



# **Livingston & Haven's**

## **Institute of Applied Technologies**

The best hydraulic, electric  
and lubrication training for  
plant maintenance.

# **2014** **Training Schedule**



# 2014 Training Schedule

[www.livhaven.com/training](http://www.livhaven.com/training)

## PRINCIPLES OF INDUSTRIAL HYDRAULICS (PIH)

### 5-Day Seminar

First-level training for maintenance personnel who have not undergone formal training in industrial hydraulics.

#### What you will learn:

- Fluid principles, standard control valves, pumps and hydraulic valve symbols
- Basic set-up techniques
- How to troubleshoot hydraulic circuits
- How pump controls work and how they are set up
- Understand 10 fundamental circuits used in most hydraulic systems



### 3.2 C.E.U's

Appropriate for: maintenance mechanics, millwrights, technicians, supervisors, plant engineering personnel

#### Dates:

*Jan. 13 - 17*  
*Feb. 10 - 14*  
*Mar. 31 - Apr. 4*  
*June 2 - 6*  
*July 14 - 18*  
*Sept. 22 - 26*  
*Oct. 27 - 31*  
*Dec. 8 - 12*

\$1,700 includes:  
Tuition, workbook,  
student handouts, lunch  
and refreshments

## HYDRAULIC SYSTEM MAINTENANCE (HSM)

### 5-Day Seminar

Second-level training seminar for maintenance personnel who already have an understanding of hydraulic principles.

#### What you will learn:

- Proper fluid requirements for modern hydraulic systems
- How systems are set up for improved efficiency and reliability
- Study component operation/use in hydraulic circuits
- How to disassemble, evaluate and assemble standard hydraulic components into hydraulic circuits for testing



### 3.2 C.E.U's

Prerequisite: PIH or consent from the instructor

Appropriate for: maintenance mechanics, millwrights, technicians, supervisors

#### Dates:

*Apr. 7 - 11*  
*Aug. 4 - 8*  
*Dec. 1 - 5*

\$1,700 includes:  
Tuition, workbook,  
student handouts,  
lunch and refreshments

## PRINCIPLES OF MOBILE HYDRAULICS (PMH)

### 5-Day Seminar

First-level training seminar for maintenance and service technicians with mobile hydraulic equipment responsibility.

#### What you will learn:

- How principles of hydraulics relate to the operation, maintenance and troubleshooting of mobile hydraulic equipment
- How to read and interpret mobile hydraulic valve symbols
- Understand variable displacement pumps and pump controls used with hydraulic systems



### 3.2 C.E.U's

Appropriate for: mobile maintenance mechanics & technicians, supervisors

#### Dates:

*Nov. 10 - 14*

\$1,700 includes:  
Tuition, textbook,  
student handouts,  
lunch and refreshments

# Livingston & Haven's Institute of Applied Technologies

## UNDERSTANDING PROPORTIONAL VALVES (UPV)

### 5-Day Seminar

Plant maintenance personnel of all levels learn the function and operation of electro-proportional hydraulic valves – recommended for electrical and mechanical personnel.

#### What you will learn:

- Understand the difference between standard directional control valves and electro-proportional valves
- Difference between open and closed loops
- How proportional valves are used to control pressure, flow, direction and speed
- How to test for proper operation



### 3.2 C.E.U's

Appropriate for: maintenance mechanics & technicians, electricians, supervisors

#### Dates:

**Apr. 21 - 25**

**Aug. 11 - 15**

\$1,800 includes:  
Tuition, textbook,  
student handouts,  
lunch and refreshments

## PRINCIPLES OF ELECTRICITY

### 4-Day Seminar

A first-level training seminar providing theory, practical knowledge and structured hands-on lab exercises.

#### What you will learn:

- DC and AC electrical theory
- Understand principles of electrical conductance, resistance and reactance
- Understand voltage, current, power and their interrelationship
- How to build electrical circuits from schematic diagrams
- How to learn proper use of measurement functions on a digital multi-meter



Appropriate for: all maintenance technicians

#### Dates:

**Watch For Web  
Announcement!**

\$1,400 includes:  
Tuition, training materials,  
measurement equipment,  
lunch and refreshments

## INDUSTRIAL LUBRICATION SYSTEMS (ILS)

### 3-Day Seminar

A seminar focused on preventative maintenance and proper equipment lubrication for the prevention of breakdowns.

