

ASPE - Chicago Chapter
Education Committee
1918 North Larrabee St.
Chicago, Illinois 60614



Chicago Chapter

Presents a 16 week course
in Two Semesters

“Plumbing Engineering Basics”

The course will be conveniently located at the offices of:

Sargent & Lundy LLC
55 E Monroe, Chicago, IL 60603
Phone: 312-269-2773

Instructor:

David DeBord, CPD

Member Chicago ASPE Chapter
ASPE Society Vice President Legislative

Semester 1 Classes start March 7, 2012
Semester 2 Classes Start September 19, 2012

Classes will be held from Wednesdays 5:30 PM through
8:00 PM

The course has been assigned 2.0 CEU's per Semester

Certificate of Completion
will be issued by ASPE Chicago Chapter
upon successfully passing each semester of this course

This is a graded course.

Course fees

\$455.00 **per Semester** for ASPE members
\$640.00 **per Semester** for non members

Questions can be answered by:
David DeBord, 773.505.9041
David.aspe@gmail.com

This course is designed to provide the knowledge necessary to perform the design of basic plumbing systems for buildings. It is intended primarily for individuals involved in Architectural, Engineering and Construction industries who assume no prior knowledge regarding plumbing engineering. The course will cover basic plumbing fixtures, equipment, materials, systems, codes and the principles of engineering upon which they are based. A full listing of the topics to be covered is indicated in the class schedule inside this announcement.

Materials provided as part of your course fee will be:

“Engineered Plumbing Design”
Alfred E. Steele, PE

International Plumbing Code

David DeBord, CPD

David E. DeBord CPD, LEED@AP BD+C, ARCSA@AP, has over 30 years in the consulting business. David is the Legislative Vice President of ASPE (American Society of Plumbing Engineers) at the Society level and an Adjunct Assistant Professor at Illinois Institute of Technology. He is a member and a Past President of the Chicago Chapter of ASPE. He is also a member of the American Rainwater Catchment Society of America (ARCSA), American Solar Energy Society (ASES), International Association of Plumbing and Heating Officials (IAPMO), Geothermal Heat Pump Consortium (GHPC), USGBC, and serves on code committees of ICC and IAPMO. He has been published in multiple publications and has written several data book chapters for ASPE. He also presents webinars and lectures for ASPE and other organizations.

Because of space limitations, class size is limited to only 15 students. It is anticipated that the class will be full, therefore enrollment will be on first come, first serve basis. Registration in the class will not be guaranteed until registration form **and** full payment are received.

Deadline for Spring enrollment February 22, 2012
Deadline for Fall enrollment September 12, 2012

