

**APPENDIX A**  
**EXAMPLE TRAINER CLASSIFICATION MODEL**

**TRAINER CLASSIFICATION MODEL**

REPRESENTATIVE JOB TITLES		REPRESENTATIVE JOB DESCRIPTION	REPRESENTATIVE COURSE TITLES	REPRESENTATIVE COMPETENCIES
<p>Manager of Training and Development Program Leader</p>	<p>LEVEL VI</p>	<p>A. An administrator or manager who plans and directs the work of subordinate trainers. Functions as an employee development/problem solving consultant where training is a possible alternative to achieve an organizational goal. Does training cost estimating and training proposals. Evaluates training results and trainers. Provides or arranges for materials, outside consultants, etc.</p> <p>B. Preparation for this position includes all those expectations preceding as well as training management courses emphasizing program planning and evaluation, training research, and various generically related management/administration courses that go beyond directing people and include organizational development. Advanced degree. (1)</p>	<p>Research Methods Program Planning and Evaluation Administration of Occupational Education Personnel Management Organizational Development</p>	<p>Develop yearly and multi-year plans and budgets. Select competent staff, control resources, supervises staff, motivate, schedule activities, keep records, and maintain public relations.</p>
<p>Course Designer Training Analyst Lead Instructor/Coordinator</p>	<p>LEVEL V</p>	<p>A. A senior, experienced trainer who functions as a lead trainer. Develops curriculum, may teach and mentor new trainers, teaches advanced coursework. Does assessment and evaluation training.</p> <p>B. Significant training/teaching experience. advanced coursework in learning theory, instructional design, needs research, front-end analysis. Beginning management orientation. Bachelor's degree. (1) Includes level IV.</p>	<p>Supervision/Human Relations Individual and Organizational Behavior Employee Behavior and Assessment Program Evaluation and Corrective Action Assessing Employee Performance</p>	<p>Do front-end analysis and research. Analyze data and translate into program design. Write proposals.</p> <p>Arrange and conduct staff continuing training. Evaluate instructional designs and vendor products.</p>
<p>Instructor Instructional Developer</p>	<p>LEVEL IV</p>	<p>A. Works under the direction of a senior/experienced trainer or supervisor. Provides formal classroom instruction to employees from various departments. Develops course work and instructional materials.</p> <p>B. Teaching/training knowledge background includes courses with such titles as "Methods of Teaching Adults," "Occupational Analysis," "Course Construction," "Learning Theory," and the like. A fairly heavy dose of both "how to" and "why with the 'why being accepted as essential. Includes Level III.</p>	<p>Methods of Occupational Training Occupational Analysis and Course Construction (Front-end analysis) Analysis and Design Instructional Development</p>	<p>Use competency-based models and various assessment techniques. Evaluate learning objectives and multi-media materials. Utilize SAT and vendor materials.</p>
<p>Trainer/Lecturer</p>	<p>LEVEL III</p>	<p>A. An individual who works full-time or part-time in training. Primarily a subject matter expert working as a classroom trainer using instructional materials and strategies developed by others.</p> <p>B. Training preparation: Instructional methods, learning theory. Overview of course development. Includes Level II</p>	<p>Instructor Training</p>	<p>Implement group interaction methods. Classroom teaching techniques. Train and test using materials prepared by others.</p>

<p>Foreman/Supervisor</p>	<p>LEVEL II</p>	<p>A. Supervisor or foreman who is expected to regularly indoctrinate new employees in organization expectations, and, on occasion, to update and provide information in semiformal department meetings and conduct job-specific training. Occasionally asked to provide information about his/her department to employees of other departments in a rather formal setting.</p> <p>B. The "Instructor Training" course plus appropriate material covering information on andragogy, front-end results analysis, and developing learning materials. More "how-to" information, but including some "why." Includes Level I.</p>	<p>Instructor Training</p>	<p>Use group interaction methods, select strategies to meet learning needs, use elements of performance based training to develop an instructional program. Use AV equipment.</p>
<p>Mechanic, Equipment Operator, Word Processor, Electronic Technician</p>	<p>LEVEL I</p>	<p>A. A subject matter expert working as an OJT instructor, using materials developed by others, who conducts on-the-job training and employee performance testing.</p> <p>B. Would benefit from a trainer course, i.e., "OJT Instructor Training." A course that deals with the "how to" rather than the "why," one-on-one instructional methods, and performance testing.</p>	<p>OJT Instructor Training</p>	<p>Use effective learning concepts. Demonstrate a job skill. Conduct performance tests.</p>

(1) Specialized experience and education may be submitted on an individual basis.

**APPENDIX B**  
**EXAMPLE JOB ANALYSIS SURVEY FORM**

**EXAMPLE JOB ANALYSIS SURVEY FORM**

The attached survey contains eleven duty areas with supporting task statements. The initial duty areas and task statements were obtained from a generic task listing for nuclear instructors developed by the Mid-Atlantic Nuclear Training Group (MANTG) after they surveyed 179 instructors at 14 commercial reactor utility sites concerning instructor job requirements. The list was then reviewed by five instructors and revised to reflect the perceived job requirements for instructors. The results of this survey may be used to verify and/or modify existing initial and continuing instructor training program.

