SPRING 2015 - ENSOFT SHORT COURSE

Design of Deep Foundations: Drilled Shafts and Piles Under Lateral and Axial Loading

A Seminar and Workshop Featuring Computer Programs from Ensoft, Inc.

March 31- April 2, 2015

LOCATION & RESERVATIONS

Ensoft, Inc. – Office Building
3003 West Howard Lane, Austin, Texas 78728
Tel. (512) 244-6464, Fax (512) 244-6067

Hotel Information:

Holiday Inn Express Hotel & Suites, Tel. (512) 251-9110
14620 N. IH-35, Austin, TX 78728

Hampton Inn (Northwest), Tel. (512) 349-9898
3908 W. Braker Lane, Austin, TX 78759

La Quinta Inn & Suites, Tel. (512) 832-2121
11901 N Mopac Expy, Austin, TX 78759

(These hotels are within 5-10 minutes driving distance from the training facility)

REGISTRATION & FEES

Single Registration[(1)(*)]	Early Rates (up to Mar. 10)	Std. Rates (after Mar. 10)
One-Day Session	$570	$690
Two-Day Session	$820	$1000
All 3-Day Sessions	$1060	$1290

Multiple Registrations[(1)(2)(*)] *(Rates per person)*	Early Rates (up to Mar. 10)	Std. Rates (after Mar. 10)
One-Day Session	$530	$640
Two-Day Session	$760	$930
All 3-Day Sessions	$990	$1200

(1) *Includes student workbook, lunch, coffee breaks and refreshments.*
(2) *Valid for 2 or more registrations from the same company.*
(*) *See cancellation policy under General Notes on page 3.*

TOTAL ..... $_____

Name(s): _____

_____

Company: _____

Address: _____

City/ST/Zip: _____

Phone: _____ *Fax:* _____

E-mail: _____

Please select your method of payment:

☐ *Check enclosed* ☐ *Credit card*

Name on card: _____

Number: _____ *Exp.:* _____

SPEAKERS

William M. Isenhower, Ph.D., P.E.
Program Manager for LPILE, Ensoft, Inc. Dr. Isenhower is a registered professional engineering in the States of Texas and Louisiana, with over 30 years of experience in civil engineering, with an emphasis on geotechnical engineering. His experience has been in consulting, government service, university teaching, and contract research. He has been engaged in consulting projects, site investigations, foundation analysis and design, slope stability analysis and design, and retaining structure analysis and design. Dr. Isenhower has served as an Expert on Mission for the United Nations Development Program and has served as an independent technical reviewer for the US Army Corps of Engineers. He has authored over 30 technical papers and reports, and has presented invited lectures in the United States and abroad. Dr. Isenhower is a member of the Academy of Distinguished Graduates of the Department of Civil, Architectural, and Environmental Engineering of the University of Texas at Austin.

Shin-Tower Wang, Ph.D., P.E.
President, Ensoft, Inc., Program Manager for SHAFT, APILE, and PYWALL. Dr. Wang is a registered professional engineering in the State of Texas, with over 30 years of experience in civil engineering, with an emphasis on geotechnical and structural engineering. He has engaged in numerous consulting projects in soil structure interaction analyses, pile loading tests, deep foundation designs, and numerical analyses. Dr. Wang received M.S. and Ph.D. degrees from The University of Texas at Austin. He has published over 30 technical papers and reports, and has coauthored several computer programs that are currently sold by Ensoft, Inc.

Gonzalo Vasquez, Ph.D., P.E.
Program Manager for Group, Ensoft, Inc. Dr. Vasquez is a registered engineer in the States of Texas and California, with over 20 years of experience in civil engineering. Dr. Vasquez is an expert in solid structural modeling for nonlinear, three-dimensional stress analysis. Dr. Vasquez received M.S. and Ph.D. degrees from The University of Texas at Austin.

Farnyuh Michael Menq, Ph.D.
Program Engineer for Dynamic Tests, *Ensoft, Inc.* Dr. Menq has been working in the field of dynamic testing in the past 17 years at the University of Texas. He has extensive experience in laboratory resonant column and torsional shear tests, laboratory free-free resonant column tests, Rolling Dynamic Deflectometer (RDD) tests, Stationary Dynamic Deflectometer (SDD) tests, Spectral Analysis of Surface Waves (SASW), impulse-echo tests, cross hole tests, downhole tests, in-situ nonlinear tests, and in-situ liquefaction tests. He has published over 25 technical papers and reports. Dr. Menq received his Ph. D. degree from the University of Texas at Austin.

