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.

**Engineered Lumber Design and Construction**

*Presented by Alex Charvat*

*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 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

**Structural Design**
- Software
- Roof framing
- Floor framing
- Beams and joists

**Examine** Structural and non-structural engineered lumber products
**Understand** design values and equations for structural engineered lumber
**Explore** structural composite lumber
**Discuss** fire design and finishing of exposed members
Faculty

Alex Charvat  Professional Engineer at Alexander Structures, LLC

Mr. Charvat is a professional engineer licensed in multiple states. He has worked as a forester in the Pacific Northwest, and he spent two years working at the United States Forest Service’s, Forest Products Laboratory in Madison, Wisconsin, assisting with large research products for both engineered and natural wood. Mr. Charvat has engineered and designed hundreds of homes ranging from $20,000 cabins to $18 million ranches. He is the engineer of record for NAHB’s Log Home Log Grading program, and he is also the engineer of record for over 30 threaded fasteners used in log home and residential construction, many found at big box stores. Mr. Charvat has hosted his own log cabin renovation show on DIY network called Cabin Rescue, has consulted on log cabin renovations featured on HGTV, and is the instructor for an internet-based class about building and buying a log home. He is the owner of Alexander Structures, Inc., based in Conifer, Colorado, which has been in business since 2002, www.alexanderstructures.com

Additional Learning

Webinar Series
Building Operations and Efficiency
- Identifying Energy Efficiency Opportunities in Major Renovations
- Integration of “Energy Modeling” in the Design of High Performance Buildings
- High Efficiency Building Design Standards
- Commissioning and Operation of High Performance Buildings

NFPA 70E
- NFPA 70E, Part I
- NFPA 70E, Part II

National Electrical Code: A Solar Photovoltaic System Perspective
- National Electrical Code for Building Professionals, Part I
- National Electrical Code for Building Professionals, Part II

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International Mechanical Code
- International Mechanical Code Background and Application
- Chapters 2-5: Definitions, Regulations and Ventilation
- Chapters 6-10: Ventilation, Appliances and Equipment
- Chapters 11-15: Refrigeration, Piping and Appendices

National Electrical Code: A Solar Photovoltaic System Perspective
- National Electrical Code for Building Professionals, Part I
- National Electrical Code for Building Professionals, Part II

Continuing Education Credit Information
This seminar is open to the public and offers up to 7.0 HSW continuing education hours to architects in all states, except Florida architects. Educators and courses are not subject to preapproval in Colorado. This course also offers 7.0 PDHs to professional engineers in all states (non-mandatory in Colorado).

This seminar is approved by the American Institute of Architects for 7.0 HSW Learning Units (Sponsor No. 9888). Only full attendance can be reported to the AIA/CES.

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This seminar is approved by the International Code Council for 7 CEUs in the specialty area of Building.

This event also offers a continuing education opportunity to construction contractors, but it has not been submitted to any state contractor licensing entity for continuing education approval.

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.

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 CD/manual package for $289.00. (SAH included. Please allow five weeks from seminar date for delivery)

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