Plumbing Engineering Design Basics - Class Schedule

Semester 1-Spring 2012		Semester 2-Fall 2012	
<p>I. Week 1- March 7, 2012</p> <p>A. Introduction</p> <p>B. Drainage Piping Materials and Joining Methods</p> <p>C. Plumbing Fixture/Chase Requirements</p> <p>D. Roof Drain & Floor Drain Types/Installation</p>	<p>V. Week 5 – April 4, 2012</p> <p>A. Sanitary and Vent Systems, Continued</p> <ul style="list-style-type: none"> ▪ Horizontal Pipe Slope and Sizing ▪ Soil and Waste Stacks ▪ Stack Sizing ▪ Cleanouts ▪ Sample Problems ▪ Traps ▪ Indirect waste 	<p>I. Week 1- September 19, 2012</p> <p>A. Introduction</p> <p>B. Water Piping Materials and Joining Methods</p> <p>C. Basic Properties of Water</p> <ul style="list-style-type: none"> ▪ Weight/Head ▪ Static Pressure ▪ Residual Pressure ▪ Density 	<p>V. Week 5 – October 17, 2012</p> <p>A. Domestic Water Heating, Continued</p> <ul style="list-style-type: none"> ▪ Demand Calculations ▪ Sample Problem ▪ Types of Water Heaters ▪ Domestic Hot Water Return ▪ Insulation
<p>II. Week 2 – March 14, 2012</p> <p>A. Flow in sloping drains</p> <ul style="list-style-type: none"> ▪ Manning Formula ▪ Open Channel Flow ▪ Sample Problems <p>B. Storm Water Systems</p> <ul style="list-style-type: none"> ▪ Roof Drain Locations ▪ Overflow Drains ▪ Roof Slopes 	<p>VI. Week 6 – April 11, 2012</p> <p>A. Sanitary and Vent Systems, Continued</p> <ul style="list-style-type: none"> ▪ Pneumatic Pressures in Sanitary Drainage Systems ▪ Standard Venting ▪ Standard Vent Sizing ▪ Vent Stacks ▪ Alternative Venting ▪ Sample Problems 	<p>II. Week 2 – September 26, 2012</p> <p>B. Water Systems</p> <ul style="list-style-type: none"> ▪ Friction Loss ▪ Velocity of Flow ▪ Velocity Head ▪ Reynolds Number ▪ Darcy's Equation ▪ Hazen-Williams Formula ▪ Sample Problems 	<p>VI. Week 6. – October 24, 2012</p> <p>A. Pumps and Pump Curves</p> <ul style="list-style-type: none"> ▪ Centrifugal Pumps ▪ Pump Affinity Laws ▪ Pump Curves ▪ Suction Head ▪ Parallel Pumping ▪ Series Pumping ▪ Sample Problems
<p>III. Week 3 – March 21, 2012</p> <p>A. Storm Water Systems, Continued</p> <ul style="list-style-type: none"> ▪ Storm Drain Sizing Criteria ▪ Horizontal vs. Vertical Piping ▪ Rainfall Rates ▪ Gutters ▪ Site Drainage ▪ Retention ▪ Sample Problems 	<p>VII. Week 7 – April 18, 2012</p> <p>A. Sanitary and Vent Systems, Continued</p> <ul style="list-style-type: none"> ▪ Riser Diagrams ▪ Relief Vents ▪ Suds Vents ▪ Offset Venting <p>B. Sewage Ejectors and Sump Pumps</p> <p>Discussion of the types of pumps available and sizing parameters used</p> <ul style="list-style-type: none"> ▪ When a Pump is Required ▪ Types of Pumps ▪ Pump & Pit Sizing ▪ Level Controls 	<p>III. Week 3 – October 3, 2012</p> <p>C. Domestic Water Systems Design</p> <ul style="list-style-type: none"> ▪ Equivalent Length of Pipe ▪ Domestic Water Fixture Units ▪ Hunter's Curve ▪ Pipe Erosion ▪ Water Hammer ▪ System Sizing ▪ Riser Diagrams ▪ Sample Problems 	<p>VII. Week 7 – October 31, 2008</p> <p>A. Backflow Preventers</p> <ul style="list-style-type: none"> ▪ Why Required ▪ Air Gaps ▪ Break Tanks ▪ Vacuum Breakers ▪ Check Valves ▪ Double Check Valves ▪ Reduced Pressure Type ▪ Where to Use Each Type ▪ Hazard Identification <p>B. Valves</p> <ul style="list-style-type: none"> ▪ Gate ▪ Ball ▪ Butterfly ▪ Globe ▪ Check ▪ Balancing
<p>IV. Week 4 – March 28, 2012</p> <p>A. Review Take-Home Quiz on Weeks 1 through 3</p> <p>B. Sanitary and Vent Systems</p> <ul style="list-style-type: none"> ▪ Drainage piping definitions ▪ Gravity Flow in Stacks ▪ Drainage Fixture Units ▪ Horizontal Pipe Slope and Sizing 	<p>VIII. Week 8 – April 25, 2012</p> <p>A. Review Take-Home Quiz on Weeks 4 through 7</p> <p>B. Open Discussion</p>	<p>IV. Week 4 – October 10, 2012</p> <p>A. Review Take Home Quiz Covering Weeks 1 through 3</p> <p>B. Domestic Water Heating</p> <ul style="list-style-type: none"> ▪ BTU's/Watts ▪ Hot Water Demand by Fixture ▪ Hot Water Usage Temperature ▪ Mixed Water 	<p>VIII. Week 8 – November 7, 2012</p> <p>A. Review Take Home Quiz Covering Weeks 4 through 7</p> <p>B. Open Discussion</p>

COURSE FEE(Per Semester):

ASPE member \$455.00 _____

Non- member*\$640.00 _____

* INCLUDES A ONE YEAR ASPE MEMBERSHIP DUES PAID BY CHICAGO CHAPTER

ASPE Membership Number _____

Make checks payable to: ASPE - Chicago Chapter

Send Registration Form and check to:

ASPE Education Committee
1918 North Larrabee St.
Chicago, IL 60614

COURSE REGISTRATION:

Name: _____

Company: _____

Address: _____

City: _____ St: _____ Zip: _____

Phone: _____ Email: _____

Address (Home): _____

City: _____ St: _____ Zip: _____

Phone: _____

Registration Deadline: Semester 1-February 22, 2012
Semester 2-September 12, 2012