

Course 1 Introduction to Electrical Metering Moderator --- TBD	Course 2 Advanced Electrical Metering Moderator --- TBD	Course 3 Complex Electrical Metering Technology Moderator --- TBD	Course 4 National Generation/Transmission Metering (NG&T) Moderator --- TBD
<b>Monday, October 24, 2016</b>	<b>Monday, October 24, 2016</b>	<b>Monday, October 24, 2016</b>	<b>Monday, October 24, 2016</b>
9:00 AM Calculator Training Class until 11:00	9:00 AM Meter Math Class until 11:00	10:30 AM Registration in Foyer	10:30 AM Registration in Foyer
10:30 AM Registration in Foyer	10:30 AM Registration in Foyer	1:00 PM General Opening Session	1:00 PM General Opening Session
1:00 PM General Opening Session	1:00 PM General Opening Session	Kyle Tunnell, SWEMA President	Kyle Tunnell, SWEMA President
Kyle Tunnell, SWEMA President	Kyle Tunnell, SWEMA President	1:30 PM Meter Installation Wiring	1:30 PM Gross & Net Generation Metering
1:30 PM History of SWEMA and Meter School	1:30 PM Review of Electrical Power Concepts	Josh Kovar, TMD & Robert Savage, CenterPoint Energy	Mark Hudson, Oncor
Tom Haenszel, Ev Smith Sales Co., Mike Cleveland TEC	Alan Gilley, CenterPoint Energy & Loren Brix, Itron	3:45 PM Break	2:45 PM Break
2:00 PM Introduction to DC Circuits	3:00 PM Distribution Transformer Application and Theory	4:00 PM Meter Installation Wiring, Cont	3:00 PM Discussion of Deregulated Markets
Ray Cumpston, Oncor	Kyle Heitmiller, Oncor	Josh Kovar, TMD & Robert Savage, CenterPoint Energy	John Adams, ERCOT
2:45 PM Break	3:30 PM Break	5:00 PM Session Ends	4:00pm Understanding One & Three Line Metering Schematics
3:00 PM Introduction to DC Circuits	3:45 PM Distribution Transformer Application and Theory, Cont		Tony Davis, ERCOT
Ray Cumpston, Oncor	Kyle Heitmiller, Oncor		5:00 PM Session Ends
3:30 PM Introduction AC Power	5:00 PM Session Ends	<b>Tuesday, October 25, 2016</b>	
Ray Cumpston, Oncor		8:00 AM Reference Standards Traceability	<b>Tuesday, October 25, 2016</b>
5:00 PM Session Ends	<b>Tuesday, October 25, 2016</b>	Raeann Jackson, Radian	8:00 AM Field Testing Facilities and Solid-State Meters and Devices
<b>Tuesday, October 25, 2016</b>	8:00 AM Distribution Transformer Application and Theory, Cont	9:00 AM Troubleshooting AMR Devices	Loren Brix, Itron
8:00 AM Meter Math Overview	Kyle Heitmiller, Oncor	Rick Weitner, Xcel Energy	9:30 AM Break
Alan Gilley, Robert Savage CenterPoint Energy	9:00 AM Metering Misapplication and Metering Errors	10:00 AM Break	9:45 AM Types of Communications in a Transmission Substation
9:00 AM Energy/Power Concepts	10:00 AM Break	10:15 AM Transformer Loss Compensation	Steve Bleier, Ametek
Robert Savage, CenterPoint Energy	10:15 AM 4W, 3P Wye Theory and Metering Applications (problem solving)	Mike Bearden, Landis+ Gyr	11:45 AM Lunch
9:45 AM Break	Raymond Cumpston, Oncor (classroom)	11:45 AM Lunch	12:45 PM Advanced Communications (DNP, MODBUS, TCP_IP, etc)
10:00 AM Single-phase Load Characteristics	11:45 AM Lunch	12:45 PM Transformer Loss Compensation, Cont	Steve Bleier, Ametek
