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HEALTHCARE FACILITY DESIGN PROFESSIONAL HFDP OVERVIEW

ONLINE PROFESSIONAL COURSES LED BY THE WORLD'S TOP SPECIALISTS

ONLINE TRAINING BY KRISHNAJI PAWAR

LEED AP(BD+C), GSAS CGP, GCP, ISO 14001

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MODULE

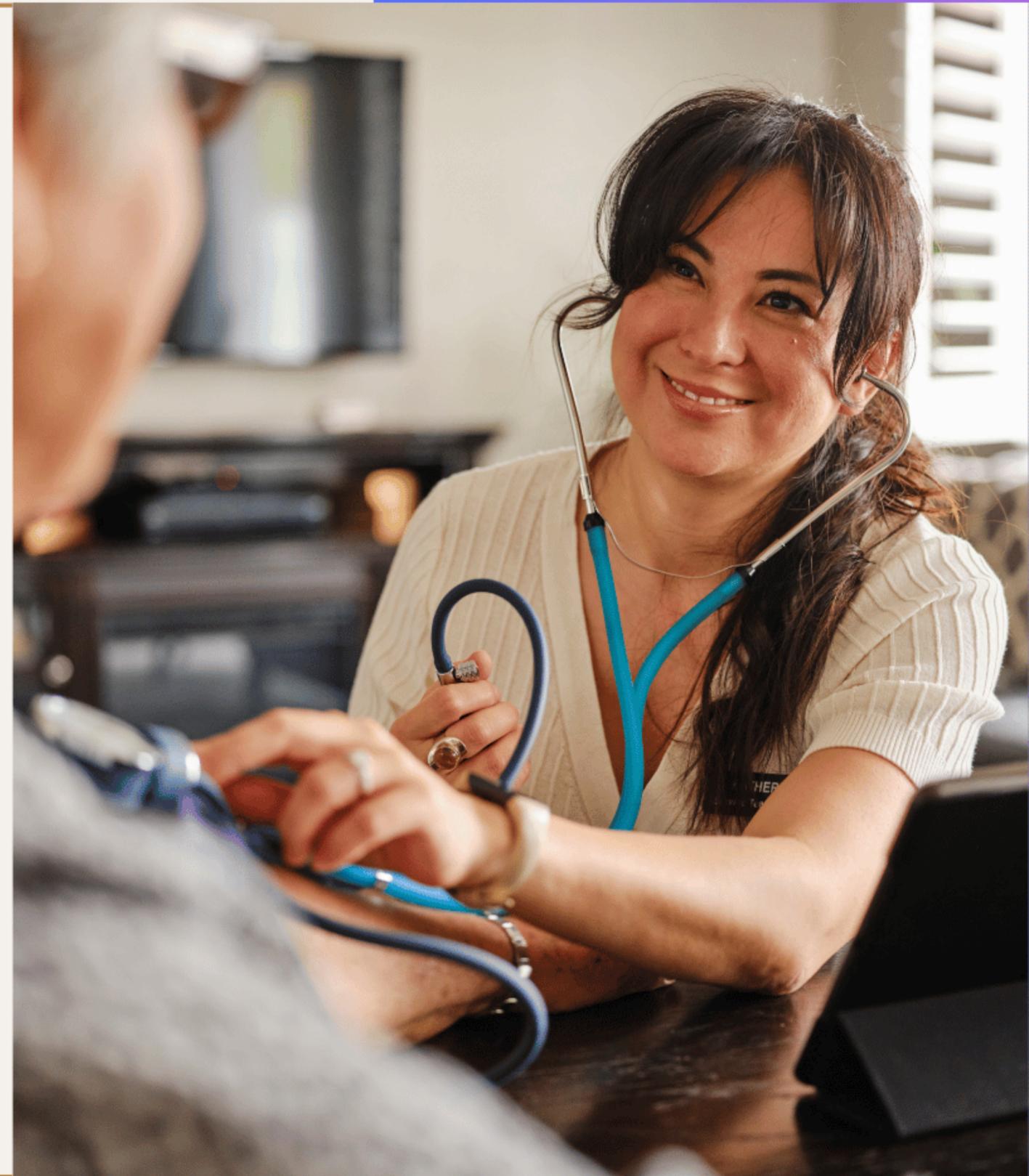
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Introduction and Course Outline

