WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON

Department of Engineering Professional Development
432 North Lake Street Madison, Wisconsin 53706

Please route this brochure to colleagues who would also benefit by attending.

Sprinkler and Other Automatic Fire Suppression Systems Design

November 7–11, 2011
Madison, Wisconsin

A practical course focusing on design training. Learn how to:

- ☑ Perform a hydrant flow test
- ☑ Determine effective point
- ☑ Select a fire pump
- ☑ Combine pump/city/tank flow
- ☑ Lay out piping
- ☑ Perform hydraulic calculations
- ☑ Select proper sprinkler heads

Save time and money!
Inquire about on-site & online courses.
Call 800-462-0876 today!

WISCONSIN
UNIVERSITY OF WISCONSIN–MADISON

College of Engineering
Department of Engineering
Professional Development

Prepare for NICET exam… see inside!

2-day, 3-day, and 5-day enrollment options!

InterNACHI®

ACCEPTED
12 Professional Development Hours
NATIONWIDE

ENROLL ONLINE TODAY!
Or visit our Web site

Sprinkler and Other Automatic Fire Suppression Systems Design

Madison, Wisconsin

Water Systems

November 7–9, 2011 (3-day option)

- Sprinkler systems (wet and dry)
- Basic systems design
- Pump selection and hydraulic calculations

Foam, CO2, Dry Chemical, Gaseous Systems

November 10–11, 2011 (2-day option)

- Basic systems design and applications
- Detection technology
- Explosion protection

Next offered: February 13–17, 2012
at the Holiday Inn Walt Disney World Resort, in Orlando, Florida

Sprinkler and Other Automatic Fire Suppression Systems Design

November 7–11, 2011 in Madison, Wisconsin

Benefit from this Course

This practical course is your opportunity to study a variety of piped fire protection systems, including water (wet and dry type), foam, Halon substitutes, CO2, and dry chemical. Our emphasis will be on equipment selection and systems design.

- Presentations on Monday through Wednesday will focus on sprinkler systems
- Thursday's and Friday's presentations will address alternate systems and explosion protection

We'll discuss the new types of sprinkler heads and their use. You'll hear from several manufacturers of various types of equipment. You'll also boost your skills by solving real-life problems in class.

Why You Should Attend

More state codes are now requiring fire protection systems in various types of buildings, including dormitories, apartments, clubs, warehouses, and other structures. Many state code agencies and fire departments are inspecting more buildings and insisting on adequacy and maintenance.

Designers and owners or operators of buildings must become more familiar with fire suppression systems. By attending this course, you'll receive a comprehensive update on these systems.

You Will Learn About

- Types of fire suppression systems
- System selection
- System application for structures and processes
- Special systems being used to prevent costly, life-threatening industrial fires or explosions

Who Will Benefit

- Fire protection system designers
- Fire protection contractors
- Fire department personnel and officials
- Insurance company representatives
- Owners or physical plant managers of commercial/industrial facilities
- Code enforcing authorities

Calculator/Problem Sessions

Please bring a calculator for use during the class problem-solving sessions. The problem sessions will reinforce your learning and broaden your understanding of the course topics.

Your instructors are knowledgeable in hydraulic calculation and computers. They will also discuss computer methods and solutions and how to check a computer calculation submittal.

Valuable Take-home References

- NFPA 13 (given for Monday–Wednesday only)
- Three-ring binder of presented materials

Course Approval

Wisconsin, Michigan, Florida, and other states have previously approved this course for adult education credit for fire protection engineers, contractors, and sprinkler fitters. Call program director Harold Olsen (608-262-2403) if you need to know your state's approval status. Please provide an agency contact phone number if you call about approval.

Comments from Past Attendees

"I will be training others, and this course is good preparation for that task. At some point in their development they will likely attend a course like this—and I will know where to send them."

"I have a far greater knowledge of fire protection system components and design than before I took the class."

"This program is excellent. It was a great refresher and brought me up to date."

"Excellent combination of introduction to basics and leading into advanced systems."

