EUCI is authorized by IACET to offer 1.1 CEUs for the course.

**FUNDAMENTALS OF TRANSMISSION LINE DESIGN**

May 4-5, 2020
Online | Central Time (CT)

**RELATED EVENT:**

**FUNDAMENTALS OF TRANSMISSION STRUCTURE DESIGN**
May 5-6, 2020 | Online

“*This course definitely broadened my understanding of transmission line design as well as the individual structures and their components.*”

Engineer II, Ampirical Solutions

In lieu of recent developments with COVID-19 we have, for the health and safety of our speakers and attendees, decided to move many of our events to online courses. This will enable you to view the courses from the comfort of your location while still benefitting from the depth of knowledge provided at our online courses. The option is available on the registration page of all of our courses and hope you will be able to take advantage!
OVERVIEW

This one-and-a-half-day course is designed to provide an introduction to transmission line concepts, definitions, and common design practices while infusing the technical tools needed to perform the work with the design concepts (PLS CADD Suite, MFAD, etc.) The first day will cover an introduction to transmission lines, electrical characteristics of lines, routing and structure spotting, conductor, hardware, and material information, and structure loading. The second day will pertain to electrical clearances, code requirements, structure spotting (ruling span vs. finite element), foundation design, and construction methods.

LEARNING OUTCOMES

• Review what conductors are used in based on weather conditions, tensions, & electric loadings
• Discuss the basics of ruling span design and structure spotting techniques
• Review physical transmission line design and the software used to perform analysis
• Examine and identify all parts, pieces, hardware, etc. of a transmission line
• Discuss the basic concepts of transmission structure foundation design
• Know the applicable codes and standards required to perform transmission line design

WHO SHOULD ATTEND

• Recent engineering graduates new to transmission structure design
• Experienced engineers new to transmission structure design
• Utility engineers requiring additional training
• Engineers new to transmission manufacturing
• Anyone interested in the design process of transmission lines

“Very informative, learned a lot!”

Engineer II, Ampirical Solutions
AGENDA

MONDAY, MAY 4, 2020

8:00 – 8:30 am Login and Welcome

8:30 am – 5:00 pm Course Timing

12:00 – 1:00 pm Lunch Break

Overview
• What is a Transmission Line
  o Conductors, Shield Wires, Communication Wires & Associated Hardware
  o Structures & Foundations
  o Electrical Characteristics & Grounding
  o ROW
• Design Considerations
• Design Process

Transmission Planning
• System Studies
• ROW
• Permitting
• Aerial Survey

Conductor Characteristics
• Electrical Characteristics
• Sag Tension
• Conductor Selection
• Conductor Motion

Structure Configuration & Structure Types
• Structure Types & Configurations
• Structure Materials
• Aesthetic Considerations
• Design Factors

Hardware & Assemblies
• Conductor Hardware
• Insulators
• OPGW Hardware
• Shield Wire Hardware
AGENDA

TUESDAY, MAY 5, 2020

8:30 am – 12:00 pm   Course Timing

Electrical Clearances & Mechanical Loading
• Design Criteria
• Weather & Load Cases
• Clearances

Foundation Design
• Types of Transmission Structure Foundation Design
• Software Used
• MFAD Examples

Construction Methods & Design Considerations
• Modifications to Existing Lines
• Stringing
• Structure Setting & Placement

COURSE INSTRUCTORS

Landon Schulze, PE
President, ASEC Inc.

Mr. Schulze earned his B.S. in civil engineering from Texas A&M University in 2006. Since then he has worked exclusively in the power delivery industry performing detailed structural design of transmission lines, transmission structures, and substation structures. Mr. Schulze’s early experience was as a consultant performing detailed EPC projects. Mr. Schulze continued his experience serving utilities and leading project execution work on over 300 miles of 345kV double circuit lattice tower design.

In 2017, Mr. Schulze joined ASEC as a project manager and moved on to become President of ASEC Inc leading the company in project management, business development, internal employee professional development, proposals, budget and goal setting for the company.