SPECIAL OFFER

Software products developed by ENSOFT, INC. may be purchased by course attendees at a 20% discount within one month of the Short Course. A bound manual of literature of covered topics is provided for Session 1 and a separate manual is provided for Session 2. Additional short-course manuals may be ordered in advance at $80 per unit.

For more details or online registration, visit us at **www.ensoftinc.com** or send email to **seminars@ensoftinc.com**

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Preliminary Program

Tue. Mar. 31, 2015 (Full Day)

The first full day has been prepared for expert-level training in the design of single piles or shafts under lateral loads using the LPILE software.

Time	Subject	Speaker
8:00	Arrival, computer setup, software installation	Isenhower
8:15	Course introduction	Isenhower
8:30	Principles of Soil-Structure Interaction. Modern principles for design of foundations, types of loading.	Isenhower
9:30	Theoretical Basis of Lateral Load-Transfer Models and Experimental Validation	Isenhower
10:00	*Coffee Break*	
10:15	*p-y* Curves Available in LPILE and GROUP	Isenhower
11:00	Structural Analysis of Piles and Drilled Shafts, Nonlinear Moment-Curvature Behavior of Drilled Shafts and Prestressed Concrete Piles	Isenhower
12:00	*Lunch Break*	
1:00	Software Training for LPILE (Part 1)	Isenhower
2:45	*Coffee Break*	
3:00	Software Training for LPILE (Part 2)	Isenhower
4:00	General Question and Answer. Consultation on Problems of Interest	Isenhower

Wed. Apr. 1, 2015 (Full Day)

The second full day adds training in the design of single drilled shafts under axial loads and pile groups under combined loading.

Time	Subject	Speaker
8:00	Practical Considerations for Design of Drilled Shaft Foundations	Isenhower
9:30	Drilled Shafts and Driven Piles Under Axial Loading. Use of *t-z* and *q-w* curves	Isenhower
10:00	*Coffee Break*	
10:15	Software Training with SHAFT	Wang
11:00	Testing of a fully instrumented pile under axial/lateral loading. Inside and outside practical presentations.	Isenhower
12:00	*Lunch Break*	
1:00	Analysis of Pile Groups Under Axial and Lateral Loading.	Vasquez
2:30	*Coffee Break*	
2:45	Software Training for GROUP – Basic Input, Visualization of Results	Vasquez
4:00	Software Training for Group – Advanced Input, Interactive Group Modeling	Vasquez

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Thur. Apr. 2, 2015 (Full Day)

The final half day adds training in the design of single piles under axial loads and flexible retaining walls.

Time	Subject	Speaker
8:00	Driven Piles Under Axial Loading	Wang
9:30	Software Training for APILE	Wang
10:30	*Coffee Break*	
10:30	Introduction to Non-Destructive Tests on Drilled Shafts	Menq
11:30	Practical Lessons for Non-Destructive Tests (outside presentation).	Menq
12:30	*Lunch Break*	
1:45	Introduction to the Designs of Flexible Retaining Walls	Wang
3:00	*Coffee Break*	
4:00	Software Training for PYWALL	Wang
5:00	General Question and Answer. Consultation on Problems of Interest	All
6:00	*End of Short Course*	

PDH CREDITS

Attendance of this short course will provide you with up to 19 professional development hours (PDH) that can be applied towards your local P.E. license requirements for renewal. Ensoft provides a signed document for the participation in the professional short course along with the number of hours of training.

Call us at 512-244-6464 or visit our web site to register for the short course

GENERAL NOTES

All students will receive a student notebook containing reference and lecture materials, along with USB memory stick of relevant technical manterials.

Course attendees are encouraged to bring a laptop computer to the course. Attendees bringing computers to the course will be loaned software for use during the course and will be able to participate in the solution of design exercises. A limited number of computers can be loaned at no cost.

Those attending the short course are also encouraged to bring design problems of interest to them and their employers. Advice on how to set up design computations for the design problem and guidance about preparation of plans and specification will be provided by the instructors.

The number of spaces available in the short course is limited, so registration will be based on a first come-first served basis.

Cancellations made prior to two weeks from the Short Course will be charged half the total fees. Late cancellations are not refundable but payment may be extended to a future short course. Emergency cancellations may be accepted until five days before short course.

