

Courseware

JOB FUNCTION 1: Fundamental Skills

Overview and General Safety

Courseware Title	Source	Media	Notes
AGENCY MATERIAL			
Personal Protective Equipment	Los Angeles County MTA	PowerPoint – 64 slides	<p>Overview/Objectives: Presentation designed to assist trainers conducting OSHA 10-hour General Industry training. Emphasizes hazard identification, avoidance, and control – not standards. No attempt has been made to treat the topic exhaustively. Trainers need to tailor their presentations to the needs and understanding of their audience.</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Good material but limited to PPE - Well organized - Many good graphics & illustrations
Basic Technician Study Guide Chapter 2	UTA - Utah	Manual	<p>Overview/Objectives: Chapter 2 includes material on PPE, proper tool usage, fire extinguishers and first aid kits.</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Developed for bus - Very useful as starting point for providing general safety training. - Excellent use of graphics and text - Review questions included at the end of each chapter
THIRD PARTY MATERIAL			

Courseware Title	Source	Media	Notes
<p>TPC Training Series</p> <p>Industrial Safety and Health: TPC Training Course #109.1</p>	<p>Technical Publishing Company www.tpctraining.com</p>	<p>- Manual (English and Spanish) \$78</p> <p>- On-Line \$75</p>	<p>Overview/Objectives: Explains government involvement in ensuring a safe workplace. Discusses safety in various situations. Discusses personal protective equipment and fire safety. Includes expanded coverage of many health hazards. Covers ergonomics, environmental responsibility and importance of maintaining a safe work environment.</p> <p>Lesson 1 - Introduction to Safety and Health Lesson 2 - Government Safety and Health Regulations Lesson 3 - Personal Protective Equipment Lesson 4 - Chemical Safety Lesson 5 - Tool Safety Lesson 6 - Material Handling Lesson 7 - Working Safely with Machinery Lesson 8 - Working Safely with Electricity Lesson 9 - Electrical Equipment Safety Lesson 10 - Fire Safety Lesson 11 - Protecting Your Health 111 Lesson 12 - A Safe Work Environment</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Appears to be extremely comprehensive - Available in English and Spanish - Available in hardcopy and as online course
<p>Industrial Skills Training Safety Training</p>	<p>Coastal www.coastal.com</p>	<p>Multiple:\Online courses, DVDs, workbooks, instructor led, e-learning, etc</p>	<ul style="list-style-type: none"> - Includes PPE - Includes Confined Space material, which others lack
<p>Transit Industrial Safety Management</p>	<p>Transit Safety Institute</p>	<p>Off-site course, on-line training</p>	<p>Overview/Objectives: The purpose of this course is to develop,</p>

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	www.tsi.dot.gov		<p>implement and maintain an industrial safety management program following Occupational Safety and Health Administration (OSHA) principles and guidelines for the transit workplace: transit facilities, office, maintenance shop, yard, platforms, passenger shelters, on-board vehicles, equipment, etc. Emphasis is on human factors, proactive policies, identification of hazards and unsafe practices, hazard controls and resolution, documentation, employee training requirements, and management of a workplace safety program.</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Need to attend off-site course or participate on-line - Uncertain if courseware available separately

Tools and Materials Handling

Courseware Title	Source	Media	Notes
AGENCY MATERIAL			
Basic Technician Study Guide Chapter 3	UTA - Utah	Manual	<p>Overview/Objectives: Chapter 3 covers shop tools with 57 pages, but nothing on materials handling.</p> <p>Assessment:</p> <ul style="list-style-type: none"> - See Overview and General Safety
THIRD PARTY MATERIAL			
TPC Training Series Hand Tools: TPC Training Course #107	Technical Publishing Company www.tpctraining.com	- Manual (English and Spanish) \$65 - On-Line	<p>Overview/Objectives: Covers the most important hand tools used on the job.</p>

Courseware Title	Source	Media	Notes
		\$75	Lesson 1 - Measuring Tools Lesson 2 - Wrenches and Screwdrivers Lesson 3 - Pipefitting Tools Lesson 4 - Plumbing Tools Lesson 5 - Electrician's Tools Lesson 6 - Woodworking Tools Lesson 7 - Masonry, Plastering, and Glazing Tools (not applicable) Lesson 8 - Sheet Metalworking Tools Lesson 9 - Metalworking Tools Lesson 10 - Hoisting and Pulling Tools Assessment: <ul style="list-style-type: none"> - Extremely comprehensive - Addresses virtually all learning objectives - See other TPC assessment
TPC Training Series Portable Power Tools: TPC Training Course #108		- Manual (English and Spanish) \$65 - On-Line \$75	Overview/Objectives: Explains the uses, selection, safety, and care of industrial power tools. Lesson 1 - Electric Drills Lesson 2 - Electric Hammers Lesson 3 - Pneumatic Drills and Hammers Lesson 4 - Screwdrivers, Nutrunners, and Wrenches Lesson 5 - Linear-Motion Saws Lesson 6 - Circular Saws Lesson 7 - Routers and Planes (not applicable?) Lesson 8 - Electric Sanders Lesson 9 - Grinders and Shears Lesson 10 - Tool Sharpening Assessment: <ul style="list-style-type: none"> - See other TPC assessment
TPC Training Series		- Manual (English and Spanish)	(see Overview and General Safety)

