldier performs the learning objective to the established standard. Performance is measured as a "go" or "no-go" against a prescribed criterion or set of criteria - the learning objective standard. It is scored based upon absolute standards, such as job competency, rather than upon relative standards, such as class standings.
- **Norm-referenced test:** A test that grades a student based on the performance of other students taking the same test. It is scored based upon relative standards, such as class standings, rather than upon absolute standards, such as job competency.

Total Army School System (TASS)

Fully accredited and integrated active component (AC)/Army National Guard (ARNG)/US Army Reserve (USAR) schools that provide standard institutional training and education for the Total Army.

Total Army Training System (TATS) Course

A single course designed to train the same military occupational specialty (MOS)/area of concentration (AOC) skill level, Skill Qualification Identifier (SQI), additional skill identifier (ASI), Language Identifier Code (LIC), and Skill Identifier (SI) within the Total Army. It also includes MOS Qualification (MOSQ, i.e., reclassification), Army leadership, functional, professional development, and civilian courses. The course's Total Army structure (phases, modules, tracks**,** lessons, tests) and media ensure standardization by training all soldiers (regardless of component) on course critical tasks to task performance standard. Course lengths, but not academic hours, may vary due to such differences as Active and Reserve Component (AC/RC) training day lengths.

Total Army Training System (TATS) POI

A requirements document that provides a general description of the Total Army Training System Course content, duration of instruction, and methods of instruction and media. It lists critical tasks taught and resources required to conduct peacetime and mobilization training.

Note: This is the objective TATS POI currently being automated.

GLOSSARY

Training aids, devices, simulators, and simulations (TADSS).
A general term that includes Combat Training Center (CTC) and training range instrumentation; Tactical Engagement Simulation (TES); battle simulations; targetry; training-unique ammunition; dummy, drill, and inert munitions; casualty assessment systems; graphic training aids; and other training support devices. All of these are subject to the public laws and regulatory guidance governing the acquisition of materiel.

Training developer
The individual whose function is to analyze, design, develop, and evaluate training and training products, to include development of training strategies, plans, and products to support resident, non-resident, and unit training. Any individual functioning in this capacity is a training developer regardless of job or position title. In developing systems, the command or agency responsible for the development and conduct of training which will provide the tasks necessary to operate and logistically support the new materiel system.

Training development (TD)
The Army's training development process is a systematic approach to making collective, individual, and self-development training decisions for the total Army. It determines whether or not training is needed; what is trained; who gets the training; how, how well, and where the training is presented; and the training support/resources required to produce, distribute, implement, and evaluate those products. The process involves five training related phases: analysis, design, development, implementation, and evaluation. ***Note:*** Do not confuse the overall TD process with the particular Systems Approach to Training (SAT) phase called "development," which is related specifically to the development of training and training products following analysis and design.

Training Development Plan
The title "Training Development Plan" is a generic name for a master plan document. Different proponent schools may have used different titles in the past. It functions as a top-level plan covering all resourced requirements (reflected in training development project management plans) and unresourced requirements. It includes all required training products (resident and nonresident courses, training support package, etc.) and all training development processes (mission analysis, job analysis, etc.). It shows what training development workload must be accomplished during the execution, budgeting, and programming years; and it increases in detail up to the execution year. It does not have to be a formal plan: the requirements can be in a database and not formalized in a report. The plan is for internal proponent school use.

Training development planning
The planning of all aspects of training development including but not limited to funding, staffing, resourcing, and scheduling. The degree of planning varies with the office or command level and products produced. Long-range planning covers years three through twenty past the execution year. Planning helps ensure the most efficient use of manpower and other resources to develop the important training first.

GLOSSARY

Training development products
Products of the training development process that enable the formulation and implementation of training programs. They include items such as critical task lists, correspondence courses, lesson plans, and training materials.

Training development requirement
The training solution to a performance deficiency determined during needs analysis or training strategy development.

Training method
The procedure or process for attaining a training objective. Examples include lecture, demonstration, discussion, assigned reading, exercise, examination, seminar, and programmed instruction.

Training objective
A statement that describes the desired outcome of a training activity in the unit. It consists of the following three parts: task, condition, and standard.

