

Qualified Fall Protection Engineer

Level 1 Syllabus - Day 1

Start	End	Topic	Activity
7:45 AM	8:00 AM	Safety Briefing & Introductions	
8:00 AM		Hierarchy of Fall Protection <i>Various Solutions</i>	
	9:00 AM		
9:00 AM		Fall Protection Equipment Standards <i>Surrogate Test Mass</i>	
	9:45 AM		
9:45 AM	10:00 AM	Break	
10:00 AM		The PEA Equation <i>Derivation using Dynamic and Energy Analysis.</i> <i>Example Calculations</i>	 
	11:15 AM		
11:15 AM		Fall Protection Equipment Standards <i>What Engineers need to Know about Harnesses, Connectors, Anchorage Connectors</i>	
	12:00 PM		
12:00	12:30 PM	Lunch	
12:30 PM		Calculation of Clearances: <i>Free Fall; Deceleration Distance; Harness Stretch; Safety Buffer, Simplifications, App</i>	
	3:00 PM		
3:00 PM	3:15 PM	Explain Exercises, Dismissal	Homework Ex 1,2,3&4

Qualified Fall Protection Engineer Level 1 Syllabus - Day 2

Start	End	Topic	Activity
7:45 AM	8:15 AM	Review Exercises 1, 3 & 4	
8:15 AM	9:30 AM	Personal Energy Absorbers and SRLs Equipment Standards	
9:30 AM	9:45 AM	Break	
9:45 AM	11:30 AM	Vertical Lifelines: <i>Equipment Standards;</i> <i>Derivation of Equations</i> <i>Example Calculation</i>	 
11:30 AM	12:00 PM	Introduction of Spreadsheet Software <i>Installation as a template, demonstration</i>	 
12:00 PM	12:30 PM	Lunch	
12:30 PM	2:00 PM	Rope Properties: <i>Elastic Modulus & Energy Efficiency</i> <i>Calculation Software</i>	 
2:00 PM	3:00 PM	Written Procedures, Design Assumptions: <i>Recommended Design Practices</i>	
3:00 PM	3:30 PM	Explain Homework Exercises, Dismissal	Homework Ex 5,6,7&8

Qualified Fall Protection Engineer Level 1 Syllabus - Day 3

Start	End	Topic	Activity
7:45 AM			
	9:00 AM	Review Exercises 5,6,7&8	
9:00 AM	10:00 AM	Design Standards for "Active Fall Protection Systems": <i>History; Philosophy; Rationale; Design Requirements</i>	
10:00 AM	10:15 AM	Break	
10:15 AM	12:00 PM	Design Standards for "Active Fall Protection Systems": <i>History; Philosophy; Rationale; Design Requirements</i>	
12:00 PM	12:30 PM	Lunch	
12:30 PM	3:00 PM	Simple Horizontal Lifelines: Equations; Explanation of Simple HLL Software Discuss Exercise 9	
3:00 PM	2:15 PM	Explain Exercises/Exam, Dismissal	Ex 9, Level 1 Exam

Qualified Fall Protection Engineer Level 2 Syllabus - Day 1

Start	End	Topic	Activity
7:45 AM			
	8:15 AM	Review Exercise 9, Level 1 Exam	
8:15 AM	10:00 AM	HLLs with In-Line Energy Absorbers: History; HLLEA Properties; Balance Sag Equation Derivations; Example Calculation	 
10:00 AM	10:15 AM	Break	
10:15 AM	11:15 AM	Explanation of Balance Sag Software <i>Example Calculations (Exercise 11)</i>	
11:15 AM	12:00 PM	Vertical Lifeline Analogy: <i>Example Calculation - Exercise 11 a</i>	
12:00 PM	12:20 PM	Lunch	
12:20 PM	3:00 PM	Complex HLL Software (LM): <i>Multiple Spans, Flexible Anchorages & Thermal Effects</i> <i>Example Calculation (Exercise 13)</i>	
3:00 PM	3:15 PM	Explain Homework Exercises, Dismissal	Exercises 10, 12 & 14

Qualified Fall Protection Engineer

Level 2 Syllabus - Day 2

Start	End	Topic	Activity
7:45 AM			
	8:45 AM	Review Exercises 10, 12 & 14	
8:45 AM			
	10:00 AM	Design Considerations for Travel Restraint HLLs	
10:00 AM	10:15 AM	Break	
10:15 AM		Complex HLL Software (LM) continued: <i>Adding a VLL to an HLL</i>	
	10:45 AM	<i>Example Calculation</i>	
10:45 AM		Complex HLL Software (Seq): <i>Sequential Falls vs. Lumped Mass</i>	
	11:30 AM	<i>Example Calculation</i>	
11:30 AM		Force Management Anchor Posts <i>Discuss Strategies</i>	
	12:00 PM	<i>Example Calculation</i>	
12:00 PM	12:20 PM	Lunch	
12:20 PM		Force Management Anchors with HLLEAs: <i>Example Calculation</i>	
	1:00 PM		
1:00 PM		Rescue Considerations: <i>Orthostatic Intolerance, Rescue Options,</i>	
	2:00 PM	<i>Engineering Design Considerations</i>	
2:00 PM	2:15 PM	Explain Exercises/Exam, Dismissal	Ex 15 - 17, Final Exam