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Industrial Safety and Health: TPC Training Course #109.1		\$75 - On-Line \$75	Lesson 5 - Tool Safety Lesson 7 - Working Safely with Machinery
Klein Tools: 1 - Proper Use And Care Of Hand Tools 2 – Instruction Sheets	Klein Tools Inc. www.kleintools.com/ for instruction sheets see: http://www.kleintools.com/instructions/index.html	Free online instructional material in pdf format	Overview/Objectives: 1 – Instruction regarding proper use of Wrenches, Pliers, Striking Tools, Struck/Hammered Tools, Screwdrivers, Vises, Clamps, Metal Cutting, Tool Boxes, Automotive Tools, Pipe Tools 2 – Series of instructions in pdf format for wide range of tools including multimeters, body belts, insulated tools, bending tools, etc. Assessment: - Instructional material is virtually void of marketing material - Provides comprehensive instruction - Free pdf downloads
Rigging and Lifting Principals	American Technical Publishers www.go2atp.com	Soft cover manual, 112 Pages, \$36	Overview/Objectives: Provides an introduction to the equipment, calculations, and procedures required for the safe handling and transportation of materials by hoists or cranes. Topics include weight and balance, lift points, rigging components, equipment handling, hoists, cranes, and lifting procedures. Safety practices are discussed. Assessment: - Addresses specific learning objectives typically left out of other tool publications - Includes rigging materials
Industrial Skills Training Basic Skills Training	Coastal www.coastal.com	Multiple: Online courses, DVDs, workbooks, instructor led, e-	

Courseware Title	Source	Media	Notes
		learning, etc	

Basic Mechanical Theory & Application

Courseware Title	Source	Media	Notes
AGENCY MATERIAL			
TBD			
THIRD PARTY MATERIAL			
TPC Training Series Series 300: Mechanical Systems 301 - Basic Mechanics 302 - Lubricants and Lubrication 303.1 - Power Transmission Equipment 304 - Bearings 305 - Pumps 306 - Piping Systems 307 - Basic Hydraulics 308 - Hydraulic Troubleshooting 309 - Basic Pneumatics 310 - Pneumatic Troubleshooting Series 340: Mechanical Maintenance		Each Course: - Manual (English and Spanish) \$68 - On-Line \$75	<p>Overview/Objectives: The Mechanical Systems' Series covers the principles of operating and maintaining most types of common equipment. The series begins with a thorough grounding in the elements of mechanics, including working with hand tools, power tools, and fasteners. In logical learning sequence, the series continues through lubricants, drive components, bearings, pumps, and piping systems. It concludes with hydraulics and pneumatics, including troubleshooting.</p> <p>Assessment: - same for all TPC materials</p> <p>Overview/Objectives: Building on the ten courses of the Mechanical Systems Series, these additional seven courses concentrate on practical procedures for installation, maintenance, and replacement. Many troubleshooting guides are included.</p> <p>Assessment: - See other TPC assessment</p>

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Basic Hydraulic and Pneumatic Theory & Applications

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AGENCY MATERIAL			
Basic Technician Study Guide – Part A – Chapter 5 Hydraulics, pages 110-158	Utah Transit Authority (UTA)	Manual in PDF, copyright protected	<p>Overview/Objectives: See Overview and General Safety above</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Section on hydraulic brakes tailored for automotive applications - Also includes section on air brakes
Industrial Hydraulics	SEPTA	PPT, 358 slides	<p>Overview/Objectives: Provides complete instruction on hydraulics</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Extremely comprehensive - Excellent use of graphics
Hands-On Hydraulic Training Workbook	Produced for SEPTA by Anthony LeBoutillier, schematics by Arthur Elsass, all rights reserved. 52001	Workbook, 57 pages	<p>Overview/Objectives: Contains instructions for eighteen hands-on exercises.</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Hands-on exercises are well documented but requires specific training aid (# S4-R)
Hydraulic Course Lesson Plan	SEPTA	MS Word document, 3 pages	<p>Overview/Objectives: States goal, objective, requirements and preparation needed to conduct two-day hydraulics course.</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Useful document to organize classroom

