

# Agenda

*Presented by Theodore O'Donnell, P.E., S.E.*

## Engineered Lumber Products and Design Guidance

Examining types of engineered lumber products

- Structural and non-structural

National Design Specification for Wood Construction

ASCE Standard for Load and Resistance Factor Design

for Engineered Wood Construction

Building codes

## Design Values and Equations for Structural Engineered Lumber

Reference design values and adjustments

- Bending members
- Compression members
- Solid columns
- Tension members
- Bearing capacity

## Structural Glued-Laminated Timber

Types of members

Applications and design values

Adjustments and special considerations

## Timber Poles and Piles

Types of members

Applications and design values

Adjustments and special considerations

## Pre-fabricated Wood I-Joists

Types of members

Applications and design values

Adjustments and special considerations

## Structural Composite Lumber and Wood Structural Panels

Types of products

Applications and design values

Adjustments and special considerations

## Connectors and Fasteners

Mechanical connections

Dowel fasteners

Split ring and shear plate connectors

Timber rivets

## Fire Design and Finishing of Exposed Members

**Using Engineered Lumber and Timber Products**  
State College, PA - Thursday, January 24, 2019

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# Learning Objectives

## *You'll be able to:*

**Comply** with building codes and design specifications for engineered wood construction.

**Identify** design values and equations for structural engineered lumber.

**Utilize** engineered wood products on your projects, including glued-laminated timber, timber poles and piles, and pre-fabricated wood I-joists.

**Understand** how to properly use connectors and fasteners with engineered wood products.

**Discuss** fire design and finishing of exposed members.



# Using Engineered Lumber and Timber Products

State College, PA - Thursday, January 24, 2019



**Examine** structural and non-structural engineered lumber products

**Understand** design values and equations for structural engineered lumber

**Learn** to work with glued-laminated timber, timber poles and piles, and pre-fabricated wood I-joists

**Explore** structural composite lumber

**Discuss** fire design and finishing of exposed members

## Continuing Education Credits

### Professional Engineers

7.0 PDHs

### International Code Council

.7 CEUs (Building)

### Architects

7.0 HSW Continuing Ed. Hours

7.0 AIA HSW Learning Units

### Contractors

Non-Credit Continuing Ed.



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# Faculty

**Theodore O’Donnell, P.E., S.E.**  
*Owner of O’Donnell Structural Consulting, LLC in Bayse, VA*

O’Donnell Structural Consulting, LLC, was formed in 2011 by Theodore O’Donnell to provide professional engineering services with special emphasis on design of wood structures. Mr. O’Donnell graduated in 1988 from Youngstown State University with a BSCE degree with a structural concentration. Upon graduation he went to work for Inter-Lock Steel doing wood truss design and computer programming. In 1991 Inter-Lock was bought by MiTek Industries where he continued his truss design work. In 1995 he relocated to the Shenandoah Valley in Virginia to become a field engineer with MiTek. In 1999 he took over as chief engineer at MiTek’s Ohio office and then moved back to Virginia in 2001 to become vice president of engineering with Blue Ridge Truss & Supply.

**Here’s what past attendees had to say about the program and presenter Theodore O’Donnell:**

“Good course, good material, good presenter.” – *Construction Equipment Manufacturer*

“Liked the practical discussion/comments from instructor.” – *Construction/Engineering*

“Great presenter, very knowledgeable, easy to follow.” – *Engineer*

# Seminar Information

|   |   |   |
|---|---|---|
| <b>Toftrees Golf Resort &amp; Conference Center</b><br>One Country Club Lane<br>State College, PA 16803<br>(814) 234-8000 | Registration<br>8:00 - 8:30 am<br><br>Morning Session<br>8:30 am - 12:00 pm | Lunch (On your own)<br>12:00 - 1:00 pm<br><br>Afternoon Session<br>1:00 - 5:00 pm |
|---|---|---|

**Tuition**  
**\$279** for individual registration  
**\$259** for three or more simultaneous registrations.  
**Included with your registration:** *Complimentary continental breakfast and printed seminar manual.*

**Receive a reduced tuition rate of \$101** by registering to be our on-site coordinator for the day. For availability and job description, please visit [www.halfmoonseminars.org](http://www.halfmoonseminars.org).

**How to Register**

- Visit us online at [www.halfmoonseminars.org](http://www.halfmoonseminars.org)
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

**Cancellations:** Cancel at least 48 hours before the start of the seminar (CDT), and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the self-study package. You may also send another person to take your place.