Previous Attendees Benefiting

AIG Consultants (MA)
Atlas Comfort Systems (VA)
Brothers Fire Protection (IL)
City of DeKalb (IL)
Great Lakes Plumbing & Heating (IL)
Grumman/Butkus Associates (IL)
Hitch, LLC (MI)
Kohler Company (WI)
Midwestern Mechanical (SD)
NAVFAC (PA)
Simplex/Grinnell (MN)
US Department of Defense (DC)
University of Wisconsin Hospital (WI)
Victaulic (PA)
Viterbo College (WI)
XL Insurance (IL)

Course Outline

Monday, November 7

Sprinkler System Design

8:00 Registration
Pyle Center
702 Langdon Street
Madison, WI

8:15 Welcome and Introduction
Harold L. Olsen
Program Director
Department of Engineering Professional Development
University of Wisconsin–Madison

8:30 Fires
- What happens when a fire starts
- How mechanical systems extinguish it
- Selection of the proper system
- MIC
- Fire stages and detector operation

Larry J. Wills, PE
Fire Protection Consultant
St. Louis, Missouri

10:15 Break

10:30 Fire Protection Codes
John M. Mertens, PE, CSP
Fire Safety Scientist
FYRSAFE Engineering, Inc.
Rolling Meadows, Illinois

12:00 Lunch

1:00 Basic Sprinkler Systems Design
- Determining the hazard rating
- Pipe schedule systems
- Determining if you have a pipe schedule system
- Adding on to a pipe schedule system
- Using NFPA 13 tables and charts
- Necessary water densities, pressures, etc.

Larry J. Wills

2:30 Break

2:45 Hydraulically Designed Water Supplies
- Availability of water
- Water flow testing
- Effective point
- Friction loss
- Transfer of water flow test data
- Comparing sprinkler demands to water supplies

John M. Mertens

5:30 Adjournment

Tuesday, November 8

8:00 Water Supplies (continued)

Fire Pumps
- Fire pump characteristics
- Testing fire pumps
- Combining fire pumps and water supplies

John M. Mertens

10:00 Break

10:15 Hydraulically Calculated Sprinkler Systems
- Hydraulic theory
- Design density/areas
- Sprinkler system layout
- Adding on to a system

John M. Mertens

12:00 Lunch

1:00 Sprinkler System Components and Hardware
- System types
- Types of sprinkler heads (including new types)
- Valves
- Check valves, including alarm and preaction
- Dry pipe valves
- Switches, other devices
- Pipe, pipe fittings, hangers
- MIC experience and suggestions

Larry J. Wills

3:00 Break

3:15 Hydraulically Calculated Sprinkler Systems (continued)
- Calculation of branch lines
- Hydraulic calculations without velocity pressure

John M. Mertens

5:30 Adjournment

Wednesday, November 9

8:00 Hydraulic Calculation (continued)
- Pressure balancing
- Are pipe-scheduled systems hydraulically adequate?
- Workshop problem

John M. Mertens

10:00 Break

10:15 Workshop Problem (continued)

12:00 Lunch

1:00 Computer Software Discussion
Learn about computer calculations for sprinkler systems. This session will provide a demonstration of data collection, sprinkler system evaluation, and design.

Mike Carter
Ahern Fire Protection, Madison, Wisconsin

2:30 Break

2:45 Complex Systems
- Loop systems
- Grid system
- Review of computer-calculated systems

John M. Mertens

5:00 Adjournment

Thursday, November 10

Foam, CO2, Dry Chemical, Gaseous Systems

7:45 Registration for those attending only the last two days

8:15 CO2 System Design
- System components
- Design concentrations
- Calculation method

John M. Mertens

10:15 Break

10:30 Dry Chemical System Design
- System layout
- Design method
- Pre-engineered systems

John M. Mertens

12:00 Lunch

1:00 Foam System Design for Buildings
- Components
- System examples

Staff
Tyco Fire Suppression Products

3:00 Break

3:15 Alternatives to Halon
- Alternative agents
- System components
- System design

Staff
Tyco Fire Suppression Products

5:30 Adjournment

Friday, November 11

7:30 Retrofitting Halon Systems

Fire Detection Technology
- Types of detectors and how they work
- What detector to use where, and why
- Detector design considerations
- Detector maintenance
- Special cases (ex. hi bay atrium, etc.)

Chris Folise
Fike Corporation
Bolingbrook, Illinois

10:30 Break

10:45 Explosion Protection and Industrial Fire Protection and Prevention
David Grandaw
Regional Sales Manager
Explosion Protection Group
Fenwal Safety Systems
Lombard, Illinois

12:30 Final Adjournment
(Lunch on your own)

Four Easy Ways to Enroll

Internet:
http://epd.engr.wisc.edu/webL903

ENROLL ONLINE TODAY!