Alan Gilley, CenterPoint Energy	12:45 PM 4W, 3P Wye Theory and Metering Applications (problem solving), Cont	1:45 PM Break	2:15 PM Visit Manufacturers Exhibits
Lunch	Raymond Cumpston, Oncor (classroom & prepare for labs)	2:00 PM SCADA Principles	3:00 PM Advanced Communications (DNP, MODBUS, TCP_IP, etc), Cont
12:45 PM Visit Manufacturers Exhibits	1:15 PM Visit Manufacturers Exhibits	Victor Love, SEL	Steve Bleier, Ametek
Meter Theory	2:00 PM 4W, 3P Wye Theory and Metering Applications (problem solving), Cont	3:00 PM Visit Manufacturers Exhibits	5:00 PM Session Ends
1:30 PM Meter Theory	Raymond Cumpston, Oncor (labs & classroom question and answer)	3:45 PM KYZ Metering	
Billy Williams, Anixter	5:00 PM Session Ends	Bill Brayden, SSI	<b>Wednesday, October 26, 2016</b>
2:45 PM Break		5:00 PM Session Ends	8:00 AM Instrument Transformers
3:00 PM Meter Theory, cont	<b>Wednesday, October 26, 2016</b>		Stephen Ashcraft, ABB
Billy Williams, Anixter	8:00 AM 4W, 3P Delta Theory and Metering Applications (problem solving)	<b>Wednesday, October 26, 2016</b>	9:30 AM Break
5:00 PM Session Ends	Alan Gilley, CenterPoint Energy (classroom)	8:00 AM Field Testing of Solid State Meters and Devices	9:45 AM Safety for High Voltage Substations & Control Rooms
<b>Wednesday, October 26, 2016</b>	10:00 AM Visit Manufacturers Exhibits	Raeann Jackson, Radian Research	Tito Sanchez, CenterPoint Energy
8:00 AM Power Triangle and Vector Concepts	10:45 AM 4W, 3P Delta Theory and Metering Applications (problem solving), Cont	9:15 AM Visit Manufacturers Exhibits	11:00 AM Visit Manufacturers Exhibits
Loren Brix, Itron	Alan Gilley, CenterPoint Energy (classroom & prepare for labs)	10:00 AM In Service Testing of Instrument Transformers	11:45 PM Lunch
9:30 AM Break	11:45 AM Lunch	Bert Ackerman, Spinlab Utilities	12:45 PM Understanding Reactive Meter Measurement
9:45 AM Solid State Metering	12:45 PM 4W, 3P Delta Theory and Metering Applications (problem solving), Cont	11:45 AM Lunch	Michael Bearden, Landis+Gyr
Jeff Barlow, Elster	Alan Gilley, CenterPoint Energy (labs & classroom question and answer)	12:45 PM What You Didn't Know About Var Metering	2:00 PM Break
11:00 AM Visit Manufacturers Exhibits	2:45 PM Break	Kenneth Grant, Aclara	2:15 PM Advanced Transformer and Line Loss Compensation Theory
11:45 AM Lunch	3:00 PM Distribution level Instrument Transformer Theory, Testing	1:45 PM Break	Carlos Tello, Schneider Electric
12:45 PM Status of AMR/AMI & Communications/HAN	Stephen Ashcraft, ABB	2:00 PM Billing vs. Metering Accuracy	5:00 PM Session Ends
Ted Mitchell & Matt Monroe, Landis+Gyr	5:00 PM Session Ends	John Carroll, Powermetrix	
1:45 PM Meter Forms and Applications		3:30 PM Grounding	<b>Thursday, October 27, 2016</b>
Josh Kovar, TMD	<b>Thursday, October 27, 2016</b>	Billy Williams, Anixter	8:00 AM Effects of Power Quality on Metering
2:45 PM Break	8:00 AM Instrument Transformer Installation and Metering Applications	5:00 PM Session Ends	John Carroll, Powermetrix
3:00 PM Meter Math Recap	Robert Savage, CenterPoint Energy		9:00 AM Break