# Additional Learning

**Webinar Series**

**Residential Energy Code**

- **Introduction to the Residential Energy Code and Mandatory Requirements**  
Thurs., Dec. 6, 2018, 11:00 AM - 12:30 PM CST
- **IECC Residential Building Envelope Requirements**  
Thurs., Dec. 6, 2018, 1:00 - 2:30 PM CST
- **IECC Residential HVAC Requirements**  
Fri., Dec. 7, 2018, 11:00 AM - 12:30 PM CST
- **International Energy Conservation Permit Pathways**  
Fri., Dec. 7, 2018, 1:00 - 2:30 PM CST

**Deep Foundations**

- **Deep Foundation Site Evaluation**  
Weds., Dec. 12, 2018, 11:00 AM - 12:00 PM CST
- **Overview of Deep Foundations**  
Weds., Dec.12, 2018, 12:30 - 2:00 PM CST
- **Deep Foundation Pile Design**  
Thurs., Dec. 13, 2018, 11:00 AM - 12:30 PM CST
- **Deep Foundation Installation and Testing**  
Thurs., Dec. 13, 2018, 1:00 - 2:00 PM CST

**Stormwater Management Systems**

- **Stormwater Infrastructure Practices**  
Weds., Dec. 19, 2018, 11:00 AM - 1:00 PM CST
- **Infiltration Management Techniques**  
Thurs., Dec. 20, 2018, 11:00 AM - 1:00 PM CST

**NFPA 70E Series**

- **NFPA 70E, Part I**  
Weds., Dec. 26, 2018, 11:00 AM - 3:30 PM CST
- **NFPA 70E, Part II**  
Thurs., Dec. 27, 2018, 11:00 AM - 3:30 PM CST

**Seismic Design and Construction**

- **Seismology and Building Codes**  
Thurs., Dec. 27, 2018, 11:00 AM - 3:30 PM CST
- **Seismic Design of Building Structures**  
Fri., Dec. 28, 2018, 11:00 AM - 3:30 PM CST

For more information and other online learning opportunities visit:  
[www.halfmoonseminars.org/webinars/](http://www.halfmoonseminars.org/webinars/)

## Continuing Education Credit Information

This seminar is open to the public and offers 7.0 PDHs to professional engineers and 7.0 HSW continuing education hours to architects in all states, except Florida architects. Educators and courses are not subject to pre-approval in Pennsylvania.

This course offers 7.0 HSW PDUs/continuing education hours to architects in all states, except Florida architects. The American Institute of Architects has approved this course for 7.0 HSW Learning Units (Sponsor No. J885). Courses approved by the American Institute of Architects are accepted in Pennsylvania.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York architects.

The International Code Council has approved this event for .7 CEUs in the specialty area of Building.

This course offers a non-credit continuing education opportunity to construction contractors. It has not been approved by any contractor licensing entity for mandatory continuing education credit.

Attendance will be monitored and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

**Can’t Attend? Order the Manual and the Audio from the Live Seminar as a Self-Study Package!**

An audio recording of this seminar is available for \$289. Allow four weeks from the seminar date for delivery. Please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

# Registration

**Using Engineered Lumber and Timber Products**  
State College, PA - Thursday, January 24, 2019

|  |              |   |
|--|--------------|---|
| <b>How to Register</b>   |              | <b>Registrant Information</b><br>Name: _____<br>Company/Firm: _____<br>Address: _____<br>City: _____ State: _____ Zip _____<br>Occupation: _____<br>Email: _____<br>Phone: _____<br><br><b>Additional Registrants:</b><br>Name: _____<br>Occupation: _____<br>Email: _____<br>Phone: _____<br><br>Name: _____<br>Occupation: _____<br>Email: _____<br>Phone: _____<br><br>Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.<br><br>( )  I need special accommodations. Please contact me. |
| <b>Online:</b><br><a href="http://www.halfmoonseminars.org">www.halfmoonseminars.org</a> |              |   |
| <b>Phone:</b><br>715-835-5900  |              |   |
| <b>Fax:</b><br>715-835-6066  | <b>Code:</b> |   |
| <b>Mail:</b><br>HalfMoon Education Inc.,<br>PO Box 278, Altoona, WI<br>54720-0278        |              |   |
| <b>Complete the entire form.</b> Attach duplicates if necessary.                         |              |   |

**Tuition**

( ) **I will be attending the live seminar.** Single Registrant - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

( ) **I am not attending.** Please send me the self-study package for **\$289.00**.

☐ Downloadable MP3 Audio/PDF Manual

☐ CD/Manual Package

(Please allow four weeks from seminar date for delivery)

**Checks:** Make payable to HalfMoon Education Inc.

**Credit Card:** *Mastercard, Visa, American Express, or Discover*

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