Before filling out the attached survey forms, please answer the following questions. These answers will be used to establish a local data base for the survey.

1. Number of years of practical experience related to your field of training \_\_\_\_\_
2. Number of years as an instructor in the this organization \_\_\_\_\_
3. List the positions you have held (e.g., SRO, SS, maintenance foreman, etc.) and your educational background.

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**Instructions for filling out the survey form:**

1. You are asked three questions on each task and are asked to rate each question on a scale of 1 to 5. The explanation of each rating is given on the next page.
2. Should you encounter a task that doesn't apply to your present position, write N/A in the space for the difficulty rating.
3. Please answer all task questions as thoroughly as possible.

## DEFINITIONS OF SURVEY CRITERIA SCALES

### DIFFICULTY OF PERFORMANCE

First, decide if the task performance requires a high, medium, or low degree of mental activity. A high mental activity rating will use either "5" or "4," medium, a "3"; and low, a "2" or "1." The amount of motor coordination required will resolve using "5" or "4" and "2" or "1" (a medium mental activity uses a rating of "3" irrespective of motor coordination).

- Min. 1. "Low" mental activity and "low" motor coordination are required.
2. "Low" mental activity and "high" motor coordination are required.
3. "Medium" mental activity is required (irrespective of the degree of motor coordination needed).
4. "High mental activity and "low" motor coordination are required.
- Max. 5. "High" mental activity and "high" motor coordination are required.

### TASK IMPORTANCE

- Min. 1. Consequences of improper performance are "negligible" (for example, improper performance could affect personnel training, but with no significant consequence).
2. Consequences of improper performance are "undesirable" (for example, improper training may result).
3. Consequences of improper performance are "serious" (for example, improper training may result in generation of an occurrence report).
4. Consequences of improper performance are "severe" (for example, improper training may result in an alert event).
- Max. 5. Consequences of improper performance are "extremely severe" (for example, improper training may result in a site or general emergency event).

### FREQUENCY

- Min. 1. "Less than once per year."
2. "Annually/semiannually (6-12 months)."
3. "Monthly/quarterly (4 weeks-3 months)."
4. "Weekly/bi-weekly (1-2 weeks)."
- Max. 5. "Daily (or more frequently than once per week)."

JOB ANALYSIS INSTRUCTOR

Key - Arabic Numeral, i.e., 3 = Duty area

- Arabic Numeral W/Decimal, i.e., 3.8 = Tasks relating to duty area

<b>1</b>	<b>ANALYZE TRAINING NEEDS</b>		<b><u>Difficulty</u></b>	<b><u>Importance</u></b>	<b><u>Frequency</u></b>
	1.1	Conduct a needs analysis			
	1.2	Conduct job analysis			
	1.3	Interpret job analysis data			
	1.4	Revise/modify existing job analysis			
	1.5	Conduct a task analysis			
	1.6	Interpret task analysis data			
	1.7	Revise/modify existing task analysis			
	1.8	Evaluate requests for training			
	1.9	Develop questionnaires to determine student and management needs			
	1.10	Analyze student and management questionnaires			
<b>2</b>	<b>CONDUCTING TRAINING</b>		<b><u>Difficulty</u></b>	<b><u>Importance</u></b>	<b><u>Frequency</u></b>
	2.1	Prepare instructional setting			
	2.2	Review lesson plan			
	2.3	Schedule resources and facilities			
	2.4	Verify training schedule			
	2.5	Verify training equipment is operable			
	2.6	Administer diagnostic test			
	2.7	Evaluate diagnostic test results			
	2.8	Use instructor guide			
	2.9	Conduct plant walk-throughs and field trips			
	2.10	Perform demonstrations			
	2.11	Conduct lab sessions			
	2.12	Conduct lecture			
	2.13	Conduct discussion			
	2.14	Conduct seminars			
	2.15	Conduct role-playing exercises			
	2.16	Conduct hands-on exercises			

	2.17	Apply case studies			
	2.18	Use a flip chart			
	2.19	Use a videotape			
	2.20	Use a black (white) board			
	2.21	Use slides			
	2.22	Use transparencies			
	2.23	Question trainees orally during lesson to determine their progress			
	2.24	Respond to trainee questions			
	2.25	Monitor computer based training			
	2.26	Team teach with other instructors			
	2.27	Monitor/facilitate independent study activities			
	2.28	Monitor/facilitate individualized instruction			
	2.29	Conduct training for on-the-job training evaluator			
	2.30	Supervise on-the-job training			
	2.31	Administer quizzes periodically to determine trainee progress			
	2.32	Administer written exam			
	2.33	Administer oral exam			
	2.34	Administer performance test			
	2.35	Proctor written exam			
	2.36	Gather feedback from trainees on effectiveness of training			
	2.37	Assess your own training session			
	2.38	Tutor trainees			
	2.39	Conduct training programs for outside agencies			
	2.40	Recognize and respond to disruptive trainee behavior			
<b>3</b>	<b>DESIGNING TRAINING</b>		<b><u>Difficulty</u></b>	<b><u>Importance</u></b>	<b><u>Frequency</u></b>
	3.1	Plan/organize a training documentation tracking system			
	3.2	Develop a work plan for training program development			
	3.3	Function as a program/ curriculum development team member			

