

# CHES Approved Energy University Pathways and Courses

<b>CHES: Energy Manager Energy Management Course Lessons</b>	<b>Contact hours</b>	<b>CEUs</b>
Energy Procurement I: Options in Regulated and Deregulated Markets,	0.5	0.05
Energy Procurement II: Introduction to Hedging in Deregulated Markets,	0.5	0.05
Energy Procurement III: Balanced Hedging Strategies,	0.5	0.05
Financial Analysis of Energy Efficiency Projects I,	0.75	0.075
Industrial Insulation II: Design Data Calculations,	0.5	0.05
Lighting I: Lighting Your Way,	1	0.1
Lighting II: Defining Light,	0.5	0.05
Lighting III: Lamp Families: Incandescent and Low Pressure Discharge,	0.75	0.075
Lighting IV: Basic Lamp Families: High-Intensity Discharge and LED,	0.75	0.075
Measurement and Verification Including IPMVP,	0.5	0.05
Measuring and Benchmarking Energy Performance,	0.75	0.075
Strategic Energy Planning,	0.75	0.075
Demand Response and the Smart Grid,	0.5	0.05
Distributed Generation,	0.5	0.05
Power Factor and Harmonics,	0.5	0.05
Thermal Energy Storage,	0.75	0.075
Retro-Commissioning: Energy Savings Solutions for Healthcare,	0.5	0.05
Retro-Commissioning: Process and Implementation in Healthcare Facilities I,	1	0.1
Establishing An Optimal Physical Environment In A Health Care Setting,	0.75	0.075
Fundamentals of Health Care Facility Electrical Power Systems,	0.75	0.075
Retro-Commissioning: Process and Implementation in Healthcare Facilities II,	0.5	0.05
Components of a Health Care Electrical Distribution System,	0.75	0.075
Emergency Power Generators For Healthcare Facilities,	0.75	0.075
Testing Emergency Power In Health Care Facilities	0.75	0.075
	<b>15.75</b>	<b>1.575</b>

# CHES Approved Energy University Pathways and Courses

<b>CHES: Healthcare Facility Manager Comprehensive Energy Management Course lessons</b>	<b>Contact hours</b>	<b>CEUs</b>
Energy Procurement I: Options in Regulated and Deregulated Markets,	0.5	0.05
Energy Procurement II: Introduction to Hedging in Deregulated Markets,	0.5	0.05
Energy Procurement III: Balanced Hedging Strategies,	0.5	0.05
Financial Analysis of Energy Efficiency Projects I,	0.75	0.075
Industrial Insulation II: Design Data Calculations,	0.5	0.05
Lighting I: Lighting Your Way,	1	0.1
Measurement and Verification Including IPMVP,	0.5	0.05
Measuring and Benchmarking Energy Performance,	0.75	0.075
Strategic Energy Planning,	0.75	0.075
Demand Response and the Smart Grid,	0.5	0.05
Distributed Generation,	0.5	0.05
Lighting II: Defining Light,	0.5	0.05
Lighting III: Lamp Families: Incandescent and Low Pressure Discharge,	0.75	0.075
Lighting IV: Basic Lamp Families: High-Intensity Discharge and LED,	0.75	0.075
Power Factor and Harmonics,	0.5	0.05
Thermal Energy Storage,	0.75	0.075
Retro-Commissioning: Energy Savings Solutions for Healthcare,	0.5	0.05
Establishing An Optimal Physical Environment In A Health Care Setting,	0.75	0.075
Retro-Commissioning: Process and Implementation in Healthcare Facilities I,	1	0.1
Fundamentals of Health Care Facility Electrical Power Systems,	0.75	0.075
Retro-Commissioning: Process and Implementation in Healthcare Facilities II,	0.5	0.05
Components of a Health Care Electrical Distribution System,	0.75	0.075
Emergency Power Generators For Healthcare Facilities,	0.75	0.075
Testing Emergency Power In Health Care Facilities	0.75	0.075
	<b>15.75</b>	<b>1.575</b>