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			and hands-on training with emphasis placed on safety
Material Data Safety Sheet (MSDS) for Hydraulic Fluid	SEPTA as provided by: Graco Inc. Minneapolis, MN	PDF document, 11 pages	<p>Overview/Objectives: Provides safety information for handling hydraulic fluid</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Makes good sense to provide required material-related safety information as part of training.
THIRD PARTY MATERIAL			
Fluid Power	Lab-Volt http://www.labvolt.com/ Phone: (732) 938-2000 Fax: (732) 774-8573 Email: us@labvolt.com	PDF on company's training system	<p>Overview/Objectives: Lab-Volt offers a comprehensive course in fluid power consisting of two programs: the Hydraulics Training System, Model 6080, and the Pneumatics Training System, Model 6081. Both are modular systems that use hardware (mock-ups) and courseware to deliver job training in fluid power. The basic Lab-Volt Hydraulics Training System consists of a power unit, work surface assembly, industrial-grade components, hoses, a hose rack, metering instruments and related courseware.</p> <p>Assessment:</p> <ul style="list-style-type: none"> - Appears comprehensive with emphasis on hands on but need to purchase training system - Available for other training subjects
Basic Hydraulics, Fluid Power Training	www.fluidpowerzone.com	Manual in PDF format, 149 pages which serves as a supplement to a CD. Intended as interactive learning	<p>Overview/Objectives: Course is designed to provide a broad understanding of the most important hydraulic concepts. Upon completion of this course, students should understand various basic physics laws as they apply to fluid power, as well</p>

Courseware Title	Source	Media	Notes
3) Course 309: Basic Pneumatics		- Manual (English and Spanish) \$68 - On-Line \$75	diagnosis, and troubleshooting. 3) Overview/Objectives: Covers how work, force, and energy are applied to principles of pneumatics. Shows operating principles of reciprocating, positive displacement, rotary, and dynamic air compressors. Covers primary and secondary air treatment. Includes valves, logic devices, cylinders, and air motors.
4) Course 310: Pneumatic Troubleshooting		- Manual (English and Spanish) \$68 - On-Line \$75	4) Overview/Objectives: Covers pneumatic systems, schematic symbols and diagrams, installing system components, planned maintenance, system diagnosis, and troubleshooting. Includes maintenance of air compressors, control valves, air motors, electrical components, and hybrid systems. Assessment: - See other TPC assessment
1) Troubleshooting Fluid Power Systems: A Blend of Art and Science 2) Hydraulic Testing & Diagnostics 3) Fluid Power General Troubleshooting	Applied Industrial Technologies www.applied.com/	Available as downloads from Website	Overview/Objectives: Series of three papers made available by supplier of hydraulic equipment as service to its customers/public. Assessment: - useful training documents on hydraulic troubleshooting

Basic Math

Courseware Title	Source	Media	Notes
AGENCY MATERIAL (none)			
THIRD PARTY MATERIAL			

Courseware Title	Source	Media	Notes
TPC Training Series Mathematics in the Plant: TPC Training Course #103	Technical Publishing Company www.tpctraining.com	- Manual (English and Spanish) \$65 - On-Line \$75	Overview/Objectives: Addresses math needs of those working in industrial occupations. Lesson 1 - Whole Numbers Lesson 3 - Decimal Fractions Lesson 4 - Ratios and Proportions Lesson 5 - Powers and Roots Lesson 6 – Calculators Lesson 7 – Geometry Lesson 8 – Algebra Lesson 9 - Using Formulas Lesson 10 - Trigonometry Assessment: <ul style="list-style-type: none"> - Appropriate courseware especially since few if any agencies develop this material themselves - See other TPC assessment
Practical Math – Third Edition	American Technical Publishers www.go2atp.com	Soft cover manual, 313 Pages, \$42	Overview/Objectives: Reviews basic math principles and operations; Provides practical examples and industry-based applications. Helps learners see why math skills are needed on the job. Explanations of mathematical operations are followed by step-by-step examples. Each chapter ends with a test prep and a chapter test. Assessment: <ul style="list-style-type: none"> - Provides another source of math training for technical trades.
Industrial Skills Training	Coastal www.coastal.com	Multiple:\Online courses, DVDs,	Overview/Objectives: Covers Workplace Math

Courseware Title	Source	Media	Notes
Basic Skills Training		workbooks, instructor led, e- learning, etc	Assessment: - Provides yet another source of math training for technical trades.

Other Information

TPC On-the-Job-Training (OJT) & Assessments

TPC Training Systems offers 57 On-the-Job Training and assessment tools to help trainers evaluate and document completion of hands-on skill training requirements. Our OJT offerings ensure objective assessments of basic maintenance competencies by validating an individual's ability to satisfactorily perform assigned tasks.

Each assessment considers topics such as tool usage, safety, technique, material and component identification, inspection, selection, and replacement.