	3.4	Function as a program/curriculum development project coordinator			
	3.5	Coordinate a training program			
	3.6	Apply adult learning theory and instructional principles to develop mentor training program			
	3.7	Construct learning objectives			
	3.8	Modify existing learning objectives			
	3.9	Sequence learning objectives			
	3.10	Choose training method			
	3.11	Determine instructional setting			
	3.12	Modify existing training methods			
	3.13	Modify existing training materials			
	3.14	Modify existing lesson plans			
	3.15	Modify existing exam questions			
	3.16	Choose type of media and supplies to be used			
	3.17	Review existing (packaged) training programs for applicability			
<b>4</b>	<b>DEVELOPING TRAINING</b>		<b><u>Difficulty</u></b>	<b><u>Importance</u></b>	<b><u>Frequency</u></b>
	4.1	Develop course content outline			
	4.2	Develop study activities			
	4.3	Develop OJT checklist or qual card			
	4.4	Modify existing trainee text			
	4.5	Write trainee text			
	4.6	Modify existing trainee workbook/exercise guides			
	4.7	Develop trainee/exercise guides			
	4.8	Modify existing trainee handouts			
	4.9	Develop trainee handouts			
	4.10	Modify existing A-V materials			
	4.11	Develop flipcharts			
	4.12	Develop transparencies			
	4.13	Develop slides			
	4.14	Develop diagnostic tests			
	4.15	Develop an evaluation plan for training programs			
	4.16	Develop hands-on/practical exercises			
	4.17	Develop standards for performance tests			
	4.18	Write performance test items			
	4.19	Write multiple choice test items			
	4.20	Write matching test items			
	4.21	Write completion test items			
	4.22	Write essay test items			
	4.23	Write oral test items			
	4.24	Write test instructions			

	4.25	Develop test answer keys			
	4.26	Develop a test specification matrix			
	4.27	Develop a training standard document			
	4.28	Develop a training matrix			
	4.29	Perform pilot session using draft training materials			
	4.30	Revise draft training materials based on pilot session feedback			
	4.31	Write lesson plans for classroom setting			
	4.32	Write OJT guides for OJT setting			
	4.33	Develop computer based training			
	4.34	Write a program description			
	4.35	Coordinate vendor training			
	4.36	Produce video tape presentations			
<b>5</b>	<b>EVALUATING TRAINING</b>		<b><u>Difficulty</u></b>	<b><u>Importance</u></b>	<b><u>Frequency</u></b>
	5.1	Grade trainee quizzes/exams			
	5.2	Review exam results with trainees			
	5.3	Analyze trainee exam results			
	5.4	Analyze post-training feedback from program graduates			
	5.5	Analyze post-training feedback from program instructors			
	5.6	Analyze post-training feedback from supervisors/managers			
	5.7	Evaluate effectiveness of training equipment			
	5.8	Evaluate effectiveness of training materials			
	5.9	Revise training materials based on evaluation results			
	5.10	Evaluate effectiveness of training methods			
	5.11	Revise training methods based on evaluation results			
	5.12	Evaluate other instructors			
	5.13	Evaluate vendor training			
	5.14	Evaluate incoming plant modifications to determine potential effect on training programs			
	5.15	Participate in writing an accreditation self evaluation report			
	5.16	Conduct a course evaluation			
	5.17	Conduct a program evaluation			
	5.18	Analyze personnel performance problems in-plant			
	5.19	Analyze procedural problems in-plant			
	5.20	Analyze equipment problems in-plant			
	5.21	Conduct item analysis/test analysis on exam questions			

6	<b>MAINTAINING INSTRUCTOR PROFICIENCY AND CERTIFICATION</b>		<u>Difficulty</u>	<u>Importance</u>	<u>Frequency</u>
6.1		Attend internal and external seminars and conferences for personal/professional development			
6.2		Maintain current knowledge of technical instructional development			
6.3		Review changes in training related administrative procedures			
6.4		Participate in periodic in-plant observation sessions			
6.5		Read/review training articles			
6.6		Communicate effectively through speech			
6.7		Communicate effectively through writing			
6.8		Communicate effectively by listening			
6.9		Maintain current knowledge of plant modifications			
6.10		Interpret bargaining unit agreements			
6.11		Maintain/update instructor qualification records			
6.12		Maintain membership in professional organizations			
7	<b>OPERATING THE SIMULATOR</b>		<u>Difficulty</u>	<u>Importance</u>	<u>Frequency</u>
7.1		Develop team-oriented learning objectives			
7.2		Select simulator scenarios for training from an existing inventory			
7.3		Determine plant/simulator differences			
7.4		Determine simulator limitations			
7.5		Construct a scenario content outline			
7.6		Develop scenarios			
7.7		Test or dry-run scenarios			
7.8		Test simulator modifications			
7.9		Validate procedures on the simulator			
7.10		Perform daily operations readiness procedures			
7.11		Power-up the simulator complex			
7.12		Initialize the simulator for training			
7.13		Brief trainees prior to a simulator session			
7.14		Conduct exercise preview			