Britt Holley, Oncor	10:30 AM Break	<b>Thursday, October 27, 2016</b>	9:15 AM Advanced SCADA Principles & SCADA Technology
4:00 PM Meter Testing Concepts	10:45 AM 3W, 1P & 3P Theory and Metering Applications (problem solving)	8:00 AM Metering and Billing Errors	Victor Love, SEL
John Carroll, PowerMetrix	Rick Weitner, Xcel Energy (classroom)	Josh Kovar, TMD	11:45 PM Lunch
5:00 PM Session Ends	11:45 AM Lunch	9:30 AM Break	12:45 PM Engineering Design for Ring Buss and Breaker and a Half Meter Schemes
<b>Thursday, October 27, 2016</b>	12:45 PM 3W, 1P & 3P Theory and Metering Applications (problem solving), Cont	9:45 AM Integrated Communications	Dan Nordell, Xcel Energy
8:00 AM Single-phase Meter Safety, Installation and Removal	Rick Weitner, Xcel Energy, (classroom & prepare for labs)	Jeffrey Barlow, Elster	2:30 PM Break
Britt Holley, Oncor	2:45 PM Break	11:45 AM Lunch	2:45 PM Metering Verification for Ring Buss and Breaker and a Half Meter Schemes
8:45 AM Hands-on Lab, Meter Installation and Removal	3:00 PM 3W, 1P & 3P Theory and Metering Applications (problem solving), Cont	12:45 PM Tailboards and Job Hazard Analysis	Dan Nordell, Xcel Energy
Britt Holley, Oncor	Rick Weitner, Xcel Energy, (labs & classroom question and answer)	Gary Cornett, CenterPoint Energy	4:30 PM Exam Overview - Moderator / Instructional Team
9:45 AM Break	4:30 PM Exam Overview - Moderator / Instructional Team	2:00 PM ANSI Standards	5:00 PM Session Ends
10:00 AM Hands-on Lab, Meter Installation and Removal, Cont	5:00 PM Session Ends	Russell Thompson, Oncor	
Britt Holley, Oncor		3:15 PM Break	<b>Friday, October 28, 2016</b>
11:00 AM Electrical Arcing Demonstration	<b>Friday, October 28, 2016</b>	3:30 PM The Ins and Outs of VAR Flows	8:00 AM Safety Roundtable
David Visconti, CenterPoint Energy	8:00 AM Safety Roundtable	Russell Thompson, Oncor	9:00 AM Course Exam - Moderator
Lunch	9:00 AM Course Exam - Moderator	4:30 PM Exam Overview - Moderator / Instructional Team	9:30 AM Facilities and Course Evaluation - Moderator
11:45 AM Lunch	9:30 AM Facilities and Course Evaluation - Moderator	5:00 PM Session Ends	9:45 AM General Session-Awards, Certificates
12:45 PM Meter Diversion Detection	9:45 AM General Session-Awards, Certificates		10:30 AM Dismissed
Martin Magana, AEP Texas	10:30 AM Dismissed	<b>Friday, October 28, 2016</b>	
2:00 PM Break		8:00 AM Safety Roundtable	
2:15 PM Basic Transformer Theory		9:00 AM Course Exam - Moderator	
Ray Cumpston, Oncor		9:30 AM Facilities and Course Evaluation - Moderator	
3:45 PM Break		9:45 AM General Session-Awards, Certificates	
4:00 PM Basic Transformer Theory Continued		10:30 AM Dismissed	
Ray Cumpston, Oncor			
4:30 PM Exam Overview - Moderator / Instructional Team			
5:00 PM Session Ends			
<b>Friday, October 28, 2016</b>			
8:00 AM Safety Roundtable	9:30 AM Facilities and Course Evaluation - Moderator		
9:00 AM Course Exam - Moderator	9:45 AM General Session-Awards, Certificates		
9:00 AM Course Exam - Moderator	10:30 AM Dismissed		