

Pan Arab "Certified Energy Management Professional" Program

From	TO	DAY # 1	
9:00	9:30	<b>Registration and Introduction</b>	
9:30	11:30	<b>Section 1</b>	<b>Energy Basics Overview</b>
		1.1.	Sources, World Energy Balance
		1.2	Energy Measuring Units
		1.3	Fuels Heating Values
		1.4	Basic Energy Calculations
		<b>Section 2</b>	<b>Energy Conversion and Efficiency</b>
		2.1	Energy Efficiency
		2.2	Energy Sustainability
2.3	Energy Efficiency Economics		
<b>11:30</b>	<b>11:45</b>	<b>BREAK</b>	
11:45	13:30	2.4	Energy Efficiency Building Codes
		<b>Section 3</b>	<b>Energy Management</b>
		3.1	Definition and Benefits of Energy Management
		3.2	Energy Management Barriers
		3.3	Energy Management Systems (EnMs)
		3.4	Establishing EnMs
3.5	Energy Management Outsourcing		
<b>DAY # 2</b>			
9:30	11:30	<b>Section 4</b>	<b>Electrical Energy Management</b>
		4.1	Fundamentals of Electricity
		4.2	Electric Motors
		4.3	Fans
4.4	Pumps		
<b>11:30</b>	<b>11:45</b>	<b>BREAK</b>	
11:45	12:30	4.5	Compressed Air System
		4.6	Lighting System

From	TO		
12:30	15:00	<b>Section 6</b>	<b>Renewable Energy Systems</b>
		6.1	RE Systems Implementation Process
		6.2	Renewable Energy Technologies
		6.3	Solar Photovoltaic
		6.4	Wind Energy System
		6.5	Hydroelectric Systems
		<b>Review and Discussion</b>	
		<b>DAY # 3</b>	
9:30	11:30	<b>Section 5</b>	<b>Thermal Energy Management</b>
		5.1	Energy Flows
		5.2	Heat Transfer and Thermal Envelope
		5.3	HVAC System
		5.4	Boilers and Steam System
		5.5	Waste Heat Recovery
		5.6	Automation System
11:30	11:45	<b>BREAK</b>	
11:45	14:00	<b>Section 7</b>	<b>Commercial, Institutional and Industrial Facilities</b>
		7.1	Barriers and Drivers for Energy Efficiency
		7.2	Industrial Performance
		7.3	Laundry Facilities
		7.4	Dining and Food Services
		7.5	Water Treatment
		7.6	Textile Processing
		7.7	Cement Manufacturing

From	TO		
14:00	15:15	<b>Section 8</b>	<b>Energy Auditing - ISO 50002</b>
		8.1	Introduction
		8.2	Types and Uses of Energy Audits
		8.3	Energy Auditing Steps - (Cont')
		8.4	Project Packaging and Reporting
		<b>Section 9</b>	<b>Instruments and Tools for Energy Auditing</b>
		9.1	Toolkits and Guides
		9.2	Measuring Instruments
		9.3	Software

		<b>DAY # 4</b>	
9:30	11:30	<b>Section 10</b>	<b>Economic Analysis and Project's Financing</b>
		10.1	Time Value of Money
		10.2	Risk Analysis
		10.3	Financing Energy Efficiency Projects
<b>11:30</b>	<b>11:45</b>		<b>BREAK</b>
11:45	13:45	<b>Section 11</b>	<b>Measurement and Verification (M&amp;V)</b>
		11.1	Fundamentals of M&V
		11.2	M&V frame work and Options
		11.3	Baseline Development
		11.4	Determination of Savings
<b>13:45</b>	<b>15:00</b>	<b>Review and Discussion- Examples Solving</b>	
From	TO	<b>DAY #5</b>	
		<b>Section 12</b>	<b>Demand Side Load Managements Programs</b>
9:30	11:30	12.1	Overview
		12.2	Preliminary Potential Evaluation
		12.3	Strategic Planning and Program Design
		12.4	Program Development and Evaluation
11:30	12:30	Appendix A	National Policies, and Legal Framework
		Appendix B	Energy Policies (Insights on AFEX EE 2017)
<b>12:30</b>	<b>14:00</b>	<b>Review and Discussion- Examples Solving</b>	

From	TO	<b>DAY # 6</b>	
09:30	11:30	Final revision	
11:30	12:00	BREAK	
<b>12:00</b>	<b>15:00</b>	<b>PA-CEMP Exam</b>	