

Session		Session Title		Session Description (100 words)		Learning Objectives (Minimum of 5)		Speaker 1 (Name, Company)		Speaker 1 Qualifications (Biography, 1-200 Words)		Speaker 2 (Name, Company)		Speaker 2 Qualifications (Biography, 1-200 Words)		Speaker 3 (Name, Company)		Speaker 3 Qualifications (Biography, 1-200 Words)		GBCI CE HOUR APPROVALS	
Session Number (Year, Course)	Session Title	Total Minutes of Instruction	GBCI Topic Category (Pick one only)	Session Description (100 words)	Learning Objectives (Minimum of 5)	Speaker 1 (Name, Company)	Speaker 1 Qualifications (Biography, 1-200 Words)	Speaker 2 (Name, Company)	Speaker 2 Qualifications (Biography, 1-200 Words)	Speaker 3 (Name, Company)	Speaker 3 Qualifications (Biography, 1-200 Words)	Approved GBCI CE Hours	Is an LEED-accredited?	Session meets LEED-specific requirements for the following LEED AP? (Yes/No)	Comments						
2045-01	Evaluating the Feasibility of the Model	60	200	Confidence in the output of modeling tools is essential for the user. This session will explore various modeling and validation techniques, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	Determine the accuracy of energyPlus in predicting energy savings from commissioning. Review the model's input data, including weather and building characteristics, to ensure accuracy. Understand the importance of model validation and how to compare model results with actual building performance data.	Robina Moore, AIA	Robina Moore (P.E., LEED AP) is a mechanical engineer and an associate at Arup where they work on a variety of projects including energy modeling and commissioning.	John A. Hinkle, Pacific Northwest National Laboratory	John A. Hinkle, Andrew Hopkins, modeling and energy simulation, commissioning and process results.			1.00	NA								
2044	Modeling Techniques for Evaluating Building Energy and Carbon Footprints	60	200	Energy modeling is often used in the context of ASHRAE 90.1 for sustainability compliance and assessment of energy use savings. This session will explore various modeling techniques, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	Identify and distinguish between the various modeling techniques used in the industry. Understand the strengths and weaknesses of different modeling tools and how to choose the right tool for the job. Explore the importance of model validation and how to compare model results with actual building performance data.	James V. Oakes, The Building Performance Institute	Dr. Oakes is the founding member of The Building Performance Team and has been a LEED AP since 2009. He has worked on a variety of projects including energy modeling and commissioning.	Michael Dea, National Renewable Energy Laboratory	Michael has worked as a Senior Engineer at the National Renewable Energy Laboratory (NREL) since 2008. He has worked on a variety of projects including energy modeling and commissioning.			1.00	NA								
2045-02	Large and Complex Building Energy Modeling and Data Validation	90	200	Large building systems require a sophisticated treatment in order to input and validate. This session shows how an extensive model was developed and validated for a large building system. The session will explore various modeling techniques, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	Describe the challenges of modeling large and complex building systems. Explore the importance of model validation and how to compare model results with actual building performance data. Understand the importance of data collection and how to ensure data accuracy.	Neha Kulkarni, ACCOM	Neha Kulkarni is a Mechanical Engineer in the Seattle office of Arup. She has more than a decade of experience in building energy modeling, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	Andy Carr, Arup	Andy Carr is a Mechanical Engineer in the Seattle office of Arup. He has more than a decade of experience in building energy modeling, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	Zheng Chong, United Technologies Research Center	Zheng Chong is a Staff Research Engineer and Project Manager at the United Dynamics and Optimization Group in United Technologies Research Center where he has been since 2006. He specializes in building energy modeling, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	1.50	NA								