	7.15	Direct and guide drill exercise			
	7.16	Operate the instructor control console			
	7.17	Operate remote instructor controls			
	7.18	Perform restart/recover procedure			
	7.19	Perform shutdown procedure			
	7.20	Secure the simulator complex			
	7.21	Collect data for evaluation/critique			
	7.22	Evaluate trainees visual awareness while operating simulator			
	7.23	Evaluate individual crew member performance			
	7.24	Evaluate crew/team performance			
	7.25	Evaluate individuals/crews integrated plant operations knowledge level			
	7.26	Evaluate scenario effectiveness			
	7.27	Facilitate trainee critique of drill exercise			
	7.28	Conduct and reinforce team skill training			
	7.29	Maintain individual reactivity manipulation completion cards			
	7.30	Maintain operations requalification records			
	7.31	Maintain simulator records			
	7.32	Write up a simulator problem report			
	7.33	Provide procedure/design feedback to engineering			
	7.34	Evaluate simulator vs. plant fidelity			
<b>8</b>	<b>OPERATING TRAINING SUPPORT EQUIPMENT</b>		<b><u>Difficulty</u></b>	<b><u>Importance</u></b>	<b><u>Frequency</u></b>
	8.1	Operate a video camera			
	8.2	Operate a video recorder			
	8.3	Operate a movie projector			
	8.4	Operate a slide projector			
	8.5	Operate a lettering machine			
	8.6	Operate computer terminal and employ necessary software			

9	<b>PERFORMING ADMINISTRATIVE TASKS</b>		<u>Difficulty</u>	<u>Importance</u>	<u>Frequency</u>
9.1		Maintain/update trainee attendance records			
9.2		Maintain/update trainee grades and exam scores			
9.3		Maintain/update program development files			
9.4		Maintain/update training documentation tracking system			
9.5		Prepare a budget			
9.6		Requisition materials and supplies and review upon receipt			
9.7		Attend training meetings			
9.8		Interpret training procedures			
9.9		Maintain knowledge of appropriate company/plant policies and procedures			
9.10		Interpret regulations or rules promulgated by Federal or state agencies for training requirements			
9.11		Schedule classes			
9.12		Appraise managers and supervisors of training concerns			
9.13		Notify instructors and supervisors of new training programs			
9.14		Utilize reference library resources			
9.15		Write memos/letters/reports			
9.16		Maintain/update task-to-training matrix			
9.17		Prepare and submit company required documentation			
9.18		Initiate waivers for training			
9.19		Review company/plant procedures for changes			
9.20		Review industry information from regulatory sources			
9.21		Review industry information from other facilities			
10	<b>PROVIDING COUNSELING</b>		<u>Difficulty</u>	<u>Importance</u>	<u>Frequency</u>
10.1		Counsel trainees concerning training related problems			

	10.2	Counsel trainees in career planning			
	10.3	Discuss trainee performance with trainee			
	10.4	Provide remedial training materials to trainees			
<b>11</b>	<b>UNDERSTANDING ORGANIZATIONAL RELATIONSHIP</b>		<b><u>Difficulty</u></b>	<b><u>Importance</u></b>	<b><u>Frequency</u></b>
	11.1	Establish and maintain positive working relationships with line supervision			
	11.2	Establish and maintain a positive working relationship with instructional staff			
	11.3	Facilitate changing policies and procedures			
	11.4	Make formal presentations to management of plans for training and development of programs and projects			
	11.5	Write memos and announcements about training activities			
	11.6	Establish rapport and credibility with key personnel in the organization			
	11.7	Use knowledge of company/plant organizational structure			
	11.8	Understand how training relates to other company/plant functions			

**APPENDIX C**  
**INSTRUCTIONAL BASICS**

## INSTRUCTIONAL BASICS

The following list of representative competencies should be reviewed for applicability to a facility's instructional basics training program. Competencies that are omitted should be evaluated for inclusion in other instructor training programs. Those competencies that apply should be converted to facility-specific terminal and enabling learning objectives. Once in the learning objective format, training and evaluation tools may be designed. An instructional basics course should develop the following representative competencies:

- Fundamentals of Systematic Approach to Training
  - define "systematic approach to training" (SAT)
  - define the purpose and basic output of each of the five phases of SAT
  - describe how a systematic approach to training has been implemented at the facility
  - describe the facility's training program evaluation process
- Training Program Administration
  - discuss the purpose and content of a training development and administrative guide
  - discuss the purpose and content of the facility's training management manual
  - discuss facility administrative policies and procedures related to training
  - explain how to utilize the facilities, equipment, and services that support training at the facility
  - discuss procedures for the requisition of materials and supplies
  - demonstrate an ability to utilize the training department reference library resources
- The Role of the Instructor
  - describe the attributes of a competent instructor
  - discuss the importance of the desire to teach
  - discuss the relationships between instructors and adult trainees
  - explain why instructor resourcefulness and creativity are needed
  - explain the instructor's role in the total training effort