Ben Averill, PE
Sr. Engineer, ASEC Inc.

Mr. Averill earned his M.S. in Civil Engineering from the University of Wyoming in 2011 and B.S. in 2008. He received his California PE in 2013. Since then he has worked on a multitude of projects in the power delivery industry. His experience includes: designing greenfield transmission interconnects to deliver renewables to the grid, analysis and mitigation of existing structures in support of facility ratings assessments, and the rebuild of several transmission lines across the west mostly in mountainous areas. He has worked on projects incorporating transmission and distribution ranging from 4 to 345 kV. Most recently his work has included brownfield rebuilds of transmission lines. This includes analysis and mitigation of single pole structures and entire lines.
INSTRUCTIONAL METHODS

PowerPoint presentations and open discussion will be used in the instruction of this course.

IACET CREDITS

EUCI has been accredited as an Authorized Provider by the International Association for Continuing Education and Training (IACET). In obtaining this accreditation, EUCI has demonstrated that it complies with the ANSI/IACET Standard which is recognized internationally as a standard of good practice. As a result of their Authorized Provider status, EUCI is authorized to offer IACET CEUs for its programs that qualify under the ANSI/IACET Standard.

EUCI is authorized by IACET to offer 1.1 CEUs for the course.

ONLINE COURSE DELIVERY & PARTICIPATION DETAILS

We will be using Microsoft Teams to facilitate your participation in the upcoming event. You do not need to have an existing Teams account in order to participate in the broadcast – the online course will play in your browser and you will have the option of using a microphone to speak with the room and ask questions, or type any questions in via the chat window and our on-site representative will relay your question to the instructor.

- You will receive a meeting invitation which will include a link to join the meeting.
- Separate meeting invitations will be sent for the morning and afternoon sessions of the online course.
  - You will need to join the appropriate meeting at the appropriate time.
- If you are using a microphone, please ensure that it is muted until such time as you need to ask a question.
- The remote meeting connection will be open approximately 30 minutes before the start of the online course. We encourage you to connect as early as possible in case you experience any unforeseen problems.

REQUIREMENTS FOR SUCCESSFUL COMPLETION

You must be logged in for the entire presentation and send in the evaluation after the online course is completed.
Substitutions & Cancellations

Your registration may be transferred to a member of your organization up to 24 hours in advance of the event. Cancellations must be received on or before April 3, 2020 in order to be refunded and will be subject to a US $195.00 processing fee per registrant. No refunds will be made after this date. Cancellations received after this date will create a credit of the tuition (less processing fee) good toward any other EUCI event. This credit will be good for six months from the cancellation date.

In the event of non-attendance, all registration fees will be forfeited. In case of course cancellation, EUCI’s liability is limited to refund of the event registration fee only.

For more information regarding administrative policies, such as complaints and refunds, please contact our offices at 303-770-8800.

EUCI reserves the right to alter this program without prior notice.

COMBO PRICE: BOTH FUNDAMENTALS OF TRANSMISSION LINE DESIGN AND FUNDAMENTALS OF TRANSMISSION STRUCTURE DESIGN COURSES: MAY 4-6, 2020: US $1995

FUNDAMENTALS OF TRANSMISSION LINE DESIGN COURSE ONLY
MAY 4-5, 2020: US $1195 (Single Connection)

PACK OF 5 CONNECTIONS: US $5,375
PACK OF 10 CONNECTIONS: US $8,965

For volume discounts call +1.303.770.8800 for quote
* all other discounts do not apply to license packs

Please select

Online course Delivery & Participation Details

See page 5 for information

How did you hear about this event? (direct e-mail, colleague, speaker(s), etc.)

Print Name

Job Title

Company

Address

City

State/Province

Zip/Postal Code

Country

Phone

Email

CREDIT CARD INFORMATION

Name on Card

Billing Address

Account Number

Billing City

Exp. Date

Billing State

Security Code (last 3 digits on the back of Visa and MC or 4 digits on front of AmEx)

Billing Zip Code/Postal Code

OR Enclosed is a check for $ to cover registrations.

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