2044	Modeling of Computational Fluid Dynamics and Calibration of Energy Systems	60	200	The first half of the session will discuss and demonstrate the advantages of modeling Computational Fluid Dynamics and how it can be used to calibrate energy models. The second half of the session will discuss and demonstrate the advantages of modeling energy systems and how it can be used to calibrate energy models.	Describe the applications for computational fluid dynamics in building energy modeling. Understand the importance of model validation and how to compare model results with actual building performance data. Explore the importance of data collection and how to ensure data accuracy.	John Henning, Autodesk	John Henning (P.E.) is an Application Engineer for Autodesk. He works with MEP firms and building professionals to help them optimize their energy performance using Revit MEP and building energy modeling software.	David J. Hines, Envent Engineering, Inc.	David J. Hines (P.E.) is the Manager of Mechanical Engineering at Envent Engineering, Inc. In Building 70, he has been the lead engineer for the design and construction of the building's mechanical systems. He has worked on a variety of projects including energy modeling and commissioning.			1.00	NA								
7200-1	Thermal Modeling, Modeling and Behavior Validation Systems: Issues and Solutions	90	200	Thermal modeling, modeling and behavior validation systems are essential tools for building energy modeling. This session will explore various modeling techniques, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	Describe the challenges of modeling thermal systems. Explore the importance of model validation and how to compare model results with actual building performance data. Understand the importance of data collection and how to ensure data accuracy.	David A. Hargrave, Utah State University	David A. Hargrave is an Assistant Professor of Mechanical Engineering at Utah State University. He has worked on a variety of projects including energy modeling and commissioning.	John Hinkle, P.E., LEED AP	John Hinkle (P.E., LEED AP) is a mechanical engineer and a LEED AP. He has worked on a variety of projects including energy modeling and commissioning.			1.00	NA								
7455-1	Life Cycle Cost Analysis and Validation	75	200	This track focuses on using energy modeling to determine life cycle cost and how to validate the results. The session will explore various modeling techniques, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	Describe the importance of life cycle cost analysis in building energy modeling. Understand the importance of model validation and how to compare model results with actual building performance data. Explore the importance of data collection and how to ensure data accuracy.	Michelle Baggett, CEM, LEED AP	Michelle Baggett (CEM, LEED AP) is an energy engineer with Southern Industries. She is a graduate of the University of Virginia and has worked on a variety of projects including energy modeling and commissioning.	David Hamilton, SmartGridLab	David Hamilton is a Senior Project Manager at SmartGridLab. He has worked on a variety of projects including energy modeling and commissioning.	Jerry Patten, Bayer MaterialScience	Jerry Patten (P.E., LEED AP) is a mechanical engineer and a LEED AP. He has worked on a variety of projects including energy modeling and commissioning.	1.00	NA								
8030-1	Effective Use of BIM in Energy Modeling	90	200	This track focuses on the effective and efficient use of BIM in energy modeling. The session will explore various modeling techniques, including how to verify model outputs, compare with building LCA (Energy Use Intensity) data, and how to interpret the results.	Describe the benefits of using BIM in building energy modeling. Understand the importance of model validation and how to compare model results with actual building performance data. Explore the importance of data collection and how to ensure data accuracy.	John Deacon, Radiantec	John Deacon is responsible for development of Radiantec's on-demand Building Efficiency Performance software. He has worked on a variety of projects including energy modeling and commissioning.	Jon Seidel, Microsoft	Jon Seidel is an Architect and a Certified BIM Manager. He has worked on a variety of projects including energy modeling and commissioning.	Heidi Dubois, Arup	Heidi Dubois is currently a Mechanical Engineer at Arup in New York office. She holds a Bachelor's degree in Mechanical Engineering from Cornell University. She has worked on a variety of projects including energy modeling and commissioning.	1.50	NA								

PROJEC		SUMMARY		GBC/LEED HOUR APPROVALS								
PROJEC ID	PROJEC TITLE	PROJEC TYPE	PROJEC STATUS	PROJEC DESCRIPTION	PROJEC CONTACT	PROJEC LOCATION	PROJEC START DATE	PROJEC END DATE	PROJEC DURATION	PROJEC TYPE	PROJEC STATUS	