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<b>CHES: Technician Comprehensive Energy Management Course lessons</b>	<b>Contact hours</b>	<b>CEUs</b>
Active Energy Efficiency Using Speed Control ,	0.5	0.05
HVAC Thermodynamic States,	0.5	0.05
Building Controls I: An Introduction to Building Controls,	0.5	0.05
Building Controls II: Control Sensors,	1	0.1
Building Controls III: Introduction to Control Loops.,	0.5	0.05
Building Controls IV: Two Position and Floating Responses,	0.5	0.05
Building Controls V: Proportional and PID Responses,	0.5	0.05
Building Controls VI: When to Use Each Response,	0.5	0.05
Building Controls VII: Interactive Illustration of PID Response,	0.75	0.075
Building Controls VIII: Controllers and Controlled Devices,	0.5	0.05
Boiler Types and Opportunities for Energy Efficiency ,	0.75	0.075
Combustion Processes,	0.75	0.075
Steam Systems I: Advantages and Basics of Steam,	0.5	0.05
Steam Systems II: Impact of Boiler Sizing, Pressure, and Velocity,	0.5	0.05
Steam Systems III: Distribution, Control & Regulation of Steam,	0.5	0.05
Steam Systems IV: Condensate Removal—Prevent your energy from going down the drain,	0.75	0.075
Steam Systems V: Condensate Removal - Maximizing Your Recovery,	0.75	0.075
Compressed Air Systems I: An Introduction,	0.75	0.075
Compressed Air Systems II: Compressor Types,	0.5	0.05
Compressed Air Systems III: Controlled Methods,	0.75	0.075
Fan Systems I: Introduction to Fan Performance,	0.75	0.075
Fan Systems II: Fan Types,	0.75	0.075
Fan Systems III: Improving System Efficiency,	0.75	0.075
Fan Systems IV: Improving System Efficiency,	0.5	0.05
HVAC and Psychrometric Charts-US Version,	0.25	0.025
HVAC and Characteristics of Air-US Version,	0.25	0.025
Industrial Insulation III: Inspection and Maintenance,	0.5	0.05
Maintenance Best Practices for Energy Efficient Facilities,	0.75	0.075
Pumping Systems I: Pump Types and Performance,	0.75	0.075
Pumping Systems II: Efficient Flow Control,	0.75	0.075
Pumping Systems III: Improving System Efficiency,	0.5	0.05
Retro-Commissioning: Energy Savings Solutions for Healthcare,	0.5	0.05
Retro-Commissioning: Process and Implementation in Healthcare Facilities I,	1	0.1
Establishing An Optimal Physical Environment In A Health Care Setting,	0.75	0.075
Fundamentals of Health Care Facility Electrical Power Systems,	0.75	0.075
Retro-Commissioning: Process and Implementation in Healthcare Facilities II,	0.5	0.05
Components of a Health Care Electrical Distribution System,	0.75	0.075
Emergency Power Generators For Healthcare Facilities,	0.75	0.075
Testing Emergency Power In Health Care Facilities	0.75	0.075
	<b>24.5</b>	<b>2.45</b>

# CHES Approved Energy University Pathways and Courses

<b>Additional CHES Approved Energy Management Courses (These courses can be found under Course Catalog -&gt; Energy Efficiency Courses)</b>	<b>Contact hours</b>	<b>CEUs</b>
Building envelope - US Version	0.5	0.05
Combined heat and power	0.75	0.075
Commissioning For Energy Efficiency	0.5	0.05
Efficient motor control with power drive systems	0.5	0.05
Energy audits	0.5	0.05
Energy audits instrumentation I	0.5	0.05
Energy audits instrumentation II	0.5	0.05
Energy Efficiency Fundamentals	0.5	0.05
Energy Efficiency with Building Automation Systems Part I	0.25	0.025
Energy Efficiency with Building Automation Systems Part II	0.75	0.075
Energy rate structures part 1: Concepts and unit pricing	0.25	0.025
Energy Rate Structures Part II: Understanding and Reducing your Bills	0.75	0.075
Energy Units and Concepts	0.5	0.05
Financing and Performance Contracting for Energy Efficient Projects	0.5	0.05
HVAC Geothermal Heat Pumps	0.75	0.075
Steam systems 6: Recovering Energy from Flash Steam	0.5	0.05
US Energy Codes and standards	0.75	0.075
Waste heat recovery	1	0.1
Building Envelope Metric Version	0.5	0.05
	<b>10.75</b>	<b>1.075</b>
<b>None CHES Approve Courses (No CHES CEUs or contact hours will be issued for completing these courses)</b>	<b>Contact hours</b>	<b>CEUs</b>
Compressed Air Systems IV: Supply Side Components	0	0
Compressed Air V: Efficient Management and Utilization	0	0
Compressed Air VI: Seven Steps to Better Efficiency	0	0
Electric Vehicles: Plugging into Smarter Energy Management	0	0
Electrical Concepts	0	0
Energy Codes and standards for Europe	0	0
European Codes and Standards: New Horizons for Buildings	0	0
Financial Analysis of Energy Efficiency Projects II	0	0
Fuels I: Energy Sources and Trends	0	0
Fuels II: Energy Value Analysis	0	0
Going Green with Leadership in Energy and Environment Design (LEED)	0	0
HVAC and Characteristics of Air-SI Version	0	0
HVAC and Psychrometric Charts-SI Version	0	0
HVAC Efficiency and Equipment Optimization-SI Version	0	0
HVAC Efficiency and Equipment Optimization-US Version	0	0
HVAC Source Equipment for Cooling I	0	0
HVAC Source Equipment for Cooling II	0	0
HVAC Systems I: Introduction to HVAC Systems	0	0
HVAC Systems II: All-Air Systems and Temperature Control	0	0
HVAC Systems III: Air-and-Water and All-Water Systems	0	0
Lighting VI: Calculating Required Lamps with the Lumen Method-SI	0	0
Lighting VI: Calculating Required Lamps with the Lumen Method-US Units	0	0
More Info Information Motors: A Performance Opportunity Roadmap	0	0
Motors: Loads, Losses and Operating Costs-US Version	0	0
Motors: Losses, Loads and Operating Costs-SI Version	0	0
The Future of Medium Voltage Switchgear	0	0
Going Green with Leadership in Energy and Environmental Design	0	0
How to Use the Energy University Site	0	0
Proven Strategies for Saving Energy in a Retail Environment	0	0