KRISHNAJI PAWAR - CEO & FOUNDER

LEED AP(BD+C),GSAS CGP,GCP,ISO 14001

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BRIEF ABOUT ME

KRISHNAJI PAWAR

CEO & FOUNDER

Krishnaji Pawar is founder and CEO of Beyond Smart Cities. Before being named CEO in January 2020, Krishnaji held leadership roles at Beyond Smart Cities in both Sustainability, Energy & Environmental Consultancy.

Specialized in developing sustainable design strategies for Green Building Certification Systems (LEED, GSAS, etc.), Energy & Water Conservation, Commissioning, Environmental Impact Assessment & Environmental Management Systems.

Currently responsible for 3,787 million square feet Green Building /Energy modeling Consulting since January 2008 in UAE, India and Qatar.





HEALTHCARE FACILITY DESIGN PROFESSIONAL HFDP OVERVIEW

Healthcare Facility Design Professionals (HFDPs) are experts in the planning, design, and optimization of healthcare environments. They are recognized by organizations like the American Institute of Architects (AIA) and the Facility Guidelines Institute (FGI) for their expertise in engineering, user experience, architectural design, and operational efficiency.

Learning Objectives

- **Introduction and Course Outline**
- **General Elements of Healthcare**
- **Health and built environment**
- **Health Care HVAC System Design Standards and Guidelines**
- **Certified Healthcare Facility Design Specialist Certification**
- **Testing, Balancing, and Commissioning**
- **Summary and Resources**
- **HFDP Practice Test V.4.1_Test Your Knowledge**



INTRODUCTION

- HFDPs are experts in planning, designing, and optimizing healthcare environments.
- They are recognized by organizations like the American Institute of Architects (AIA) and the Facility Guidelines Institute (FGI).
- HFDPs can improve staff efficiency, ensure compliance with regulations, and improve patient outcomes.
- The HFDP certification validates competency to incorporate standards and guidelines as well as unique healthcare facility requirements and design principles in HVAC system design.

HEALTHCARE FACILITY DESIGN PROFESSIONAL (HFDP) BY ASHRAE OVERVIEW

- HFDP is a certification offered by ASHRAE for professionals involved in the design, development, and management of healthcare facilities.
- Importance of healthcare facility design includes reducing patient safety, enhancing efficiency, promoting comfort, and reducing environmental impact.
- The certification recognizes professionals with a deep understanding of healthcare facility design principles, including regulatory requirements, healthcare practices, and technical knowledge.
- The HFDP exam covers design principles, collaboration, and case studies related to healthcare facility design.
- Real-world applications of HFDP principles include emergency department design, infection control, and patient-centered care.
- The certification ensures healthcare facilities are designed to meet the complex needs of patients, healthcare providers, and the environment.



DESIGN PROCESS



- Pre-Design: HFDPs collect data about the healthcare facility's mission, objectives, and user requirements.
- Conceptual Design: HFDPs generate preliminary designs that correspond to the collected information.
- Schematic Design: HFDPs further develop the conceptual designs, focusing on spatial relationships, flow, and functional requirements.
- Design Development: HFDPs incorporate elements such as materials, embellishments, and systems, refining the designs based on stakeholder feedback.
- Construction Documentation: HFDPs create detailed specifications and drawings that guide the construction process.
- Post-Occupancy Evaluation: HFDPs conduct evaluations to evaluate the alignment of the design with initial objectives and user requirements.

GREEN BUILDING MOVEMENT AND HEALTHCARE INDUSTRY

- Green building aims to nurture, restore, and inspire rather than harm, promoting a healthier, happier, and more productive world.
- Green homes, offices, schools, and hospitals form the foundation of a prosperous future for generations to come.
- The healthcare sector has a significant influence on the nation's economy and politics, with the human health impacts of buildings being more explicit.
- Green building can be a watershed moment for both the green building movement and the healthcare industry, advancing green building and focusing on public and human health issues.
- Environmental protection is a necessary extension of this mission, with healthcare making significant changes in operations like safer waste management and eliminating mercury-based products.
- The healthcare sector must transform design, construction, and operations to combat climate change and ensure the sustainability of our systems.