M4541	Creating Building Energy Modeling Processes for Energy Auditing and Operations and Maintenance Decision Making	60	Post	This session considers the effectiveness of a range of simulation and modeling tools in the assessment of building energy performance. It includes an overview of the use of energy modeling tools during the energy modeling process and provides a comprehensive overview of modeling a building that accurately incorporates both actual energy modeling elements.	David C. Finkel, P.E., LEED AP, Senior Energy Analyst/Lead Fellow has over 30 years of experience as an energy auditor and is responsible for the energy commission and generation monitoring of RFL Energy. Using comprehensive energy models, David works closely with clients to identify energy conservation opportunities, evaluate energy performance, and determine the most effective energy conservation measures. He has also been instrumental in the design and construction of energy efficient buildings. David has been instrumental in the design and construction of energy efficient buildings. David has been instrumental in the design and construction of energy efficient buildings.	David C. Finkel, RFL Inc.	Chicago, IL	2010	2011	1 Year	Post	NA
M410	Lessons Learned from Energy Modeling for LEED Projects	60	Post	This track focuses on lessons learned from the energy modeling of actual LEED projects.	Describe how an AIA/ASHRAE 90.1 compliant building is designed and constructed. Explain how changes in the design process, building systems, and HVAC systems directly impact the energy modeling process. Discuss the importance of performance verification for a building and the importance of the design process. Discuss the importance of the design process. Discuss the importance of the design process.	James S. Chidister, Chidister Engineering, PLLC	Chicago, IL	2010	2011	1 Year	Post	NA
M4202	Modeling Contemporary HVAC Systems Using On-The-Shelf Water Heating Simulation Tools	90	Post	On-the-shelf water heating simulation tools allow us to run "what-if" scenarios of contemporary HVAC system components such as ground source heat pumps, heat exchangers, variable refrigerant flow systems and dedicated outdoor air systems. This session provides a look and benchmark for the modeling of these systems. The session also provides a look and benchmark for the modeling of these systems. The session also provides a look and benchmark for the modeling of these systems.	Explain the major obstacles in modeling variable Refrigerant Flow in building systems. Discuss the importance of modeling variable Refrigerant Flow in building systems. Discuss the importance of modeling variable Refrigerant Flow in building systems.	Heidi Cho, Pacific Northwest National Laboratory	Richland, WA	2010	2011	1 Year	Post	NA
T1002	Creating Forward Modeling in a Cloud	90	Post	The use of cloud computing is providing access to greater computing power than ever before. This session will explore how cloud computing is being used to create forward modeling in a cloud. This session will explore how cloud computing is being used to create forward modeling in a cloud.	Design an implementation strategy based on your company's workflow and requirements. Discuss the importance of cloud computing in building systems. Discuss the importance of cloud computing in building systems.	David C. Finkel, National Institute of Standards and Technology	Gaithersburg, MD	2010	2011	1 Year	Post	NA
M4461	Early Stage Analysis and Model-Based Commissioning	90	Post	This session will explore several case studies that will show you how to use model-based commissioning in early stage analysis. This session will explore several case studies that will show you how to use model-based commissioning in early stage analysis.	Describe the objectives of commissioning and modeling building energy flows. Define the process for implementing commissioning in early stage analysis. Discuss the importance of commissioning in early stage analysis.	David C. Finkel, National Institute of Standards and Technology	Gaithersburg, MD	2010	2011	1 Year	Post	NA
M442	Optimizing Energy Performance in Higher Education	60	Post	This session will explore how to optimize energy performance in higher education facilities. This session will explore how to optimize energy performance in higher education facilities.	Discuss how to integrate performance modeling and modeling the building energy flows. Define the process for implementing commissioning in early stage analysis. Discuss the importance of commissioning in early stage analysis.	James M. Adams, East and Barnhart Consulting Engineers Inc.	Chicago, IL	2010	2011	1 Year	Post	NA
T1011	Modeling Complex, High-Performance Buildings and Systems - A Case Study	60	Post	This session will explore how to model complex, high-performance buildings and systems. This session will explore how to model complex, high-performance buildings and systems.	Describe some of the challenges and solutions of the simulation process. Discuss the importance of modeling complex, high-performance buildings and systems. Discuss the importance of modeling complex, high-performance buildings and systems.	David C. Finkel, National Institute of Standards and Technology	Gaithersburg, MD	2010	2011	1 Year	Post	NA

ASBME										GBCLCE HOUR APPROVALS				
Proposal	2023 Energy Model Competition Abstract													