- differentiate between entry-level technical qualifications and developmental/instructional qualifications for instructors
- discuss the need to advise training supervisors/managers of training concerns
- discuss ethical and integrity issues related to training
- explain the instructor's role in promoting professionalism (including reinforcement of facility codes of conduct)
- explain the instructor's role in reinforcing facility standards
- briefly describe the programs for qualification and requalification of all facility instructors
- discuss the continuing training programs for facility instructors
- Records Management
  - discuss the reason for and uses of training records
  - discuss the types of training records to be maintained
  - discuss records management procedures (local and DOE)
  - discuss the maintenance and storage requirements for training records
  - discuss the legal aspects of access to training records
  - discuss the need to develop/administer a training documentation/tracking system
- Industry Operating Experience
  - discuss the facility and industry information sources
  - explain the process(es) used to incorporate industry and facility operating experience into training
  - discuss the purpose and benefits of incorporating facility and industry operating experience into facility training programs
- Questioning Techniques
  - discuss the purposes of questioning
  - explain the benefits of questioning
  - explain the benefits of designing comprehension-checking questions into lesson plans/OJT guides
  - discuss and develop at least one of the following types of questions

- open-ended
- closed-ended
- leading
- rhetorical
- explain how and when to ask the different types of questions
- discuss the possible methods of interpreting and responding to trainee responses
- Determining Entry Levels of Incoming Trainees
  - define "entry-level requirements"
  - discuss techniques for assessing a trainee's academic and technical deficiencies and strengths
  - explain how a trainee may receive an exception to training requirements based on this assessment
  - discuss the methods by which trainees may be remediated if they do not meet entry-level requirements
- Learning Objectives
  - define "learning objective"
  - explain the relationship between a task statement and a terminal objective
  - describe the two types or levels of learning objectives (terminal and enabling) and discuss their relationship
  - discuss the three component parts of a learning objective
  - discuss the reasons for each of the three components
  - discuss the need to accurately determine the correct level of learning required (knowledge, application, synthesis, etc.) and the need to develop learning
  - objectives that assess mastery of that level of learning
  - develop a learning objective that contains the three components
  - discuss the reasons for sequencing learning objectives
- Principles of Adult Learning and Motivation
  - explain how adults learn

- discuss the importance of a trainee meeting or exceeding entry-level requirements/prerequisites with regard to learning and motivation
- describe the common characteristics of adult learners
- describe the motivational and disciplinary factors that affect learning
- explain the different approaches to learning
- discuss the effects of various teaching styles and their impact on trainee learning
- discuss speech techniques the instructor may employ and their effect on student learning
- discuss the importance of proper instructional pacing
- Lesson Plans/Guides
  - define "lesson plan"
  - describe the reasons for utilizing a lesson plan/guide to conduct classroom and OJT instruction
  - discuss the use of a lesson plan/guide during classroom and OJT instruction
  - describe the component parts of a lesson plan
  - discuss the importance of the "dry run" for new training material
  - discuss the need for management review and approval (training and target group) of lesson plans and OJT guides
  - explain why procedural/equipment/facility changes should be incorporated into lesson plans
  - discuss the need for modifying lesson plans based on trainee/program evaluation
- Instructional Materials and Media
  - discuss the need for instructional materials and media
  - list the types of instructional materials and media utilized in the facility
  - explain the role of instructional materials and media in the instructional process
  - describe the relationship of materials and media to the instructional situation
  - describe the characteristics of effective instructional materials and media
  - review and discuss examples of instructional materials and media

- discuss the need for specifications/standards for facility training materials
- discuss the methods used to select appropriate instructional materials and media to support a classroom lesson
- Trainee Stress/Stress Management
  - define "trainee stress"
  - explain how trainee stress may result in social/behavior problems
  - discuss the symptoms of stress
  - describe the instructor's role in dealing with stress problems
  - discuss the legal implications of an instructor's personal involvement or non-involvement.

**APPENDIX D**  
**ON-THE-JOB TRAINING (OJT) INSTRUCTOR TRAINING**

## **ON-THE-JOB TRAINING (OJT) INSTRUCTOR TRAINING**

The following list of representative competencies should be reviewed for applicability to a facility's OJT instructor training program. Competencies that are omitted should be evaluated for inclusion in other instructor training programs. Those competencies that apply should be converted to facility-specific terminal and enabling learning objectives. Once in the learning objective format, training and evaluation tools may be designed. An OJT instructor training course should develop the following representative competencies:

- On-the-Job Training

### **General**

- define "on-the-job training"
- explain how OJT differs from "job experience"
- discuss the relationship of OJT to other instructional methods or training settings
- discuss the advantages and disadvantages of OJT
- discuss methods by which disadvantages may be minimized or eliminated
- discuss the planning of a performance-based OJT program
- discuss the need for monitoring a student's progress during enrollment in an OJT program