Training Requirements Analysis System (TRAS)
A management system that provides for the documentation of training and resource requirements in time to inject them into resource acquisition systems. The purpose of the TRAS is to ensure that, as required by current and future proponent Combined Arms Training Strategy (CATS) institutional strategies, students, instructors, facilities, ammunition, equipment, manpower, and funds are all at the right place and time to accomplish TRADOC's missions, and the instruction produced is consistent with TRADOC and Army training requirements. The TRAS uses three types of documents--the Individual Training Plans (ITPs), Course Administrative Data (CADs), and Programs of Instruction (POIs).

Training resources
Those human, physical, financial, and time resources used to conduct and support training.

Training sequence
Ordering the parts of a training program/course to optimize learning.

Training Support Package (TSP)
A complete, exportable package integrating training products, materials, and information necessary to train one or more critical tasks. Its contents will vary depending on the training site and user. A TSP for individual training is a complete, exportable package integrating training products/materials necessary to train one or more critical individual tasks. A TSP for collective training is a package that can be used to train critical collective and supporting critical individual tasks (including leader and battle staff).

GLOSSARY

Training system
A training system is the combination of all elements of a training program working together to bring about the preparation of units to perform their missions and/or personnel to effectively perform their assigned jobs. A training system consists of training hardware, facilities, and
personnel subsystems.

V

Validation
An evaluation of the training products and materials. It is the process used to determine if training accomplishes its intended purpose. In the "testing" context, it is the process of determining the degree of validity of a measuring instrument (e.g., skill qualification test, end-of-module test, and end-of-course comprehensive test). In the "technical manual" context, it is the process used by a contractor to test an equipment publication for completeness, compliance with contractual requirements, and technical accuracy. Validating and revising training are continuous actions in the teaching/revising process of training improvement. Validate products and materials to -

- Verify their training effectiveness in training the objective.
- Determine beneficial improvements in the quality of training products and materials.
- Identify training product deficiencies.
- Improve efficiency and effectiveness of training objectives, sequence, products, and materials.

Validity
A broad term that refers to the extent to which a test measures what it is intended to measure. Although there are several types of validity and different classification schemes for describing validity, two major types of validity that test developers must be concerned with are content-related and criterion-related validity.

W

Written performance-based test
Used to assess the student's ability to apply facts, principles, procedures, etc., required to perform the learning objective. Essay, short answer, and multiple-choice questions (in order of preference and effectiveness of measurement) can be question types for performance-based tests.

Written performance test
Performance tests that require the student to write in the performance of the job task, e.g., complete a form, compute.

ACRONYMS

ACH - Academic Contact Hours
AIT - Advanced individual Training
AOC - Area of Concentration
ASAT - Automated Systems Approach to Training
ATRRS - Army Training Requirements and Resources System
CAD - Course Administrative Data
CALL - Center for Army Lessons Learned
CATS - Combined Arms Training Strategy
CBI - Computer Based Instruction
CBT - Computer Based Training
CMP - Course Management Plan
COE - Contemporary Operating Environment
CRI - Criterion-Referenced Instruction
CTA - Criterion Task Analysis
CTI - Criterion Test Instructions
CTL - Critical Task List
CTSSB - Critical Task/Site Selection Board
DOT - Directorate of Training
DOTMLPF - Doctrine Organization Training Materiel Leadership and Education Personnel Facilities
ELO - Enabling Learning Objective
GEL - Guided Experiential Learning
ICH - Instructor Contact Hours
IET - Initial Entry Training
IMI - Interactive Multimedia Instruction
ITP - Individual Training Plan
ITRO – Interservice Training Review Organization
METL - Mission Essential Task List
MOS - Military Occupational Specialty
MRAD - Mission Requirements and Allocations Document
MTS - Master Training Schedule
NCOES - NCO Education System
POI - Program of Instruction
POM - Program Objective Memorandum
QAO - Quality Assurance Office
SAT - Systems Approach to Training
SEP - Student Evaluation Plan
SGI - Small Group Instruction
SGL - Small Group Leader
SMDR - Structure Manning Decision Review
SQI - Skill Qualification Identifier
STP - Soldier Training Publication
STRAP - System Training Plan
TADSS - Training Aids Devices Simulations Simulators
TASC – Training Aids Support Center
TASS - Total Army School System
TATS - Total Army Training System
TD - Training Development
TLO - Terminal Learning Objective
TRADOC - Training and Doctrine Command
TRAP - Training Requirements Arbitration Panel
TRAS - Training Requirements Analysis System
TSP - Training Support Package
UFR - Unfunded Requirement
VTC - Video Teleconference
VTT - Video Teletraining
WTS - Weekly Training Schedule