Phone:
800-462-0876 or
608-262-1299 (TDD 265-2370)

Mail to:
Engineering Registration
The Pyle Center, Dept. 106
702 Langdon Street
Madison, Wisconsin 53706

Fax:
800-442-4214 or
608-265-3448

Course Information

Please enroll me in

- ❑ **Sprinkler and Other Automatic Fire Suppression Systems Design Course #L903** November 7–11, 2011 in Madison, Wisconsin Fee: $1595 (5 days) (with NFPA 13)
- ❑ **Sprinkler System Design Course #L903** November 7–9, 2011 in Madison, Wisconsin Fee: $1395 (3 days) (with NFPA 13)
- ❑ **Foam, C02, Dry Chemical, Gaseous Systems Course #L903** November 10–11, 2011 in Madison, Wisconsin Fee: $695 (2 days)
- ❑ I cannot attend at this time. Please send me brochures on future courses.

Personal Information (Please print clearly.)

Name _____

Title _____

Company _____

Address _____

City/State/Zip _____

Phone (_____) _____ Fax (_____) _____

E-mail _____

Additional Enrollees

Name _____

Title _____

E-mail _____

Name _____

Title _____

E-mail _____

Billing Information

❑ Bill my company ❑ P.O. or check enclosed (Payable in U.S. funds to UW – Madison)

❑ MasterCard ❑ VISA ❑ American Express

Cardholder's Name _____

Card No. _____ Expires _____

UW# ❑❑❑
From mailer panel.

❑ Please check the box if you are a person with a disability and desire special accommodations. A customer service representative will contact you. Requests will be kept confidential.

NICET

A NICET exam will be given August 20 and December 17, 2011 in Madison, WI. For application deadlines, exam locations and other details, phone NICET at 888-476-4238 toll free or 703-548-1518. Or see the NICET website at nicet.org.

New Fluid Systems Engineering Degree Program

In cooperation with ASPE (American Society of Plumbing Engineers), the UW–Madison College of Engineering is now offering an undergraduate degree in civil engineering with an option in fluid systems engineering (FSE). This option includes courses on piping, plumbing, and heat transfer for domestic plumbing, as well as industrial fluid processes and utilities. Scholarships and co-op opportunities are available through ASPE. For information on this program, contact Jae K. (Jim) Park at jkpark@wisc.edu.

Upcoming Courses

Sprinkler and Other Automatic Fire Suppression Systems Design
February 13–17, 2012
Orlando Florida

Fire Protection Systems Inspections, Testing, and Maintenance
Dates to be announced

Fire Protection Systems for Industrial-Type Buildings and Processes
Dates to be announced

For details on upcoming courses, call program director Harold Olsen at 800-462-0876 or 608-262-2403. You can also check our website at epd.engr.wisc.edu.

Need to Know More?

Call toll free **800-462-0876** and ask for

Program Director: Harold L. Olsen

Program Associate: Sandy Krentz

Or e-mail **custserv@epd.engr.wisc.edu**

General Information

Fee Covers Notebook, course materials, break refreshments, lunches (Monday–Thursday), and certificate. Proceedings are not published. Course materials are distributed only to participants.

Cancellation If you cannot attend, please notify us by November 1, and we will refund your fee. Cancellations received after this date and no-shows are subject to a $150 administrative fee. You may enroll a substitute at any time before the course starts.

Location This course will be held at Pyle Center, 702 Langdon Street, Madison, WI. Phone messages: 608-262-1122.

Accommodations We have reserved a block of sleeping rooms (rates starting at $115, including parking and Madison Taxi's silver cab from the airport) for course participants at the Campus Inn, 601 Langdon Street, Madison, WI. To reserve a room, call 800-589-6285 or 608-257-4391 and indicate that you will be attending this course under group code 103971. Room requests made later than October 23 will be subject to availability.

Earn Continuing Education Credit By participating in this course you can earn 16 PDH/1.6 CEU for the two-day enrollment option, 24 PDH/2.4 CEU for the three-day option, and 40 PDH/4.0 CEU for the full five-day course.