### **Training Portion of OJT**

- describe the "training portion" of the OJT process
- discuss the reasons for and the process by which the OJT instructor may
- "tailor" an OJT lesson to an individual trainee based on the trainee's knowledge and skills at the start of the lesson (trainees that can perform some/all of the learning objective don't need to be "taught" what they already know)
- review trainee records to determine completion of prerequisite training
- conduct on-the-job training using approved materials
- demonstrate use of the summary process for reinforcing trainee understanding
- conduct an evaluation of another instructor's OJT lesson delivery

### **Evaluation Portion of OJT**

- define "performance test" (may also be referred to as a "practical factor")  
describe the purpose of a performance test
- explain why and how knowledge and skill(s) are assessed during a performance test
- discuss the performance test levels of accomplishment (Perform, Simulate, Observe, and Discuss)

- explain how the content of a performance test is determined and subsequently controlled
- develop a training standard to control the content of a performance test discuss the contents of an OJT Checklist (also called Qualification Card), including the guidance that should be provided for the trainee and the OJT instructor
- discuss the development of an OJT checklist
- discuss how performance tests are conducted when several levels of accomplishment are specified on the OJT checklist, i.e., perform/simulate describe the OJT performance test process including requirements to document level of accomplishment
- discuss the techniques utilized to assess knowledge during a performance test discuss techniques utilized by the OJT instructor to critique trainee performance
- conduct a performance test using an approved evaluation standard
- evaluate an OJT instructor administering a performance test

### **Records Management**

- discuss the importance of maintaining adequate OJT program records describe the OJT instructor's responsibilities with regard to the documentation of training and evaluation of employees
- discuss the process used to document on-the-job training and performance testing processes

### **The OJT Instructor**

- describe the attributes of a competent OJT instructor
- discuss the entry-level technical qualifications for OJT instructors
- explain the need for OJT instructors to develop and demonstrate professional skills/attitudes at all times when dealing with trainees
- discuss the importance of the OJT instructor working closely with instructional technologists to identify required content, resources, and constraints for proposed training
- discuss the importance of advising a trainee's supervisor or manager of training concerns
- explain why resourcefulness and creativity on the part of an OJT instructor are necessary
- explain the OJT instructor's role in the total training effort

### **Learning Objectives**

- discuss how the sequencing of learning objectives may affect student learning
- explain how learning objectives are utilized in OJT programs

- develop a learning objective containing the three component parts

### **Principles of Adult Learning and Motivation**

- discuss the factors which are under an instructors control that affect learning and motivation during OJT
- demonstrate techniques that promote learning and motivation of learners

### **OJT Guides**

- define "OJT guide"
- explain how OJT guides differ from classroom lesson plans
- describe the reasons for utilizing an OJT guide to conduct OJT
- develop an OJT guide that is based on a terminal objective using the concepts of adult learning and motivation
- explain why it is not usually possible to assign fixed time allotments to OJT topics

### **Qualification of Trainees**

- describe the evaluation processes which may be utilized to qualify a trainee at the completion of a training program (comprehensive written examinations, operational evaluation with a first-line supervisor, oral board, etc.).

**APPENDIX E**  
**CLASSROOM INSTRUCTOR/TRAINER TRAINING**

## CLASSROOM INSTRUCTOR/TRAINER TRAINING

The following list of representative competencies should be reviewed for applicability to a facility's classroom instructor training program. Competencies that are omitted should be evaluated for inclusion in other instructor training programs. Those competencies that apply should be converted to facility-specific terminal and enabling learning objectives. Once in the learning objective format, training and evaluation tools may be designed. A classroom instructor training course should develop the following representative competencies:

- Principles of Adult Learning and Motivation
  - discuss the factors under an instructor's control that affect learning during classroom instruction
  - demonstrate techniques that promote learning and motivation of learners
- Classroom Instructional Methods
  - discuss the advantages of providing a proper learning environment
  - discuss the following with regard to physical seating arrangements
    - types of seating arrangements and advantages and/or disadvantages of each
    - the importance of matching seating arrangements to learning objectives and the instructional method(s)
  - discuss the advantages and disadvantages of the lecture method
  - briefly discuss the instructor's role in the following instructional methods which may be used to supplement or support the lecture method
    - role-play
    - case studies
    - exercises (games)
    - discussions
    - practical classroom demonstrations
    - tutoring by instructors or peers
  - facilitate/conduct examples of each of the above instructional methods
  - discuss the techniques a classroom instructor may employ when responding to trainee questions
  - demonstrate proper techniques for control of the class
  - describe techniques the classroom instructor may utilize to optimize student learning
  - discuss methods an instructor may utilize to deal with difficult students