UNDERSTANDING TERMINOLOGY IN HEALTHCARE

Key Medical Terms: Understanding Immune Compromise

- Immune compromise refers to a state where the immune system's ability to fight infections and diseases is significantly diminished.
- Chronic diseases like diabetes, cancer, or HIV/AIDS can impair immune function.
- Certain treatments, particularly immunosuppressive therapies, can lead to immune compromise.
- Genetic disorders, such as Severe Combined Immunodeficiency (SCID), severely affect the body's ability to produce adequate immune responses.



HEALTHCARE OCCUPANCY TYPES +

- Acute Care Facilities: Provide immediate and intensive care for patients with severe or life-threatening conditions.
- Long-Term Care Facilities: Cater to individuals who require ongoing care due to chronic illness, disability, or aging.
- Rehabilitation Centers: Focus on helping patients regain their independence and functional abilities after illness, injury, or surgery.
- Outpatient Care Facilities: Provide medical services without requiring an overnight stay.
- Palliative and Hospice Care: Provide relief from the symptoms and stress of serious illness.



UNDERSTANDING TERMINOLOGY IN HEALTHCARE +



- Active Systems – Systems in the built environment that have moving parts or use outside energy or technology such as solar panels, wind turbines, hydronic heating or geothermal heating, or cooling systems.
- Ceiling Attenuation Class (CAC) – Rating that indicates a suspended acoustic ceiling’s ability to block sound traveling through a plenum when the wall does not extend the full height to the underside of the floor above.
- Climate Information or Analysis – Understanding of how the sun moves across the project site or building, which direction the predominant winds blow for each season, how much rain or snow fall typically happens per year, and typical humidity levels per season. Ideally these are plotted on the site plan and aid in design decisions.



UNDERSTANDING TERMINOLOGY IN HEALTHCARE +



- Commission on Accreditation of Rehabilitation Facilities – CARF – International nonprofit organization concerned with setting standards for rehabilitation and behavioral health institutions.
- Cross Contamination – The transmission of pathogens between patients and healthcare professionals based on exposure to contaminated surfaces, materials, environmental conditions, design and layout, and the cleaning and disinfection process. Sometimes referred to as healthcare-associated infections or HAI.
- Evidence-Based Design – EBD – An iterative and integrated approach to design based on findings from the scientific study of human interaction with the built environment regarding spatial configuration, materials, acoustics, and visual stimuli.

LEED BD+C: HOSPITALITY BUILDING DESIGN AND CONSTRUCTION

- Focuses on transitional or short-term lodging in hotels, motels, inns, and other service industry businesses.
- Addresses unique environmental performance challenges and opportunities in hospitality properties.
- Measures include energy and water efficiency, waste reduction, sustainable purchasing, and alternative transportation.
- Benefits include improved indoor air quality, daylight and views, and occupant control of lighting and thermal environment.
- USGBC promotes cost-efficient and resource-saving green building design, construction, and operations to protect the environment and human health.
- Green buildings use on average 26% less energy, emit 33% less carbon dioxide, use 30% less indoor water, and send 50%–75% less solid waste to landfills and incinerators.
- Hospitality Adaptations Working Group identifies areas of LEED needing further attention, considering hospitality-specific circumstances.
- The group modified certain LEED credits to better capture environmental impacts and opportunities





WELCOME TO BEYOND SMART CITIES

Beyond Smart Cities is the world's 1st Green Technology Marketplace, connecting millions of Sustainability Specialists, Green Building Specialists, Energy Specialists, Commissioning Specialists, Environment Specialists, Health & Safety Specialists, Fire Safety Specialists, Climate Change Specialists & Green Products/Technology Manufacturers with independent talent around the globe.

Our mission is to build and support a global community of experts with the highest professional standards in sustainability, green building, energy, commissioning, environment, health & safety, fire safety, climate change, GHG accounting, carbon auditing, and GHG emissions management.



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