2452.0	Applying Models to Predict Long Term Impacts of Building Modifications and Alternative Systems Operation	75	plus		<p>The goal of these studies looks at long term implications of building fabric modifications, air distribution strategies and performance considerations on the mechanical, cost and energy use. Environmental impacts.</p> <p>Understand how to evaluate energy performance of existing buildings to improve energy use. Assess the ability of a calibrated building energy model to predict future energy use from building envelope modifications. Energy simulation tools to evaluate the efficiency of future energy systems and compare them to current systems. Compare and contrast different building energy simulation tools to see which one is best suited for the study.</p>	<p>University of Texas at San Antonio, San Antonio, TX</p> <p>Building Engineering Ltd.</p>	<p>Reference is a building science engineer (BSc) who specializes in energy analysis. Her work experience includes a wide range of projects including: renewable energy assessment, energy modeling, building commissioning and assessments, historic investigations, building monitoring, and both routine and design services for residential and non-residential projects.</p>	<p>John Peters, LEPA Engineers, Inc.</p>	<p>Current position – mechanical engineering engineer. Masters of Science degree in Mechanical Engineering. Research thesis: Analyzing Energy Plus and eQUEST to model building energy performance. Research experience: Graduate research assistant in the Mechanical Engineering Department. Research experience: Graduate research assistant in the Mechanical Engineering Department. Research experience: Graduate research assistant in the Mechanical Engineering Department. Research experience: Graduate research assistant in the Mechanical Engineering Department.</p>	<p>University of Texas at San Antonio, San Antonio, TX</p> <p>San Antonio, TX</p>	<p>PhD</p>	<p>N/A</p>		
2446.0	Modeling to Predict Energy Savings	60	plus		<p>Reduce carbon footprint by 30% equivalent by simplified energy modeling of Data Centers.</p> <p>Describe various energy saving opportunities within data centers and how they can be implemented. Explain how to use the design process and ensure that there is no net increase in energy use. Define appropriate server rack level measurements and how to use them to measure efficiency.</p>	<p>Data Engineering, COE</p>	<p>Chris is an Energy Engineer with COE Consulting Engineers in Cambridge, MA specializing in sustainable design, such as building and systems, including: Green Roofs, Solar, Green Walls and more. Chris is also a member of the ASHRAE 55 and 62 committees. Chris is currently pursuing a Master's Degree in Energy Engineering at MIT.</p>	<p>Jason K. Hagan, Salomon Energy Services</p>	<p>Jason is a Building Performance Analyst at SCM and has over 3 years of experience performing energy and water simulations, including energy modeling, and energy audits. He has been working on a variety of projects, including: energy audits, energy modeling, and energy audits. He has been working on a variety of projects, including: energy audits, energy modeling, and energy audits. He has been working on a variety of projects, including: energy audits, energy modeling, and energy audits.</p>	<p>SCM</p>	<p>PhD</p>	<p>N/A</p>		
2416.0	Challenges in Using Models to Evaluate and Optimize Buildings	60	plus		<p>Identify building energy performance differences between modeling and actual performance. Explain how to use the design process and ensure that there is no net increase in energy use. Define appropriate server rack level measurements and how to use them to measure efficiency.</p>	<p>San Zhang, Pacific Northwest National Laboratory</p>	<p>Dr. San Zhang has been with Pacific Northwest National Laboratory as a research engineer since July 2005. With his energy modeling expertise, he has contributed to several DOE funded research projects, such as Commercial Building Partnership Program, Upgrade ASHRAE Standard 90.1, and Energy Efficient Buildings.</p>	<p>John Hagan, Seattle Department of Planning and Development</p>	<p>Strategic Energy Code Advisor John Hagan has been the Strategic Energy Code Advisor for the Seattle Department of Planning and Development, where he has been writing and implementing Energy Codes for over 20 years. In addition to Seattle, John also participated in San Diego, San Francisco, and San Jose with energy code development. John is a member of ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) committee member of ASHRAE Standard 90.1 Committee Energy Standard for Buildings Except Low-Rise Residential Buildings, and first chair of ASHRAE 90.1 Committee Energy Standard for Buildings Except Low-Rise Residential Buildings. John is also a member of the ASHRAE 90.1 Committee Energy Standard for Buildings Except Low-Rise Residential Buildings.</p>	<p>Shuang Ding, Ltd. CLB Architects</p>	<p>PhD</p>	<p>N/A</p>		