- conduct classroom training using approved materials
- demonstrate effective training techniques
- demonstrate use of audience feedback and questioning techniques
- respond appropriately to trainee questions
- discuss uses of audio/visual aids
- demonstrate use of audio/visual aids
- demonstrate use of the summary process for reinforcing understanding
- conduct an evaluation of a lesson presented by another instructor
- The Classroom Instructor
  - discuss the entry-level technical qualifications for classroom instructors
  - explain the need for classroom instructors to develop and demonstrate professional skills/attitudes at all times when dealing with trainees
  - discuss the importance of the classroom instructor and the SME working closely with instructional technologists to identify content, resources, and constraints for proposed training
- Lesson Plans
  - develop a lesson plan based on a terminal learning objective by applying concepts of adult learning and motivation to lesson development
- Learning Objectives
  - develop a learning objective containing the three components
  - discuss how training settings are selected based on the task statement's action verb
  - group example learning objectives by training setting
  - discuss the relationships that affect sequencing of learning objectives
  - sequence example learning objectives
  - discuss how sequencing learning objectives affects student learning
  - explain how learning objectives are utilized in training programs
- Instructional Materials and Media
  - discuss the methods used to select appropriate instructional materials and media to support a classroom lesson
  - select appropriate audio/visual/instructional aids
  - explain how to procure training equipment, mockups, models, and training aids

- demonstrate the correct use of instructional materials and media
- Training Program Evaluation
  - describe the purpose of training program evaluation
  - discuss the methods used to evaluate training effectiveness at the individual trainee and program levels
  - discuss the content of forms that monitor student reaction to training discuss how trainee reaction forms are utilized for program modifications discuss how post-training feedback from trainees and their supervisors are utilized to refine training programs
  - discuss how records of trainee performance may be used as a basis for training program modification
- Written Examinations and Test Item Development
  - discuss the purpose(s) of testing
  - list the types of commonly used measuring instruments
  - explain why tests should be based on learning objectives
  - discuss the types and uses of test items (questions)
  - discuss the advantages/disadvantages of each test item format
  - discuss why the selection of test item format should be based on the learning objective's action verb
  - discuss how test items are developed and the reason(s) for references, an answer key (which includes directions for partial credit for grading essay questions), assigning item point values, establishing conditions, and specifying criteria
  - develop at least one example of each test item type
  - evaluate and discuss example test items
  - discuss the need for the development of test specifications to create written examinations
  - define "validity" and "reliability"
  - discuss the need for validity and reliability of test items and examinations
  - discuss the reason(s) why an instructor should proctor all written examinations
  - discuss facility policy regarding cheating on examinations
  - discuss facility policy regarding the reuse of written examinations (considering examination compromise)
  - discuss the use of test item banks (either computerized or on paper) to generate examinations

- discuss methods to reduce subjectivity and ensure uniformity when grading essay questions
- discuss the reasons for reviewing examinations with trainees
- Trainee Stress/Stress Management
  - describe symptoms that may identify the need for counseling
  - arrange a counseling session
  - demonstrate counseling through role-play utilizing individual and small group counseling techniques
  - utilize techniques to summarize and end a counseling session
- Qualification of Trainees
  - describe the evaluation processes which may be utilized to qualify a trainee at the completion of a training program (comprehensive written examinations, operational evaluation with a first-line supervisor, oral board, etc.).

**APPENDIX F**  
**INSTRUCTIONAL TECHNOLOGIST TRAINING**

## INSTRUCTIONAL TECHNOLOGIST TRAINING

The following list of representative competencies should be reviewed for applicability to a facility's instructional technologist training program. Those competencies that apply should be converted to facility-specific terminal and enabling learning objectives. Once in the learning objective format, training and evaluation tools may be designed. An instructional technologist training course should develop the following representative competencies:

- Determining the Entry Level of Incoming Trainees
  - discuss the uses of previous trainee entry-level test results
  - design entry-level tests
  - develop a remedial training program based on a trainee's entry-level test results
  - establish expected entry-level skills and knowledge for a training program
- Training Settings and Instructional Methods
  - describe the training settings available at the facility
    - classroom
    - laboratory
    - on-the-job training
    - self-paced instruction (SPI)
    - simulator
  - describe the advantages/disadvantages of each setting
  - discuss the following instructional methods and when they should be used to support/substitute for the lecture method
    - role-play
    - case studies
    - exercises (games)
    - discussions
    - practical classroom demonstrations
    - tutoring by instructor or peers
  - develop and conduct/facilitate examples of each of the above instructional methods with regard to the SPI training setting:
    - discuss the principles of SPI
    - explain the types of SPI instructional methods
    - explain the relationship of SPI to other instructional methods
    - explain the role of the instructor during SPI