#### What you will learn:

- Operation requirements for all types of manual and automation lubrication systems
- Understand maintenance requirements for various lubrication systems



Appropriate for: maintenance mechanics, millwrights, technicians, supervisors, plant engineering personnel

#### Dates:

**Upon Request**

\$1,050 includes:  
Tuition, workbook,  
student handouts,  
lunch and refreshments

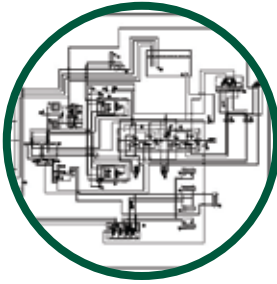
## HYDRAULIC SYSTEM DESIGN (HSD)

### 5-Day Seminar

An advanced training seminar focusing on four hard-hitting modules.

#### What you will learn:

- Understand sizing, options and applications of various hydraulic circuits
- How to use standard pressure, directional and flow-control components
- Introduction and application of logic cartridge valves for hydraulic circuits
- How to use proportional pressure, directional and flow-control components
- Understand pump types and application of fixed and variable displacement pumps



### 3.2 C.E.U's

Prerequisite: PIH & UPV strictly enforced for this advanced course

Appropriate for: advanced maintenance technicians, plant & design engineers

#### Dates:

**Sept. 8 - 12**

\$1,800 includes:  
Tuition, workbook,  
student handouts,  
lunch and refreshments

Students are required to bring calculators and must have the ability to manipulate and transpose various hydraulic related algebraic equations

## OSHA 10-HOUR OCCUPATIONAL SAFETY AND HEALTH TRAINING

### 2-Day Seminar

A program to help bring your company into compliance, including comprehensive information about standards and training required by OSHA.

#### What you will learn:

- Introduction to OSHA
- OSH Act, General Duty Clause
- Inspections, Citations and Penalties
- Hazard Communication
- Personal Protective Equipment
- Walking and Working Surfaces
- Exit Routes and Emergency Action Plans
- Fire Prevention Plans and Fire Protection

#### Participants Receive:

- Federal OSHA 10-Hour Authorized Card
- OSHA Compliance Manual
- Certificate of Completion



#### Dates:

**April 15 - 16**

## ONSITE TRAINING

We will bring customized fluid power and lubrication training to your company to increase general understanding using your equipment. Onsite training is individually tailored so your maintenance personnel will understand how your own equipment works and how it needs to be maintained. From a single instructional class, to long-term engineering and mechanical staff development, we can assist with your training needs.

**Want more information?**

**email [institute@livhaven.com](mailto:institute@livhaven.com) or call 704.588.3670 ext. 7406**



# Industrial Training at Livingston & Haven

[www.livhaven.com/training](http://www.livhaven.com/training)

## Livingston & Haven

Traditionally, we have been recognized as a distributor of fluid power and automation products. Since 1947, Livingston & Haven has evolved into much more than a distribution house. We are an innovative solutions provider and consider ourselves an essential partner in the successful future of U.S. Manufacturing.



## The Institute of Applied Technologies

We have developed a series of seminars that aim to meet the training needs of our growing industry. Today's global competition forces us to compare and improve ourselves. Only those who have the technical knowledge will be able to effectively position themselves in an ever-changing market.

Our courses arm employees with the technical know-how needed in the hydraulic and electrical fields, so that U.S. manufacturers can continue to expand in a global market.



# REGISTER TODAY!

Space is limited! Register early to reserve your spot.

**Register Online:**

[www.livhaven.com/training](http://www.livhaven.com/training)

Questions? Call: 704.588.3670 ext. 7406

or email: [institute@livhaven.com](mailto:institute@livhaven.com)

Accepted forms of payment: check, major credit card or company purchase order  
(from which Livingston & Haven will invoice.)

Visit Us at [www.LivHaven.com/training](http://www.LivHaven.com/training)

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## 2014 TRAINING SCHEDULE