Companies wishing to inquire about having the same training course or another advanced training course to be held at their offices may call Ensoft to obtain a cost proposal.

Companies wanting information about the two-day short course on Design and Construction of Drilled Shafts offered by Ensoft may call to obtain a cost proposal.

COURSE BENEFITS

♦ Learn how to use effective tools and proper numerical models for deep foundations ♦ Improve the efficiency of your future foundation designs ♦ Keep short course manuals and personal notes as reference for future numerical models and designs of deep foundations ♦ Use the limited 20% discount on software upgrades and new purchases for the whole office site of registered attendants to the short course ♦ Earn up to 19 PDH credits towards PE renewals for this course ♦

For more details or online registration, visit us at **www.ensoftinc.com** or send email to **seminars@ensoftinc.com**

CURRENT ENSOFT PRICE LIST & NEW RELEASES

Software Titles:

LPILE 2015	$1,000
GROUP 2015	$1,800
SHAFT 2013	$850
PYWALL 2014	$850
APILE 2015	$850
APILE 2015 (Offshore Version)	$1,250
TZPILE 2014	$850
StablPro 3.0	$490
LPA 3.0	$490
DynaPile 2015	$1,950
DynaMat 1.0	$1,490
DynaN 3.0	$2,900
Ensoft Dynamic Suite	$5,000
GeoMat 2014	$1,450
Atena (FEM analysis of reinforced concrete)	call
AMPS (3-D Finite Element Analysis)	call

Call for volume, upgrades, and academic pricing
(Prices above are before 20% participation discount)

GROUP 2015

- This version introduces internal computations of nonlinear material behaviors in flexure for various predefined pile sections (reinforced concrete, cased concrete, steel, prestressed concrete).
- Improved 3D views features for models with non-standard geometries (piles with varying top coordinates or sloping ground).
- Users can select any of the observed graphics for export to an Excel spreadsheet that GROUP preconfigures with all correct conversions and necessary tabs. Users can thus easily reformat the graphical display for use of different units and titles.
- GROUP is able to resolve user-specified displacements/rotations (in 3D space) into the forces that are associated for such conditions.
- Foundation stiffness can be generated based on equivalent elastic stiffness (thus generating a symmetric stiffness matrix);
- Users can specify *p-y* modification factors for lateral loads along the length of the piles;

LPILE 2015

- New *p-y* criteria for massive rock.
- User may input lateral load test results for comparison to computed pile response for the purpose of calibrating input properties to optimize pile designs.
- Output reports may be generated either in detailed wide format or a narrow format optimized for printing.
- Special features for evaluation of nonlinear moment curvature, pile-head stiffness components, pushover analysis, and pile buckling analysis.
- Additional types of graphs and improved versions of existing graphs.
- Ability to enter single or multiple profiles for distributed lateral loading and lateral soil movement loading.
- Up 100 LRFD load case combinations, including checks on moment capacity and shear capacity.
- LRFD loading definitions of shear, moment, axial thrust, and distributed lateral loading for 13 load types.
- Pile definitions may include up to 20 sections of 14 different pile types and six pile cross-sectional shapes.
- Type of decimal character used in output report (either point or comma) is determined by Windows keyboard definition.
- Smart interface for structural pile sections and allows the user to define up to 20 sections with nonlinear bending properties.

Books/Publications:

Single Piles and Pile Groups Under Lateral Loading (2nd Ed.) Lymon C. Reese and William F. Van Impe. (CRC Press/ Balkema, 2011, 507pp.)
Hardback.....$130

Analysis and Design of Shallow and Deep Foundations Lymon C. Reese et al. (Wiley, Nov. 2005, 608pp.)
Hardback.....$120

APILE 2015

- User interface has more features than earlier versions, to enhance input of data that is only applicable to selected parameters and methods.
- Users can select any of the observed graphics for export to an Excel spreadsheet that APILE preconfigures with all correct conversions and necessary tabs. Users can thus easily reformat the graphical display for use of different units and titles.
- Pipe piles can now be specified if they are open ended or closed ended.
- In closed-ended pipe piles, APILE now computes the correct tension capacity while taking into account pile buoyancy.
- Precast piles can be selected as circular or square/rectangular/octagonal.
- For FHWA models of pile capacity, users are able to override the internal computations for adhesion factors in any clay layer (by default, APILE calculates internally but users can now select different methods).