- conduct an evaluation of SPI
- Laboratory training setting (if utilized at the facility)
  - describe the laboratory training setting (not to be confused with OJT conducted in a facility chemical laboratory)
  - explain the benefits of conducting training in the laboratory setting
  - discuss the procedures an instructor should follow to establish a safe training environment
  - discuss the problems a laboratory instructor may encounter in controlling a class in this training setting
  - describe techniques to optimize learning in this setting
  - develop a lesson plan for a laboratory training session
  - conduct a laboratory training session
  - describe the techniques assess trainee learning in this setting
  - evaluate a laboratory training session
- Learning Objectives
  - discuss the importance of applying entry-level requirements to development of objectives
  - discuss the need to accurately determine the correct level of learning required (knowledge, application, synthesis, etc.) and the need to develop learning objectives that assess mastery of that level of learning
  - develop terminal objectives based on an actual task list
  - develop a series of enabling objectives that support the achievement of a terminal objective
  - group learning objectives by training setting
  - sequence learning objectives
- Instructional Materials and Media
  - discuss the importance of working closely with subject matter experts to identify content, resources, and constraints for proposed training
  - develop examples of instructional materials and media (student workbook, exercise guide, handouts, study guides, OJT checklists, OJT guides, classroom lesson plans, transparencies, video tapes, etc.)
  - develop specifications/standards for facility training materials and media
- Training Program Evaluation
  - develop forms necessary to monitor student reaction to training

- develop forms necessary to obtain supervisor feedback
- incorporate procedural/equipment/facility changes into training
- incorporate facility/industry operating experience into training program
- discuss the need to systematically initiate, document, and incorporate changes into training
- discuss different techniques for evaluating training programs.
- Records Management
  - develop trainee and program training record forms
  - demonstrate use of these forms
- Design of Systematic Approaches to Training
  - **Analysis phase**
    - define "needs analysis"
    - describe the processes utilized to conduct training needs analysis (individual and organizational)
    - describe why training specified in DOE Orders bypasses the needs analysis process
    - conduct a needs analysis using the appropriate personnel
    - define "job analysis"
    - discuss the need for performing a job analysis
    - describe the use(s) of job analysis data
    - develop job analysis data collection packages
    - conduct a job analysis and develop a task list
    - revise/modify an existing job analysis
    - interpret job analysis data
    - validate the task list
    - discuss the need for maintaining a task-to-training matrix which includes train, no train, and overtrain tasks
    - select job tasks for training
    - define "task analysis"
    - discuss the task analysis process
    - explain the uses of task analysis data
    - list the benefits of the task analysis
    - conduct task analysis to determine skills and knowledge

- interpret task analysis data

### **Design phase**

- describe why training settings are usually determined prior to the development of learning objectives
- determine appropriate training settings based on task statements
- develop terminal objectives based on tasks selected for training
- define "training/evaluation standard" (TES)
- develop a TES for a task
- develop enabling objectives to support terminal objectives
- sequence learning objectives
- define "performance test"
- develop performance tests
- discuss the need to establish expected trainee entry-level knowledge and skills in this phase of the SAT process
- discuss why enabling objectives are developed in this phase of the SAT process
- describe why test items are developed during the design phase
- select/coordinate/evaluate training vendor services

### **Development phase**

- determine the most appropriate instructional method(s) based on the learning objectives
- select appropriate lesson plan/guide format
- describe the process by which lesson plan content and instructor/trainee activities are determined
- select the subject matter content for a unit of study
- develop example instructional materials necessary to conduct a training session
- conduct a "dry-run" of training materials following development

### **Implementation phase**

- discuss the need to pre-test trainees entering the training program
- describe the preparations an instructor should make prior to conducting training
- discuss the need to monitor and evaluate trainees performance as they progress through the training program
- discuss the purpose of an in-training evaluation program

- describe the conduct of an in-training evaluation program including potential sources of feedback
- describe the record(s) that should be maintained to document completion of training sessions and the program

### **Evaluation phase**

- describe the three major activities that take place during the evaluation phase
- list the indicators of training system/program performance and changing training needs that should be monitored
- design example evaluation tools
- describe the process(s) by which information collected during the evaluation phase is analyzed
- evaluate example training evaluation materials and make material revision recommendations
- describe how the process known as "root cause analysis" may be utilized to identify training deficiencies
- discuss the review and approval process required for training program modifications

### **Qualification of Trainees**

- plan, implement, and manage an evaluation process which may be utilized to qualify a trainee at the completion of a training program (comprehensive written examination, performance demonstration, operational evaluation, oral board, etc.), as specified by the facility training program manual
- define performance demonstration
- define operational evaluation (facility walk-through)
- describe the purpose of an operational evaluation
- explain how an operational evaluation is conducted
- describe how the content of an operational evaluation is determined and controlled
- discuss how operational evaluations are documented
- develop test specifications to create written and oral examinations
- select appropriate examination/evaluation methods
- select appropriate test item formats
- evaluate test items for validity and reliability
- evaluate examinations for validity and reliability
- prepare and administer written examinations

- discuss how test item statistics may be utilized to evaluate the quality (validity and reliability) of test items and the learning objectives or training on which they are based
- discuss the need to document questions asked during oral examinations and the examiner's overall evaluation of trainee responses
- prepare and administer oral examinations
- develop, maintain, and control an examination bank
- discuss the development of written and oral examinations, and operational evaluations for trainees who have failed an initial examination/evaluation (including the maximum allowable percentage of questions from their original examination/evaluation)

**Instructor Training/Continuing Training Programs**

- develop/utilize a network of professional organizations and resources
- develop programs for qualification of all facility instructors (instructional and technical as needed)
- develop continuing instructional training programs for instructors
- develop continuing technical training for instructors